The Origins and Development of the Verwood-Type Pottery Industry

Volume 2 of 2

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Abbreviations

In Text

DCM – Dorset County Museum, Dorchester

DFA – Discriminant function analysis

DHC – Dorset History Centre

HER – Historic Environment Record

HH – Hatfield House, Hertfordshire

MPRG – Medieval (and later) Pottery Research Group

OS – Ordnance Survey

PCA – Principal Component Analysis

Pottery Fabric Abbreviations

DWCW – Developed Wessex Coarseware

DWW – Dorset Whiteware

DWWPM – Dorset Whiteware (post-medieval)

EVER – Early Verwood-type

LAVC – Laverstock Coarseware

LAVF – Laverstock Fineware

LOPS – Local Pink Sandy ware

LMWFSW – Late medieval well-fired sandy ware

MVER – Manganese-laced lead glazed Verwood-type pottery

SHRW – South Hampshire Redware

SOUCW – Southampton Coarseware

SOUWW – Southampton Whiteware

VER – Verwood-type

VERE – Verwood-type (16-17th century variant)

WCW – Wessex Coarseware

WDSW – West Dorset Sandy ware

WDSWPM – West Dorset Sandy ware (post-medieval)

Appendix I:

A Gazetteer of Verwood Pottery Production Sites

After Algar *et al.* 1987, Sims 1969, and Young 1979

Version 3 - December 2021

D.Carter

This gazetteer outlines the locations and current state of knowledge for all potential and known pottery production sites that can be shown to be producing ware of the Verwood tradition. The information has been gathered using records held in the Dorset Historic Environment Record as well as that contained within John Sims (1969) thesis undertaken as part of a BA Art and Ceramics degree at Farnham School of Art. This work was then furthered by the Verwood and District Potteries Trust (VDPT) who published two pamphlets on the sites, the first edition in 1979, and the second in 1987; both were written by David Algar, Tony Light, and Penny Copland-Griffiths.

Fig. I.1, below, has been taken from the 1987 edition of the VDPT pamphlet (Algar *et al*. 1987, p.21), and it represents the most recent attempt at outlining the current state of knowledge for all the then known sites. It is broken down into parishes with the approximate date of operation for each based upon various sources of information, ranging from historic maps and documentary evidence to dated sherd concentrations.

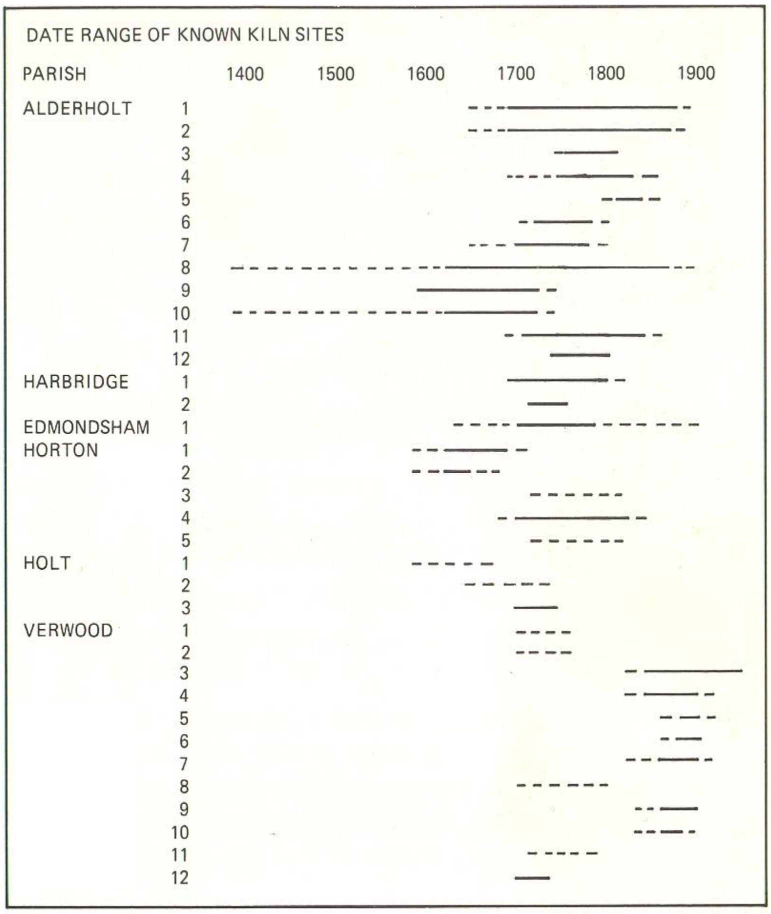


Fig. I.1: List of Verwood-type pottery sites with date ranges (taken from Algar *et al.* 1987, Fig. 13)

The following gazetteer is arranged in alphabetical order by parish, each site has been assigned a unique number based on that of the VDPT for consistency. Each record relates to one production site, with each displaying the location by national grid reference, national monument record number, type of evidence and geology at the location. Where possible an excerpt of the 1880s Ordnance Survey Map of Dorset has been included, which suggests the layout of the production site either shortly after production has ceased, or while the site was in operation; this has been attached to each relevant record. In addition, a statement has been made on the potential for further work.

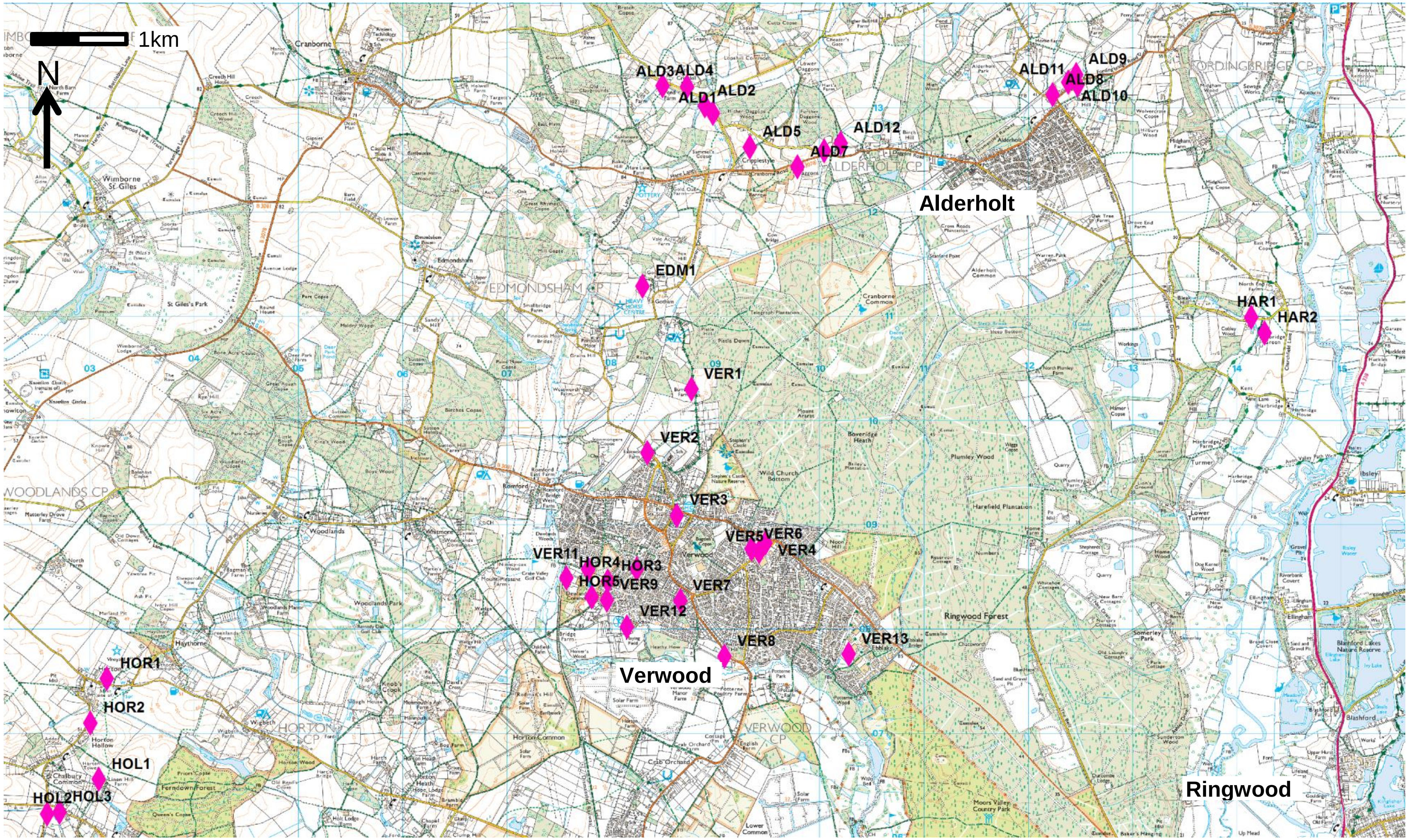


Fig. I.2: All Verwood-type pottery sites ©Crown Copyright Ordnance Survey 2016. Digimap Licence

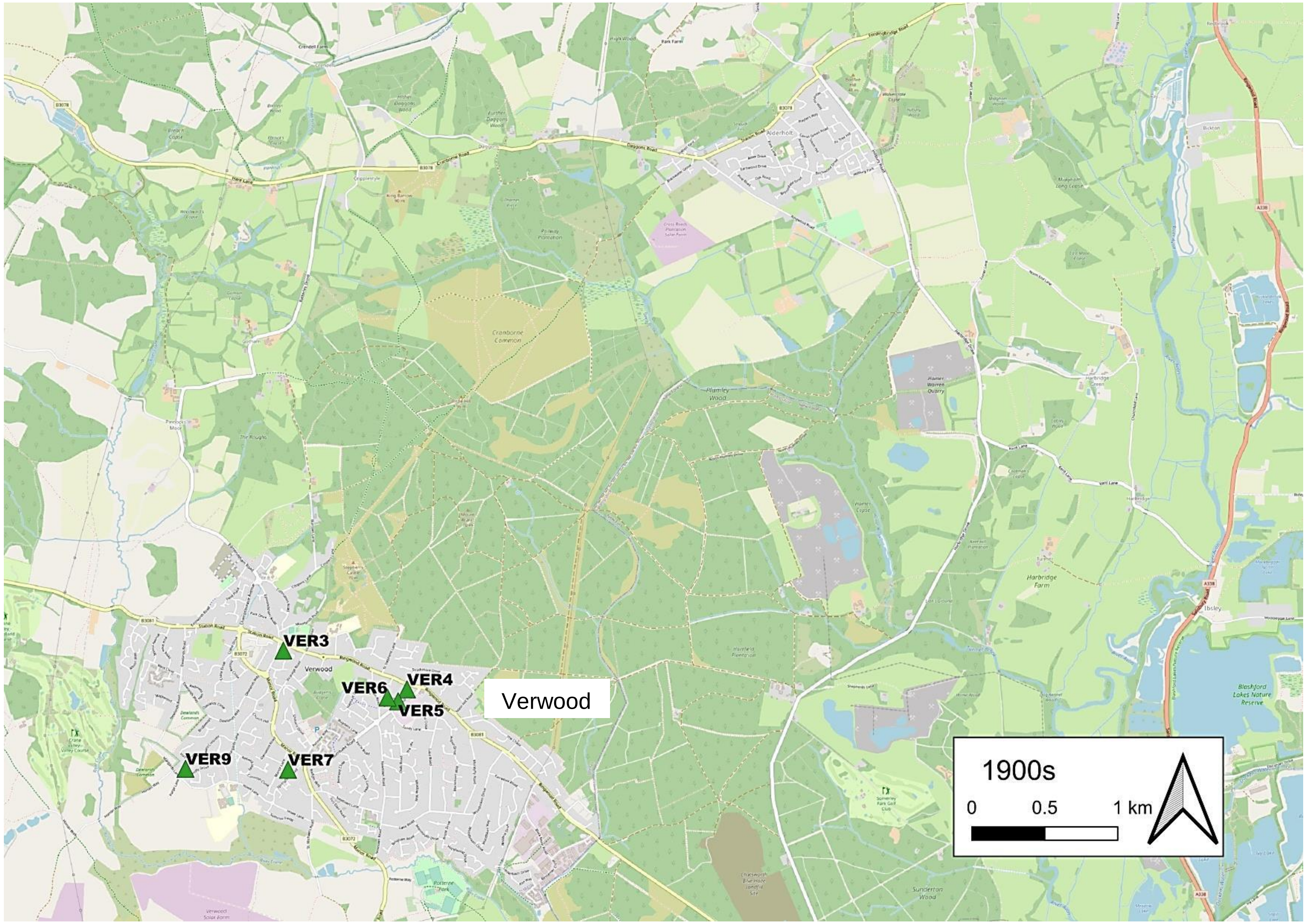


Fig. I.3: All Verwood-type pottery sites dated to the 1900s. Contains OSM data CC BY-SA 2.0

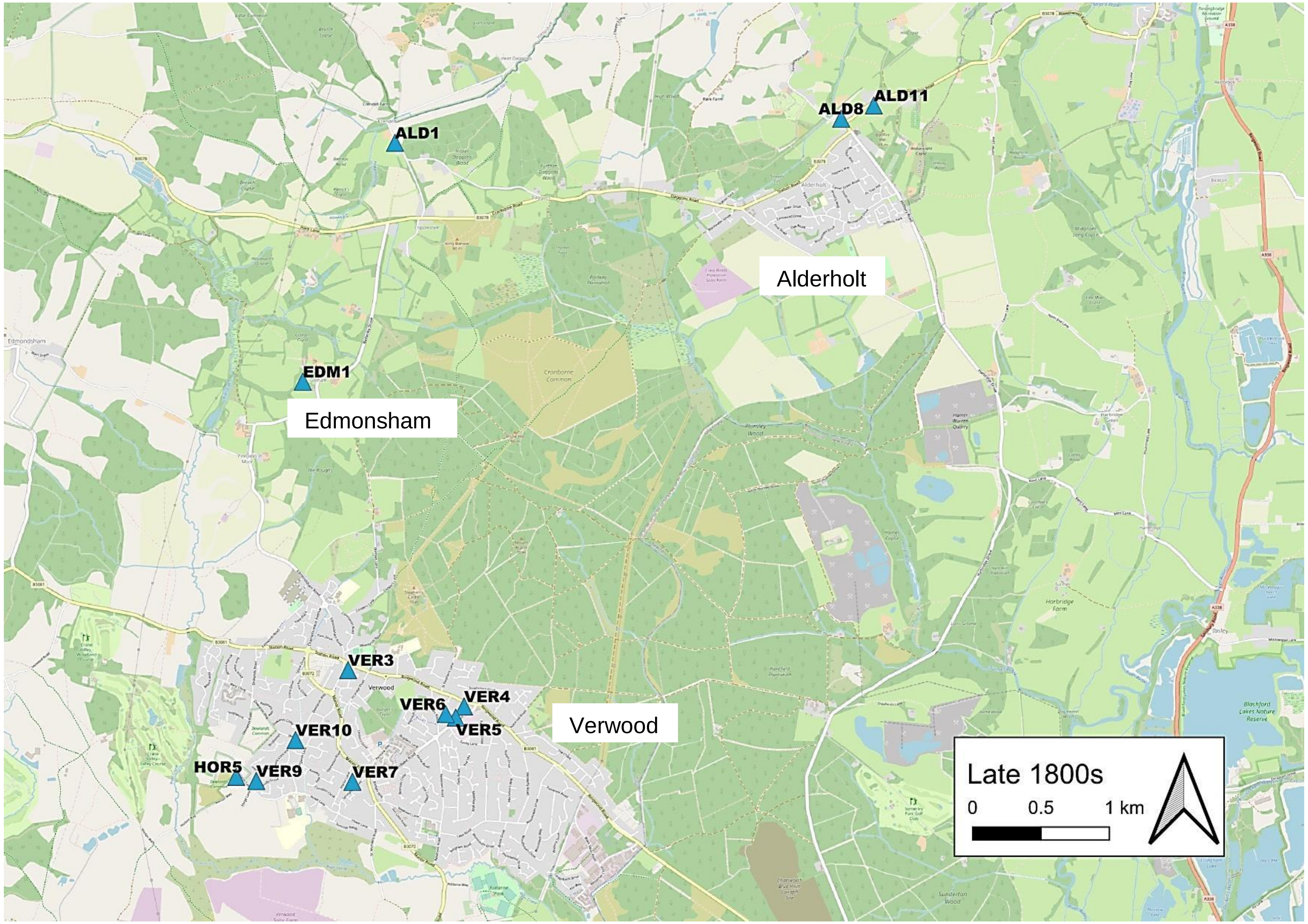


Fig. I.4: All Verwood-type pottery sites dated 1850-1899. Contains OSM data CC BY-SA 2.0

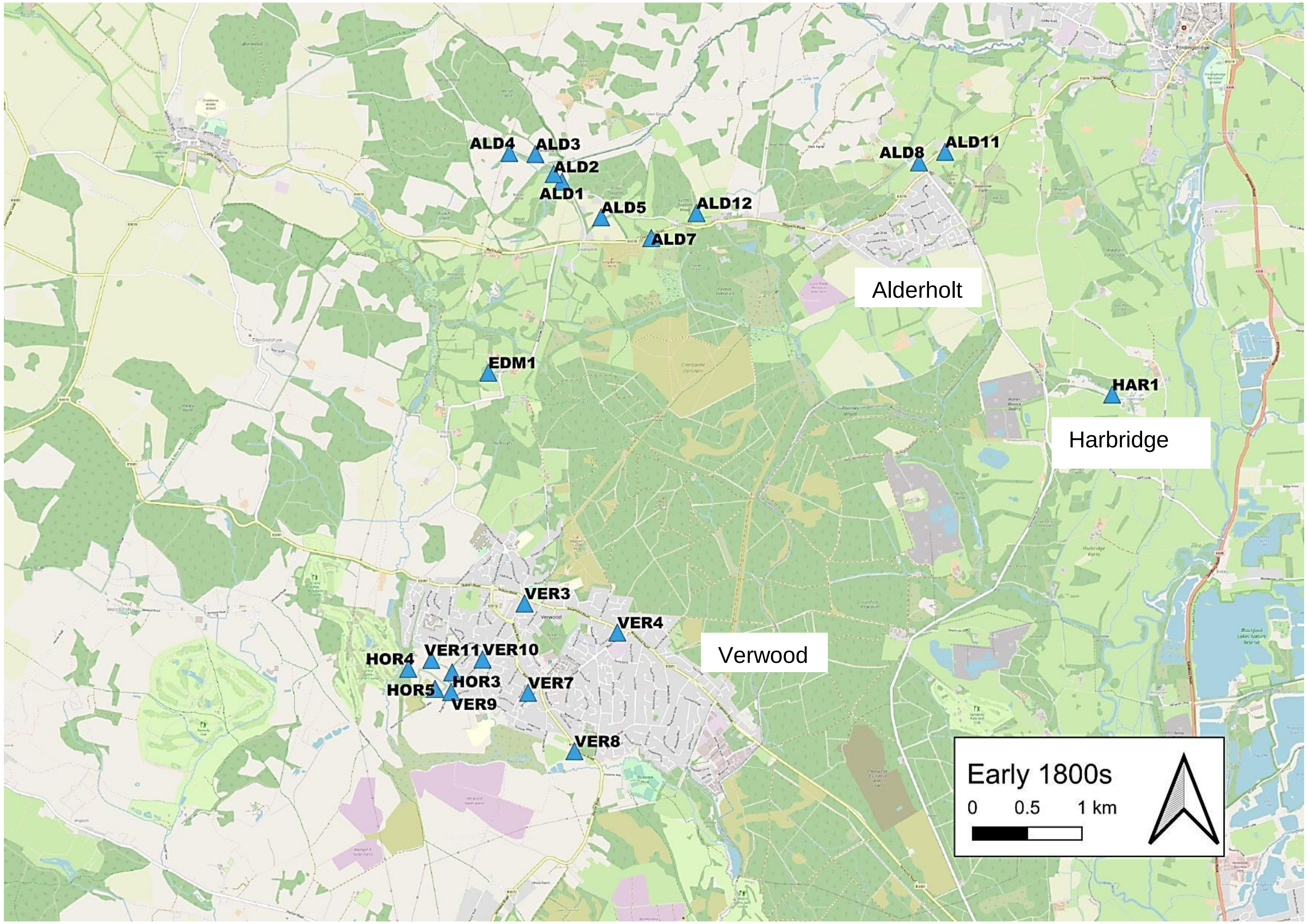


Fig. I.5: All Verwood-type pottery sites dated 1800-1849. Contains OSM data CC BY-SA 2.0

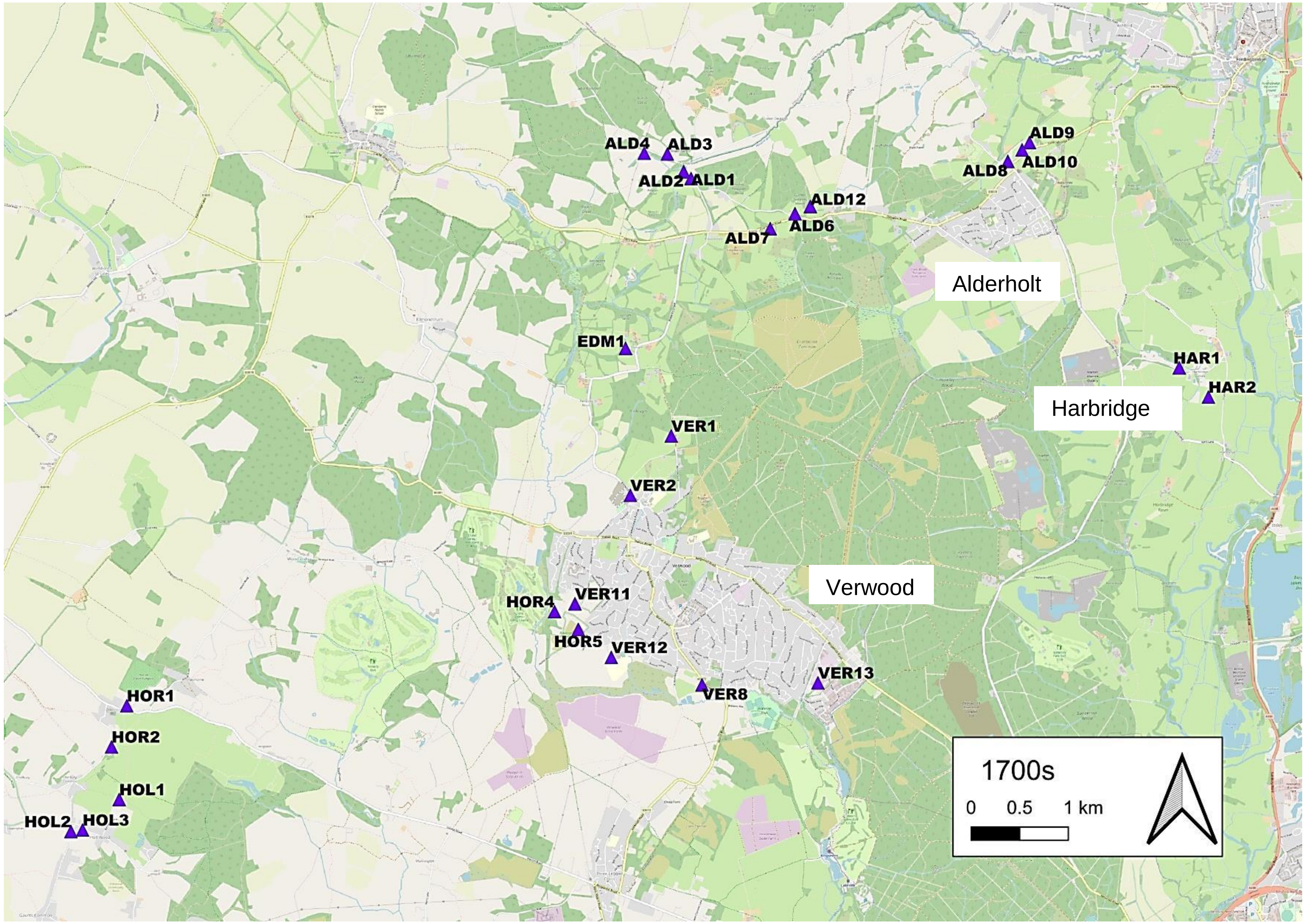


Fig. I.6: All Verwood-type pottery sites dated 1700-1799. Contains OSM data CC BY-SA 2.0

Fig. I.7: All Verwood-type pottery sites dated 1650-1699. Contains OSM data CC BY-SA 2.0

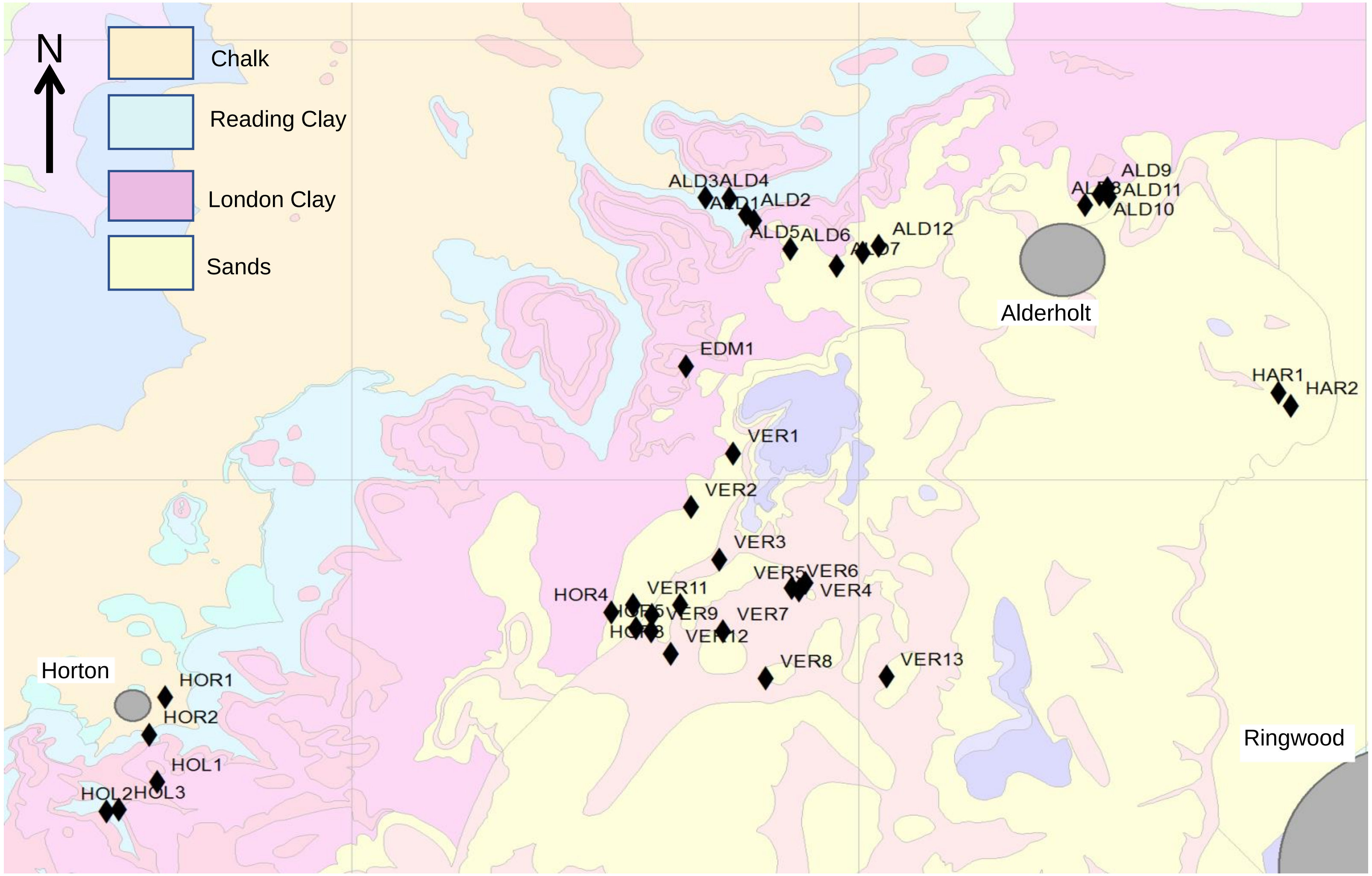


Fig. I.8: All Verwood-type pottery sites with principal buried geology. Geology data ©British Geological Survey 2016. Digimap Licence

Fig. I.9: All Verwood-type pottery sites in the Alderholt Parish ©Crown Copyright Ordnance Survey 2016. Digimap Licence

ALD1

SITE NAME: Gold Oak Farm

DATE RANGE *(Algar et al. 1987)****:*** 1700 – 1880s

EVIDENCE TYPE: Historic Documents and mapping

HAMLET/VILLAGE/AREA: Crendell

NGR: SU 0896 1297

NMR: SU01 SE77

SCHEDULED (Y/N - ID)**:** No

VDPT ID *(Algar et al. 1987)***:** Alderholt kiln 1

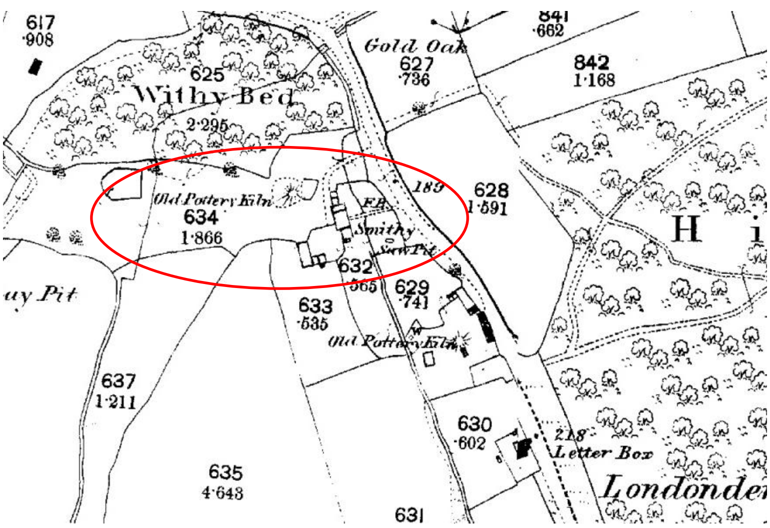
GEOLOGY: London clay

POTENTIAL FOR FURTHER WORK(Good/Limited/Negligible/Unclear and reason for this)**:** Limited – modern farm yard covers most of site.

YOUNG (1979) ID: N/A

INFORMATION:
On OS 1880s map.
The site was enclosed from the waste of Daggons in the seventeenth century and it is possible that Edward Kibbey and his son William may have been potting here during the second half of the seventeenth century. It was in possession of Laurence Chubb, potter, before 1710. After his death six years later his widow Margaret continued as a tenant with her sons Laurence and Edmund running the kiln until 1754, when the holding was granted to Henry West. He died in 1798 and left his business to his son Henry who had previously been working in Daggons (3 001 023). On Henry's death in 1807, James Thorn took over the tenancy and worked here until the late 1850s, when he was succeeded by James Shearing who carried on until at least 1880.

Fig. I.10 (right): 1880s OS map showing ALD1 after closure. © 2016 Digimap Licence



ALD2

SITE NAME: Bucks

DATE RANGE 1700 – 1850s

EVIDENCE TYPE: Historical Documents

HAMLET/VILLAGE/AREA: Crendell

NGR: SU 0889 1301

NMR: SU01 SE78

SCHEDULED: No

GEOLOGY: Reading clay

POTENTIAL FOR FURTHER WORK: Limited – modern farm yard covers most of site.

VDPT ID: Alderholt kiln 2

YOUNG (1979) ID: N/A

INFORMATION:
On tithe and old OS maps.
The earlier history of the site is obscure, though it seems likely that John Vincent and subsequently his son John were working here from 1700 until the middle of the century. James Zebedee, potter, was a tenant in 1844 and he remained until its closure in the late 1850s.

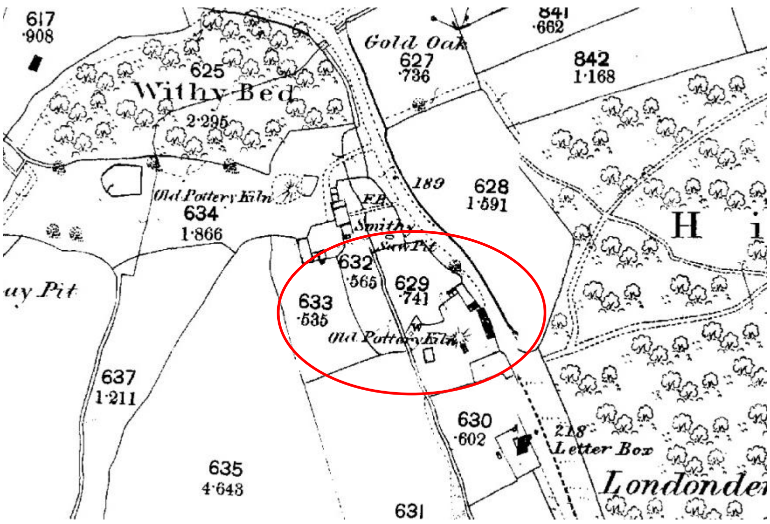


Fig. I.11 (left): 1880s OS Map showing ALD2 following closure. © 2016 Digimap Licence

ALD3

NAME: None known

DATE RANGE: c. 1750 – 1810

EVIDENCE TYPE: Excavation and Historic Documents

HAMLET/VILLAGE/AREA: Crendell

NGR: SU 0873 1320

NMR: SU01 SE73

SCHEDULED: No

GEOLOGY: Reading clay

POTENTIAL FOR FURTHER WORK: Good – Area occupied small pasture field and gardens.

VDPT ID: Alderholt kiln 3

YOUNG (1979) ID: N/A

INFORMATION:
A kiln and cottage was erected on this site by James Vincent in about 1770, apparently without permission. The pottery was run by him until his death in 1810. The kiln mound still exists and the limited excavations carried out by the Salisbury Museum Archaeological Research Group in 1975 revealed the greater part of the kiln floor and flue (unpublished). The kiln belonged to the second half of the eighteenth century, but the large quantities of pottery waster sherds redeposited within the insulating mound were of an earlier date. There are no contemporary buildings surviving on the site.

ALD4

NAME: None known

DATE RANGE: 1700s - pre1840

EVIDENCE TYPE: Historic Documents

HAMLET/VILLAGE/AREA: Crendell

NGR: SU 0849 1320

NMR: SU01 SE79

SCHEDULED: No

GEOLOGY: Broadstone Sand

POTENTIAL FOR FURTHER WORK: Limited – modern farm covers most of site

VDPT ID: Alderholt kiln 4

YOUNG (1979) ID: N/A

INFORMATION:
Associated with early cottage site.
The kiln was worked by the Harvey family in the Eighteenth century. By about 1800, William and then Henry Fry had taken over the business, but it closed down before 1840.
Demolished in 1950s.

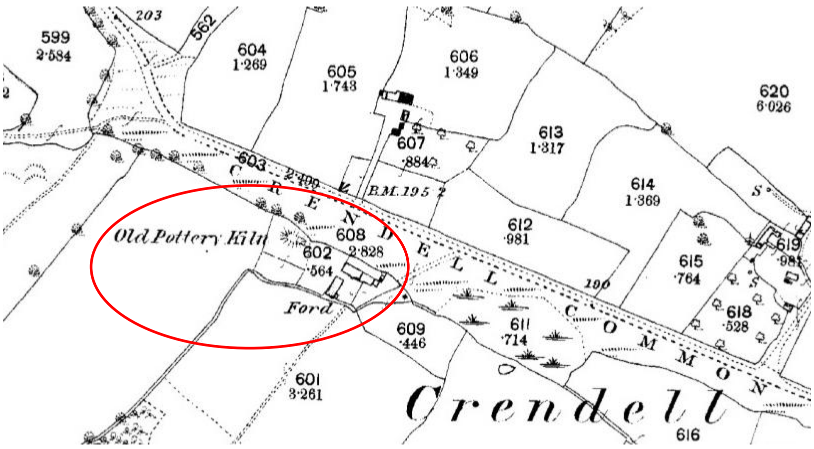


Fig. I.12 (left): 1880s OS Map showing ALD4 following closure. © 2016 Digimap Licence

ALD5

NAME: None known

DATE RANGE: 1822 – 1841

EVIDENCE TYPE: Historic documents and sherd concentration

HAMLET/VILLAGE/AREA: Daggons

NGR: SU 0933 1262

NMR: SU01 SE80

SCHEDULED: No

GEOLOGY: Broadstone Sand

POTENTIAL FOR FURTHER WORK: Good – Site lies in arable field.

VDPT ID: Alderholt kiln 5

YOUNG (1979) ID: N/A

INFORMATION:
Not present on tithe or OS maps.
Enclosed from common 1822 by James Foster
James' brother, Richard Foster ('Potter of Alderholt') is possibly potting here.
Granted permission to demolish kiln and workshop to build barn and cart shed in 1841.

ALD6

NAME: Daggons Lodge

DATE RANGE: 1736 – 1799

EVIDENCE TYPE: Historic Documents

HAMLET/VILLAGE/AREA: Daggons

NGR: SU 1004 1258

NMR: SU11 SW53

SCHEDULED: No

GEOLOGY: Broadstone Sand

POTENTIAL FOR FURTHER WORK: Limited – possibly exists in garden or fields to east of house, which has been rebuilt in 19th/early 20th century.

VDPT ID: Alderholt kiln 6

YOUNG (1979) ID: N/A

INFORMATION:
Nothing visible on tithe or early OS maps.
Held by Helliors from early 18th century. Kiln not mentioned until 1736 when William Hellior is named as a potter. In 1772 site transfers to son, William, who lets it out to Henry West. Henry West's son, Henry, continues to work here until 1799, when his father dies.

ALD7

NAME: Not Known

DATE RANGE: 1714? – 1806?

EVIDENCE TYPE: Historic Documents and sherd concentration

HAMLET/VILLAGE/AREA: Daggons

NGR: SU 0978 1243

NMR: SU01 SE81

SCHEDULED: No

GEOLOGY: Broadstone Sand

POTENTIAL FOR FURTHER WORK: Limited - Modern building and gardens heavily landscaped

VDPT ID: Alderholt kiln 7

YOUNG (1979) ID: N/A

INFORMATION:
Not on tithe or OS maps.
Margaret, widow of Thomas Sims, potter of East Worth was granted copyhold of this site in 1714, but there is no record of a kiln there until 1734 when Stephen Bailey was in occupation. He continued potting here until 1758 or later. The neighbouring Hellior family held the lease in the 1780s but by 1794 William Roper alias Zebedee was the potter. He moved to Crendell between 1806 and 1809, so perhaps production stopped at this time.

Fields to north (other side of road) hold various names in tithe map to north noted as ‘kiln ground’ and ‘old kiln ground’ and field immediately to south listed as ‘pot sherd close’.

ALD8

NAME: Pressey's Corner

DATE RANGE: 1600s – 1860s

EVIDENCE TYPE: Historic Documents, topographic evidence, watching brief.

HAMLET/VILLAGE/AREA: Alderholt Common

NGR: SU 1223 1312

NMR: SU11 SW35

SCHEDULED: No

GEOLOGY: Broadstone Sand

POTENTIAL FOR FURTHER WORK: Limited **-** Kiln damaged by barn construction, most of site redeveloped over time.

VDPT ID: Alderholt kiln 8

YOUNG (1979) ID: N/A

INFORMATION:
On OS 1880s map (Below), and tithe map.
The mound is tree-covered and no brickwork is visible. Some robbing of the mound material has taken place. No contemporary buildings are visible. This kiln was working from at least the seventeenth century through until the late nineteenth century. John and Samuel Henning were working at this pottery in the seventeenth and early eighteenth century, followed by, amongst others, Nicholas Francis in the 1730s and John Shearing in 1804. In 1815 John was replaced by Richard Foster who in turn was succeeded by his son Richard, the latter dying in 1841. Sporadic production continued by a number of potters for several more decades.

Kiln mound damaged by modern barn, members of VDPT undertook recording of trial pits during this.

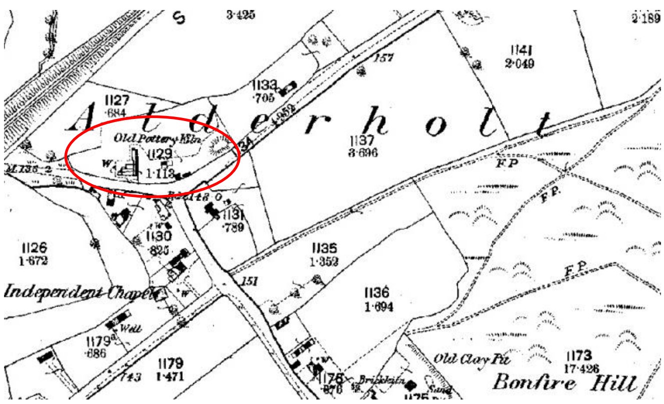


Fig. I.13 (left): 1880s OS map extract of kiln at ALD8. © 2016 Digimap Licence

ALD9

NAME: Not Known

DATE RANGE: 1600s – 1750s

EVIDENCE TYPE: Historic Documents, sherd concentration, topographic evidence?

HAMLET/VILLAGE/AREA: Alderholt Common

NGR: SU 1245 1331

NMR: SU11 SW65

SCHEDULED: No

GEOLOGY: Broadstone Sand

POTENTIAL FOR FURTHER WORK: Unclear – Possible kiln remains in garden?

VDPT ID: Alderholt kiln 9

YOUNG (1979) ID: N/A

INFORMATION:
Not on OS maps or tithe.
Site of a former pottery in Alderholt in use from the early seventeenth to the second half of the eighteenth century. The site is known from documentary sources and from a heavy concentration of waster sherds. No remains of the kiln are visible. The tenement was constructed by John Attwater in 1602 and his son, Thomas, was potting there in the 1620s. The site was owned by John Major in 1700. The later history is not known, but the kiln was finally closed during the second half of the eighteenth century.

Ann Hale was apprenticed to John Major in 1696.

Kiln mound remains partially extant in rear of garden.

ALD10

NAME: Not Known

DATE RANGE: 1600s – 1750s (possibly earlier)

EVIDENCE TYPE: Historic Documents, and sherd concentrations

HAMLET/VILLAGE/AREA: Alderholt Common

NGR: SU 1238 1324

NMR: SU11 SW66

SCHEDULED: No

GEOLOGY: Broadstone Sand

POTENTIAL FOR FURTHER WORK: Good to limited – kiln lies in field that is mostly under pasture, sometimes ploughed. Location of assoc buildings is not known – possibly lie in adjacent plot?

VDPT ID: Alderholt kiln 10

YOUNG (1979) ID: N/A

INFORMATION:
Not on OS map or tithe map.

Owned by John Major in 1700.

A magnetic survey using a Philpot DM02 fluxgate gradiometer with a Geoscan DL10 data logger, at a sample interval of one metre using three 30 x 30 metre grids was undertaken. The survey was undertaken by Cotterell in 1987 (unpublished) and only potentially discovered the kiln.

ALD11

NAME: Not Known

DATE RANGE: 18th – 1860s

EVIDENCE TYPE: Historic maps, historic documents, and topographic evidence

HAMLET/VILLAGE/AREA: Alderholt Common

NGR: SU 1247 1322

NMR: SU11 SW67

SCHEDULED: No

GEOLOGY: Broadstone Sand

POTENTIAL FOR FURTHER WORK: Negligible – Kiln under bungalow. Garden is terraced which may have affected any associated buildings.

VDPT ID: Alderholt kiln 11

YOUNG (1979) ID: N/A

INFORMATION:
Indicated on 1880s OS map as area of trees.

Operated by the Hennings 18th C, 1809 Charles Henning or his son Richard is replaced by John Viney. Tenancy taken over by William Bailey by 1841, and his son William who is potting here until the death of his father in 1860s.

Kiln has been demolished in 1950s – under a bungalow.

ALD12

NAME: Daggons Farm

DATE RANGE: 1700s – 1800s

EVIDENCE TYPE: Sherd concentration

HAMLET/VILLAGE/AREA: Daggons

NGR: SU 1020 1266

NMR: SU11 SW61

SCHEDULED: No

GEOLOGY: Broadstone Sand

POTENTIAL FOR FURTHER WORK: Unclear – exact location of site is not known.

VDPT ID: Alderholt kiln 12

YOUNG (1979) ID: N/A

INFORMATION:
Possibly run by the Hellior family.

EDM1

NAME: Gotham Farm

DATE RANGE: 1700s – 1780s,, and 1860s (possibly 1880s)

EVIDENCE TYPE: Historic Documents, Sherd Concentration

HAMLET/VILLAGE/AREA: Gotham

NGR: SU 0830 1129

NMR: SU01 SE74

SCHEDULED: No

GEOLOGY: London Clay

POTENTIAL FOR FURTHER WORK: Good – area occupied by gardens and pasture fields.

VDPT ID: Edmonsham Kiln 1

YOUNG (1979) ID: N/A

INFORMATION:
Thomas Lawrence, potter, 1700 until death 1737. His son – Lawrence Lawrence succeeded him.

It is believed the kiln was not worked continuously, and was probably restarted by an Esau Bailey ('brownware maker'), potting in the 1860s – who moved from Verwood where he learnt the trade.

EDM2

NAME: Toft Hill

DATE RANGE: Post-medieval

EVIDENCE TYPE: Historic Documentary reference

HAMLET/VILLAGE/AREA: Edmonsham

NGR: Location Unknown

NMR: Unknown

SCHEDULED: No

GEOLOGY: Unknown

POTENTIAL FOR FURTHER WORK: Unknown

VDPT ID: N/A

YOUNG (1979) ID: N/A

INFORMATION:
A historic Document held at Edmonsham House mentions a pottery kiln at ‘Toft Hill’ this place name cannot be located and relates to no modern derivation in the area.

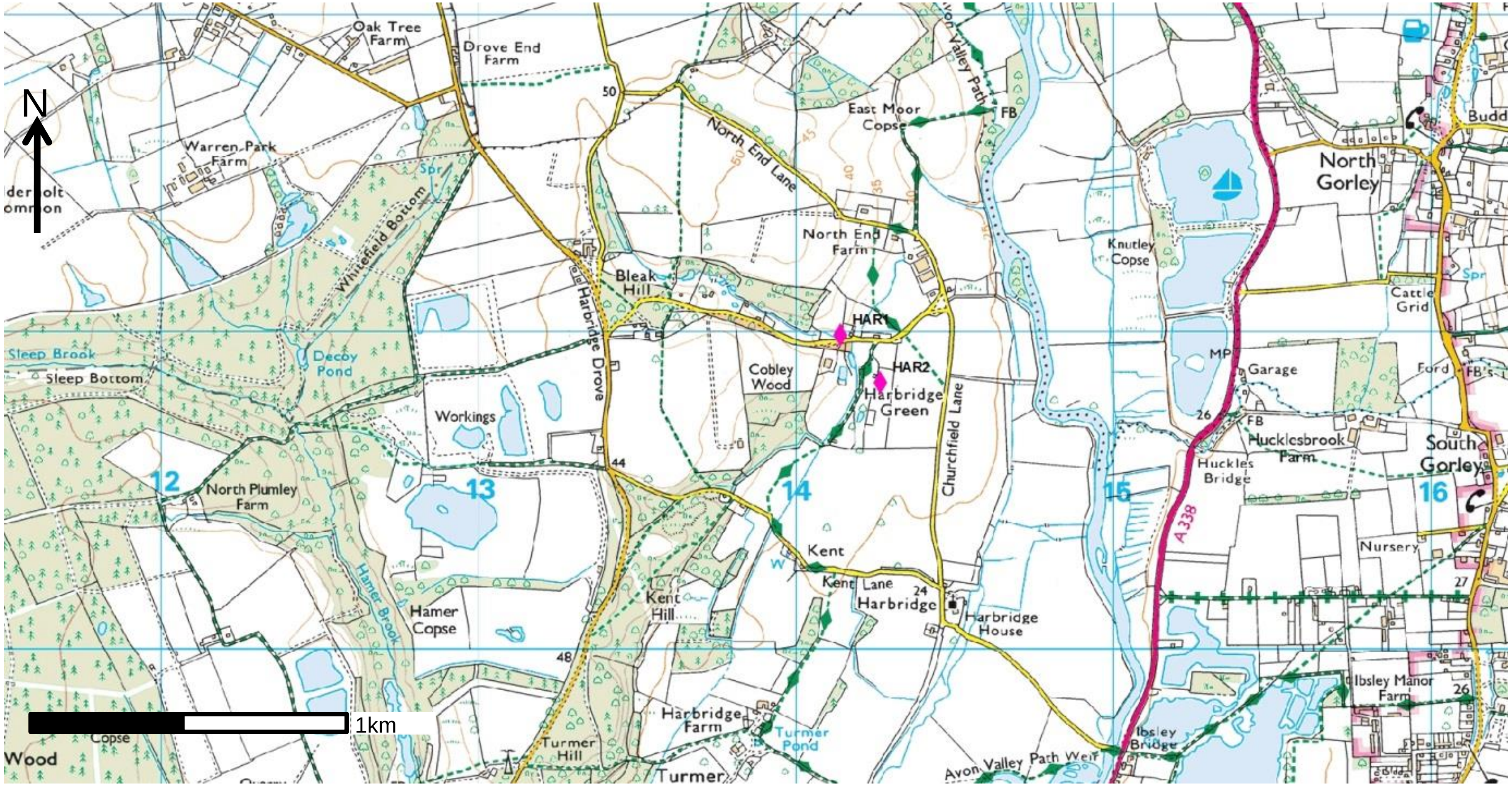


Fig. I.14: All Verwood-type pottery sites in the Harbridge Parish ©Crown Copyright Ordnance Survey 2016. Digimap Licence

HAR1

NAME: Harbridge Green – North

DATE RANGE: 1726 – 1830s

EVIDENCE TYPE: Historic Documents, sherd concentration

HAMLET/VILLAGE/AREA: Hampshire/New Forest

NGR: SU140 110

NMR: SU11 SW54

SCHEDULED: No

GEOLOGY: Parkstone sand

POTENTIAL FOR FURTHER WORK: Good – area occupied by gardens and pasture fields.

VDPT ID: Harbridge Kiln 1

YOUNG (1979) ID: N/A

INFORMATION:
Nothing obvious relating to pottery production on OS map or tithe.
Thomas Sutton was working the kiln at Harbridge Green from 1726 until he died in 1762.
In the early 1800s the tenant was William Hart, the site closes in the 1830s.

HAR2

NAME: Harbridge Green – South

DATE RANGE: 1700 – 1750

EVIDENCE TYPE: Sherd Concentation

HAMLET/VILLAGE/AREA: Hampshire/New Forest

NGR: SU 1414 1099

NMR: SU11 SW62

SCHEDULED: No

GEOLOGY: Parkstone sand

POTENTIAL FOR FURTHER WORK: Good – area occupied by gardens and pasture fields.

VDPT ID: Harbridge Kiln 2

YOUNG (1979) ID: N/A

INFORMATION:
Nothing obvious relating to pottery production on OS map or tithe.
No other information.

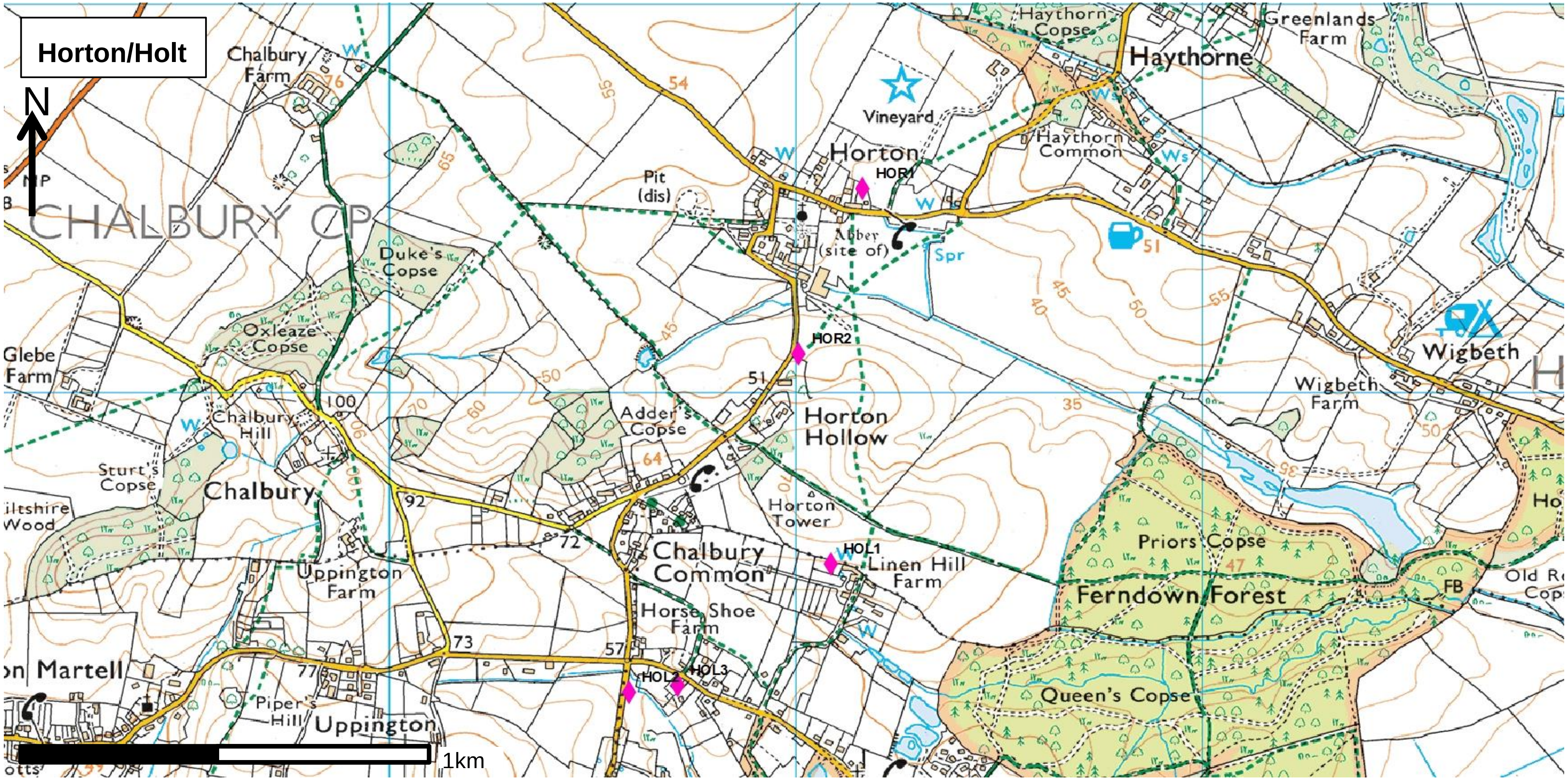


Fig. I.15: All Verwood-type pottery sites in the Horton and Holt Parishes ©Crown Copyright Ordnance Survey 2016. Digimap Licence

HOL1

NAME: Linen Hill Farm

DATE RANGE: 1600 – early 1700s

EVIDENCE TYPE: Sherd Concentration

HAMLET/VILLAGE/AREA: Near Horton Tower

NGR: SU 0308 0656

NMR: SU00 NW74

SCHEDULED: No

GEOLOGY: London Clay

POTENTIAL FOR FURTHER WORK: Limited. Area built over several times, area surrounding is pasture and gardens which may yield some results.

VDPT ID: Holt Kiln 1

YOUNG (1979) ID: N/A

INFORMATION:
Nothing obvious relating to pottery production on OS map or tithe map.

One small building is shown here on the Harding 1640 map, marked as 'bryk pit'.

This site is considered to be suspect by the author as the Horton Court Survey in 1625 records the Frost family (occupying nearby HOR2) as holding clay and sand pits here on this hill. It may be likely that this area was used to dump ceramic waste material from site 2, possibly as pit in-fill–hence similar date range.

HOL2

NAME: Horseshoes Farm

DATE RANGE: 1600 – early 1700s

EVIDENCE TYPE: Sherd concentration

HAMLET/VILLAGE/AREA: Chalbury/Holt

NGR: SU 0259 0623

NMR: SU00 NW75

SCHEDULED: No

GEOLOGY: London Clay

POTENTIAL FOR FURTHER WORK: Good – Pasture fields. No sign of kiln or buildings.

VDPT ID: Holt Kiln 2

YOUNG (1979) ID: N/A

INFORMATION:
Nothing visible on tithe or OS maps for this site.
No further information.

HOL3

NAME: None Known

DATE RANGE: 1700s – 1750s

EVIDENCE TYPE: Sherd concentration, excavation.

HAMLET/VILLAGE/AREA: Chalbury/Holt

NGR: SU 0271 0624

NMR: SU00 NW67

SCHEDULED: No

GEOLOGY: London Clay

POTENTIAL FOR FURTHER WORK: Limited. Area built over several times, area surrounding is pasture which may yield some results.

VDPT ID: Holt Kiln 3

YOUNG (1979) ID: N/A

INFORMATION:
Nothing visible on tithe or OS map for this site.
Buildings are shown here on the Harding 1640 map, however owner is illegible.
The site was part of a rescue style excavation undertaken by Wharton (1985, 124-5). No finished reporting on findings identified.

HOR1

NAME: None Known

DATE RANGE: 1600s – 1711?

EVIDENCE TYPE: Historic documents, trial pits, watching brief, excavation

HAMLET/VILLAGE/AREA: Horton

NGR: SU 0316 0752

NMR: SU00 NW23

SCHEDULED: No

GEOLOGY: BGS records chalk, evaluation suggests clay

POTENTIAL FOR FURTHER WORK: Limited to negligible. Kiln was excavated, lying over two properties. Evaluation and watching brief in later years by Bournemouth archaeology showed possible in-filled clay pits to east. The Richard Harding map of 1640 shows the area was occupied by pond and stream.

VDPT ID: Horton Kiln 1

YOUNG (1979) ID: N/A

INFORMATION:
Large pond shown to east on 1880s OS and tithe (1841).

1640 Estate map lists an occupier, but it is an Illegible.

Unclear if Elias Talbot is potting here. In 1652 he is presented for digging clay on 'Haythorne Common'. His will is dated 1674, passes to his wife, Jane, and her brother, Richard Lacy. Thomas Lacy 1684 (son of Richard???) takes over, and a new lease is granted in 1701. He dies in 1711, where the documentary evidence ends for all potting in Horton village (continues within wider parish).

HOR2

NAME: 'Brickplace Copse'

DATE RANGE: 1600s – 1720s?

EVIDENCE TYPE: Historic Documents and maps, geophysical Survey, topographic survey, place name evidence, limited excavation.

HAMLET/VILLAGE/AREA: Near Horton Tower

NGR: SU 0300 0710

NMR: SU00 NW25

SCHEDULED: No

GEOLOGY: Reading/London Clay

POTENTIAL FOR FURTHER WORK: Medium – possibly never been plowed, but was certainly damaged during replacement water main works in 2018. Here, a construction compound was placed directly over the kiln without any archaeological mitigation. Later, a tile kiln was excavated near the pottery kiln (Carter In Prep).

VDPT ID: Horton Kiln 2

YOUNG (1979) ID: N/A

INFORMATION:
1616 – William Frost presented for digging clay in the Lord's Waste
1640 – Richard Harding's Estate Map for Horton shows 'Frost' at this location, with a further area to the west of Horton labelled as 'Wm Frost'.
Brick Kiln Historic Documentary Evidence as follows:
1596 – Richard Frost.
1625 – Richard Frost.
1647 – Richard Snr, Richard Jnr, William Frost.
1724 – John Cook
No mention in 1755 survey when area converted to parkland – probably out of use or removed from area for parkland when nearby tower was constructed.
Small rapid record of brick kiln created in 1976 by what would later become the VDPT, after the clearance of an area of trees called Brickplace Copse on tithe and early OS Map.
2007-8 geophysical surveys (Carter 2008) – both sides of lane were examined.
The geophysical survey suggests two brick kilns, one tile kiln, a pottery kiln, and buildings in proximity to where the kiln mound lies. This is probably a well fossilised landscape with strong evidence for a range of ceramic production.
Elias Talbot may have been potting here as he resided in Chalbury.

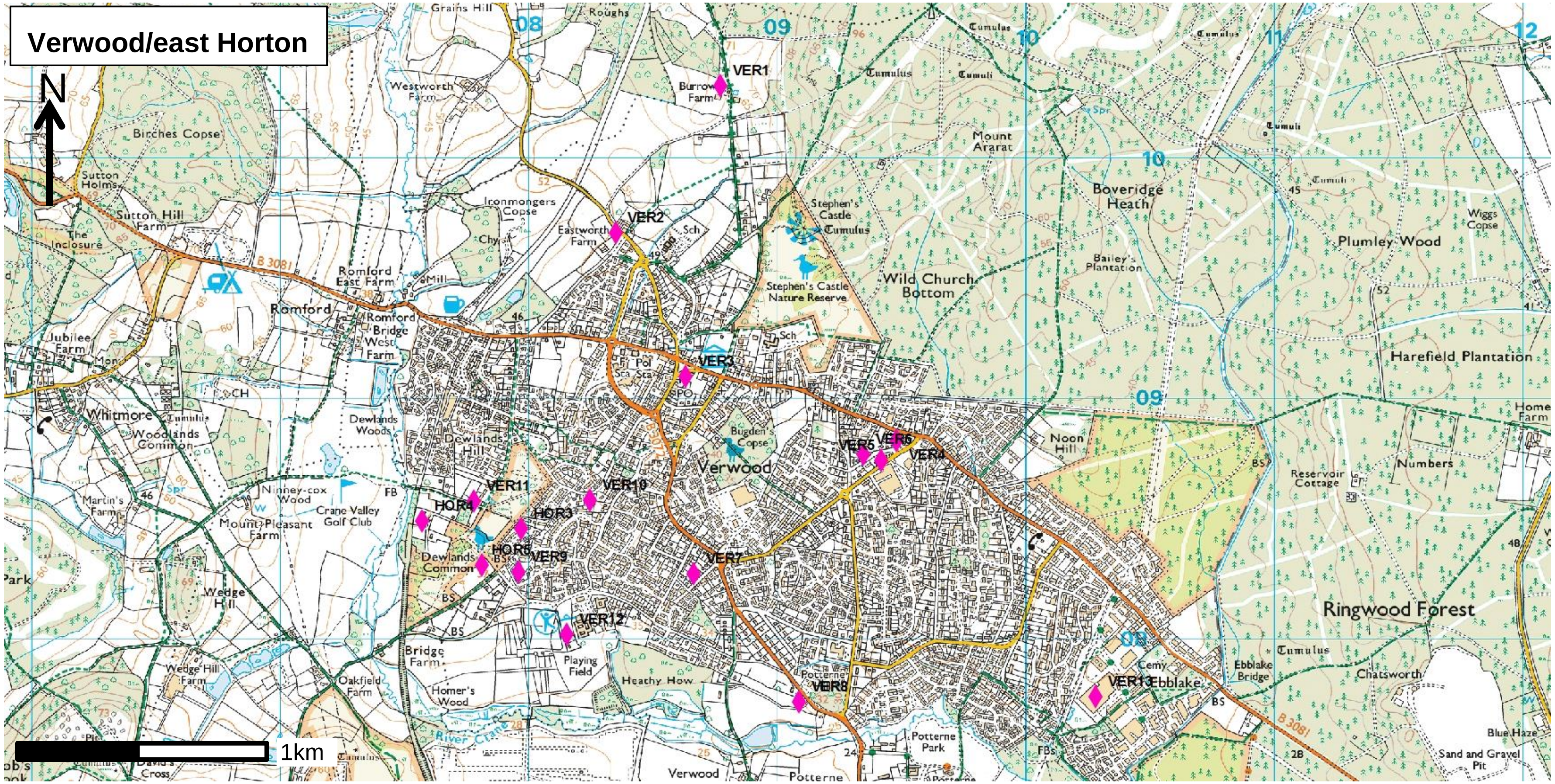


Fig. I.16: All Verwood-type pottery sites in the Verwood and east Horton Parishes ©Crown Copyright Ordnance Survey 2016. Digimap Licence

HOR3

NAME: None Known

DATE RANGE: 1750s – 1820s

EVIDENCE TYPE: Sherd recovery

HAMLET/VILLAGE/AREA: Verwood Outskirts

NGR: SU 0797 0846

NMR: SU00 NE69

SCHEDULED: No

GEOLOGY: Broadstone sand

POTENTIAL FOR FURTHER WORK: Negligible – Covered by modern housing. Plot has been broken up into several units.

VDPT ID: Horton Kiln 3

YOUNG (1979) ID: N/A

INFORMATION:
Not present on old edition OS maps.
Layout possibly inferred from tithe – Owned by William Sherring.

HOR4

NAME: Prairie Farm

DATE RANGE: 1720s – 1840s

EVIDENCE TYPE: Historic Documents, Standing Remains, Topographic evidence, Sherd recovery, trial pits.

HAMLET/VILLAGE/AREA: Verwood Outskirts

NGR: SU 0756 0849

NMR: SU00 NE69

SCHEDULED: Yes – (LEN:1002349)

GEOLOGY: Broadstone sand/clay

POTENTIAL FOR FURTHER WORK: Good – scheduled.

VDPT ID: Horton Site 4

YOUNG (1979) ID: Site 8

INFORMATION:

Indicated on 1880s OS map, not listed as pottery on tithe map.
1730 – Robert Henning moves here from Alderholt (where he learnt the trade), dies 1757. His son Richard takes over. Later in 1840 another Richard Henning (grandson of above) closes the kiln.
Cottage and Workshop are Listed Grade II (LEN:107541) since 1986.
Potters house, kiln mound, drying shed remain.
Trial pits for sherd recovery undertaken by Young (1979).

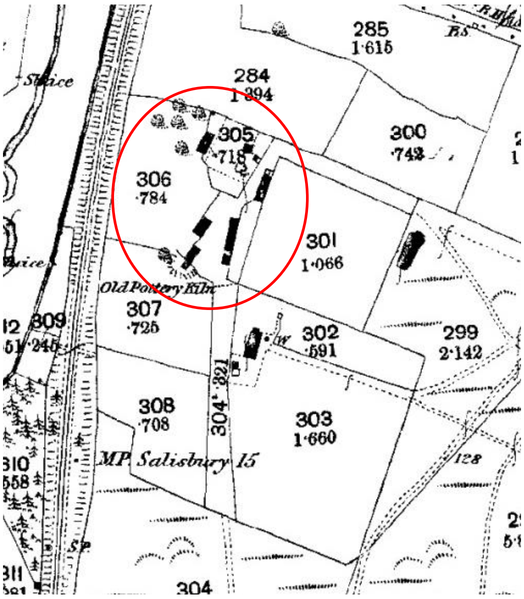


Fig. I.17 (left): HOR4 on 1880s OS Map. © 2016 Digimap Licence

HOR5

NAME: Asham

DATE RANGE: 1700 – pre-1840s

EVIDENCE TYPE: Historic Documents

HAMLET/VILLAGE/AREA: Verwood Outskirts

NGR: SU 0783 0830

NMR: SU00 NE82

SCHEDULED: No

GEOLOGY: Broadstone sand/clay

POTENTIAL FOR FURTHER WORK: Negligible – layout on mapping. Modern housing and garden landscaping covers much of site.
VDPT ID: Horton Kiln 5

YOUNG (1979) ID: Site 9

INFORMATION:
On OS map dated 1880s (below), nothing present on tithe map.

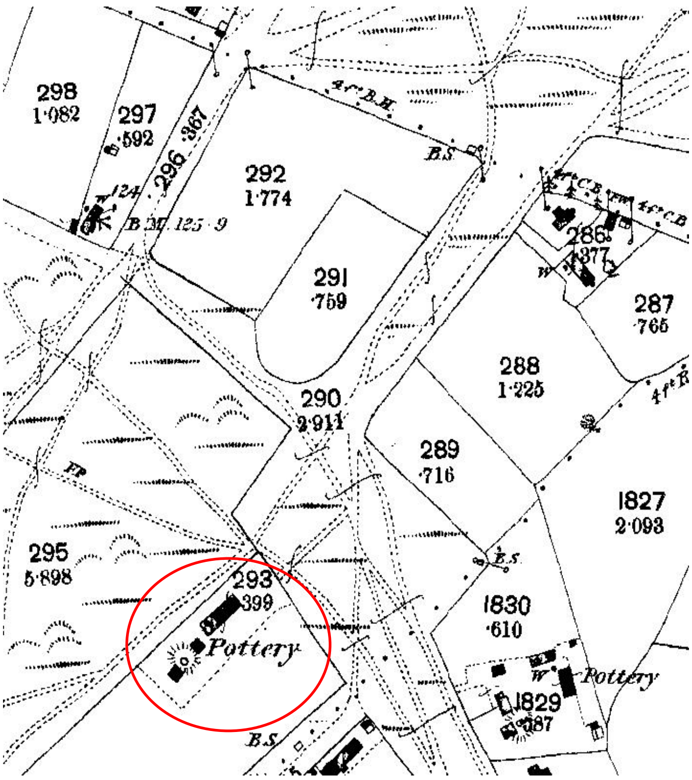


Fig. I.18 (left): HOR5 on 1880s OS map. © 2016 Digimap Licence

VER1

NAME: Burrows Farm

DATE RANGE: 1680s – 1750s

EVIDENCE TYPE: Historic Documents

HAMLET/VILLAGE/AREA: East Worth

NGR: SU 0877 1030

NMR: SU01 SE75

SCHEDULED: No

GEOLOGY: Broadstone sand

POTENTIAL FOR FURTHER WORK: Unclear – extent is not known.

VDPT ID: Verwood kiln 1

YOUNG (1979) ID: Site 10

INFORMATION:
'Barrows Farm on tithe map – listed as tithe free'. On 1880s OS map as 'Old Pottery Kiln' (below).
Unclear – Run by Sims family in 18th century.
William Henning worked either site 1 or 2 in 1750s.
Kiln mound partially survives despite partial destruction in 1970s (Algar *et al.* 1979) survey in 1997 – all destroyed – kiln under barn.

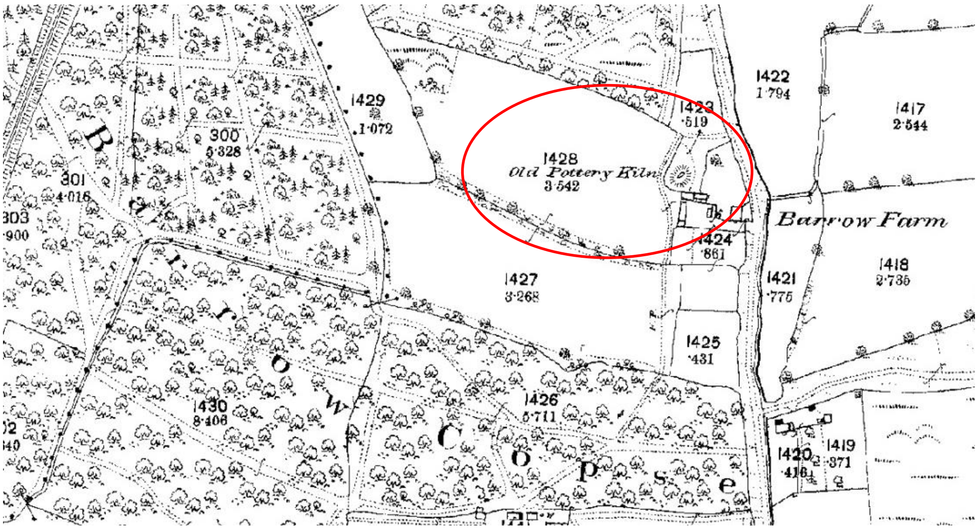


Fig. I.19 (above): VER1 at 'Barrow Farm' on 1880s OS map. © 2016 Digimap Licence

VER2

NAME: East Worth Farm

DATE RANGE: 1680s – 1750s

EVIDENCE TYPE: Sherd concentration, sherd recovery, evaluation, watching brief, limited excavation

HAMLET/VILLAGE/AREA: East Worth

NGR: SU 0834 09698

NMR: SU01 NE84

SCHEDULED: No

GEOLOGY: Broadstone sand

POTENTIAL FOR FURTHER WORK: Unclear – exact location is not known.

VDPT ID: Verwood kiln 2

YOUNG (1979) ID: Site 12

INFORMATION:
Not on tithe or OS map.
Unclear – possibly run by Sims family in 18th century.
William Henning worked either site 1 or 2 in 1750s.

Kiln is potentially within the bounds of the Old Granary residential dwelling or close to East-worth Farm.

Watching brief (Copland-Griffiths 1996).

Evaluation in 2016 as part of planning application to north, east and south (see Garner 2016) found only evidence for post-medeival pottery waste.

Excavation in 2019/2020 as part of mitigation works for aforesaid planning application (Carter 2021b), found more evidence for pottery production but no kiln. Kiln possibly lies in the plot of The Old Granary (not excavated).

VER3

NAME: Crossroads

DATE RANGE: 1840s – 1952

EVIDENCE TYPE: Standing remains, historic documents, interviews, excavation, photographic.

HAMLET/VILLAGE/AREA: Verwood Town

NGR: SU 0863 0909

NMR: SU00 NE81

SCHEDULED: No

GEOLOGY: Broadstone clay

POTENTIAL FOR FURTHER WORK: Negligible- Most of site removed by modern shops. Site layout on mapping.

VDPT ID: Verwood Kiln 3

YOUNG (1979) ID: Site 1

INFORMATION:
Present on tithe map through to 1950s mapping. Martin Hammond drew detailed plan in early 2000s.
Pre-1847 Robert Shearing, tenant.
1880 -1900's held by Ferret family. Fred Fry operates kiln until 1920 when sold to Robert Thorne, timber merchant. 1925 work ceases/ shut down. Restarted by Roberts son, Horace – 1927, managed by Mesheck Sims.
Replaced by Herbert Bailey in 1940, who remained manager until the end. Under Herbert Bailey – large diversification with new lines: such as perfume bricks, flower baskets etc. 1948-50 Gertrude Gilham, from Poole Pottery employed for 18 months - leaves after a falling out with the Thorne family.
Additional: Excavation here and at Potters Wheel Car Park – AC archaeology (forthcoming).
Various photos and a site plan exist.
Sims (1969, 38) notes: *"it is extremely fortunate that this pottery survived to such a late date as otherwise we would know far less about the methods than we do' …'while the range of ware had been modified to meet different demands, the technique for producing it remained exactly the same. While one can never be certain, there is no reason to believe that the techniques employed in Alderholt in 1503."*

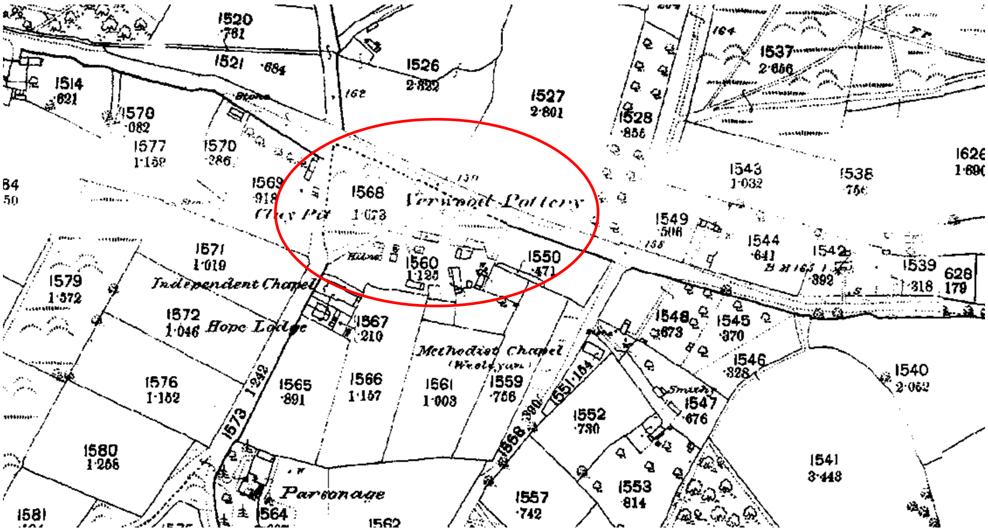


Fig. I.20 (above): Crossroads (VER3) shown on 1880s OS map. © 2016 Digimap Licence

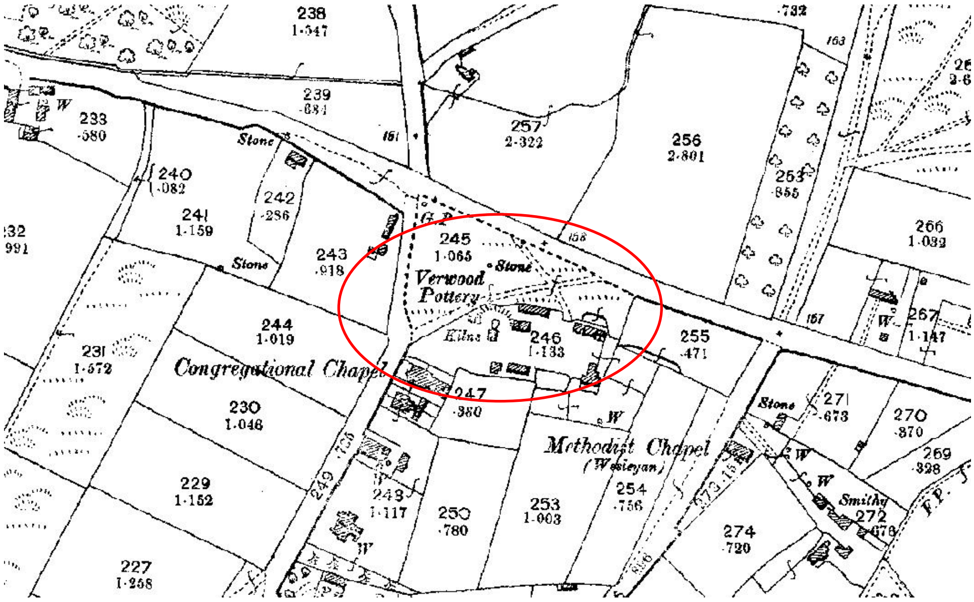


Fig. I.21 (above): Crossroads (VER3) shown on 1901 OS Map. © 2016 Digimap Licence

VER4

NAME: Black Hill - Moor Lodge

DATE RANGE: 1840s – 1914

EVIDENCE TYPE: Watching brief, topographic evidence, historic documents and historic mapping

HAMLET/VILLAGE/AREA: Black Hills

NGR: SU 0947 0882

NMR: SU00 NE73

SCHEDULED: No

GEOLOGY: Broadstone clay

POTENTIAL FOR FURTHER WORK: Negligible- Most of site removed by modern housing. Site layout on mapping.

VDPT ID: Verwood kiln 4

YOUNG (1979) ID: Site 4

INFORMATION:

Present on OS map 1880s and 1910.

James Bailey tenant in 1847. Samuel Bailey follows from 1885 until 1914.

Mound destroyed in 1984, following a watching brief and rescue excavation by VDPT (not published), only photos remain (held by Priest House Museum).

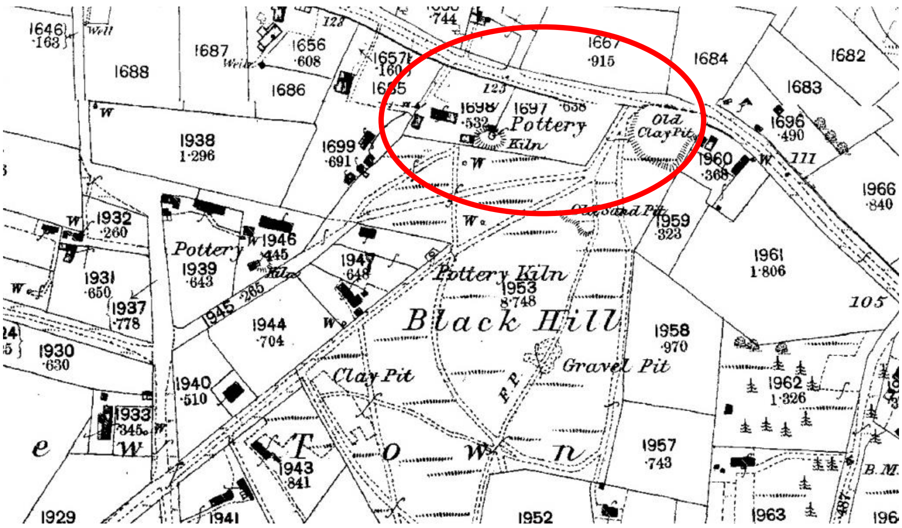


Fig. I.22 (above): VER4 on 1880s OS map. © 2016 Digimap Licence

VER5

NAME: Purbeck House

DATE RANGE: 1880s – 1914

EVIDENCE TYPE: Historic documents and historic mapping.

HAMLET/VILLAGE/AREA: Black Hills

NGR: SU 0941 0874

NMR: SU00 NE74

SCHEDULED: No

GEOLOGY: Broadstone clay

POTENTIAL FOR FURTHER WORK: Negligible - Most of site removed by modern housing. Site layout on mapping.

VDPT ID: Verwood kiln 5

YOUNG (1979) ID: Site 3

INFORMATION:
On 1880s and 1910 OS maps. Run by Seth Sims late 19th century, continues until the outbreak of WW1. Additional: Kiln mound survived until 1964 (Algar *et al.* 1979).

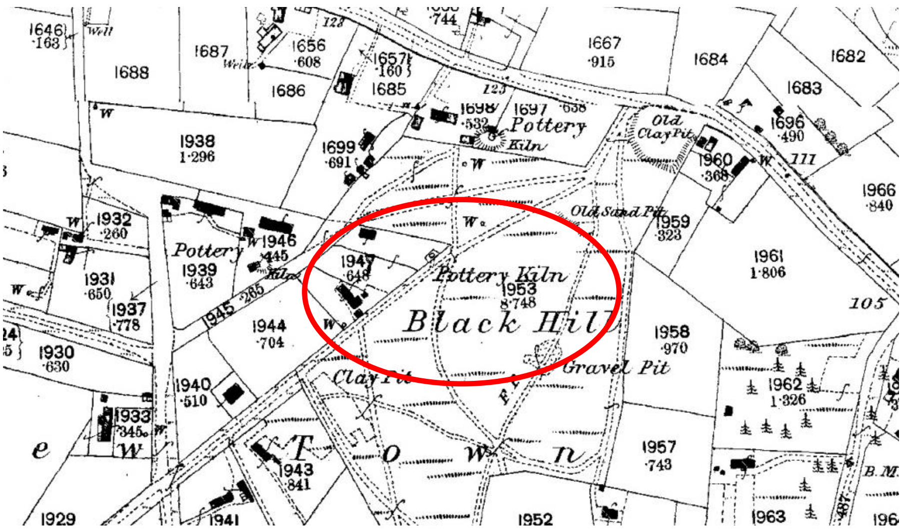


Fig. I.23 (above): VER5 on 1880s OS map. © 2016 Digimap Licence

VER6

NAME: None Known

DATE RANGE: 1880s – 1907

EVIDENCE TYPE: Historic documents and historic mapping.

HAMLET/VILLAGE/AREA: Black Hills

NGR: SU 0934 0876

NMR: SU00 NE83

SCHEDULED: No

GEOLOGY: Broadstone clay

POTENTIAL FOR FURTHER WORK: Negligible – Site covered by modern housing. Site layout on mapping.

VDPT ID: Verwood kiln 7

YOUNG (1979) ID: Site 2

INFORMATION:
On 1880s OS map and tithe map. Robert Sims working late 19th century. Closes 1907, partly built over in 1950s. Most likely heavily damaged as now under industrial estate.
Cottage remains (Algar *et al.* 1979).

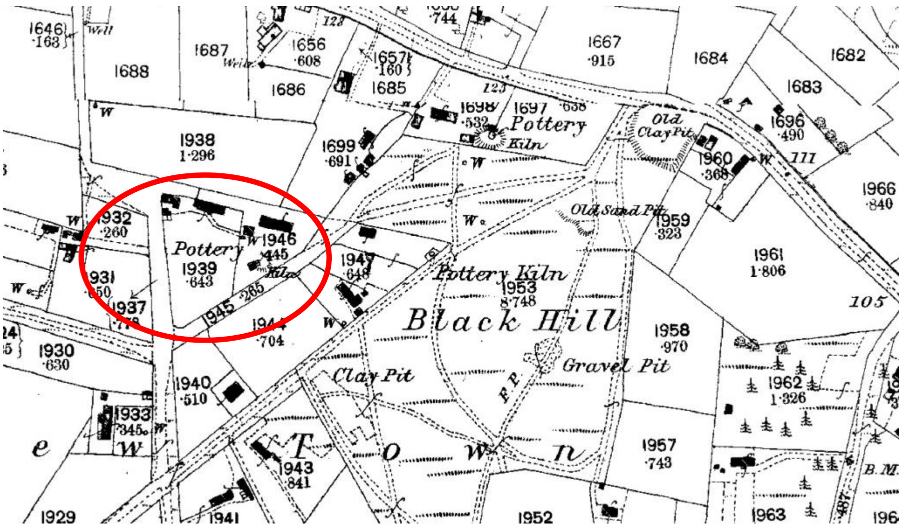


Fig. I.24 (above): VER6 on 1880s OS map. © 2016 Digimap Licence

VER7

NAME: None known

DATE RANGE: 1840s – 1910

EVIDENCE TYPE: Historic documents, historic mapping

HAMLET/VILLAGE/AREA:

NGR: SU 0866 0827

NMR: SU00 NE75

SCHEDULED: No

GEOLOGY: Parkstone Sand

POTENTIAL FOR FURTHER WORK: Negligible – most of site under modern housing. Site layout on mapping.

VDPT ID: Verwood kiln 7

YOUNG (1979) ID: Site 5

INFORMATION:
On 1880s (below) and 1901 OS maps and tithe map.
Run by the Baileys. Thomas owner/occupier in 1840s, succeeded his father, James?
Late 19th century Fredrick Sims taken over, works until 1910. Destroyed between 1910 and 1938.

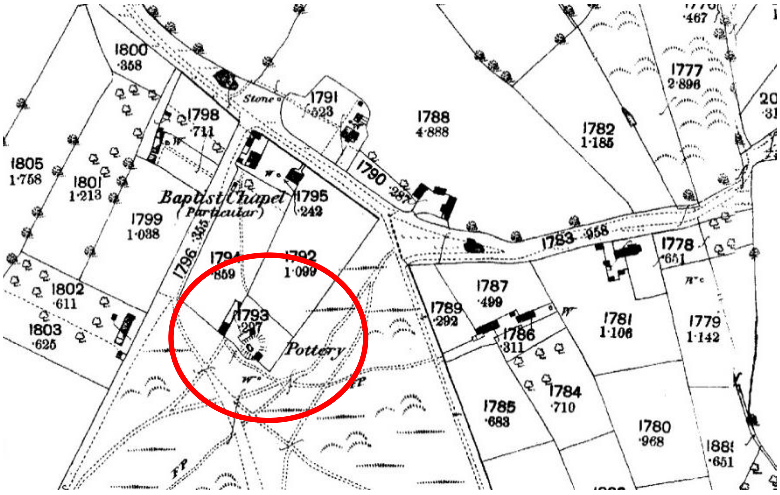


Fig. I.25 (above): VER7 on 1880s OS map. © 2016 Digimap Licence

VER8

NAME: Potterne Hill (West)

DATE RANGE: 1700s – 1800s

EVIDENCE TYPE: Place Name, topographic evidence, sherd concentration

HAMLET/VILLAGE/AREA:

NGR: SU 0908 0773

NMR: SU00 NE77

SCHEDULED: No

GEOLOGY: Broadstone clay/sand

POTENTIAL FOR FURTHER WORK: Good – Kiln appears to have survived as a low mound feature – no clear sign of associated buildings.

VDPT ID: Verwood kiln 8

YOUNG (1979) ID: N/A

INFORMATION:
Nothing shown on tithe or OS map. Field opposite is named shop plot on tithe.
Lies immediately east of Potterne Hill, and southeast of Claylake copse.

VER9

NAME: Sandleholme

DATE RANGE: 1840s – 1907

EVIDENCE TYPE: Historic Documents, historic mapping, standing remains, topographic evidence, trial pits.

HAMLET/VILLAGE/AREA:

NGR: SU 0796 0827

NMR: SU00 NE66

SCHEDULED: Yes (LEN:1002348)

GEOLOGY: Broadstone clay

POTENTIAL FOR FURTHER WORK: Good (scheduled)

VDPT ID: Verwood kiln 9

YOUNG (1979) ID: Site 7

INFORMATION:
On 1880s OS map (below) and tithe map.
Henry Andrews owner/occupier in 1840s. Dies c.1860, son Stephen continues to work here. His son, Job, takes over in 1885, kiln ceases in 1907.
Potentially well-preserved site with kiln mound 20m in diameter and 3m high. Surviving buildings, another mound was identified on 1880s OS map, but has since been demolished. Young undertook and exploratory trench on north side of kiln mound in the 1970s.

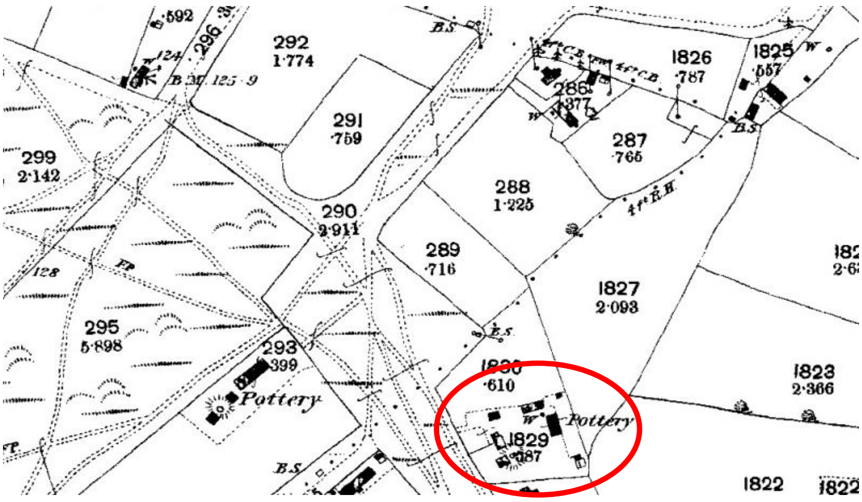


Fig. I.26 (above): VER9 on 1880s OS map. © 2016 Digimap Licence

VER10

NAME: Dewlands Common (East)

DATE RANGE: 1840s – 1875

EVIDENCE TYPE: Historic Documents and historic mapping

HAMLET/VILLAGE/AREA:

NGR: SU 0824 0857

NMR: SU00 NE76

SCHEDULED: No

GEOLOGY: Broadstone sand member

POTENTIAL FOR FURTHER WORK: Negligible – Most of site removed by modern housing, site layout on mapping.

VDPT ID: Verwood Kiln 10

YOUNG (1979) ID: Site 6

INFORMATION:
On 1880s OS map (below) and tithe map.
Run by Shearings family. 1840s Henry takes over from Joseph, and continues until closure between 1850-75. Evaluation in Dewlands Way in 1994-5, near to site recorded a possible sand pit with wasters (NMR: SU00NE85/ Located at SU08150856).

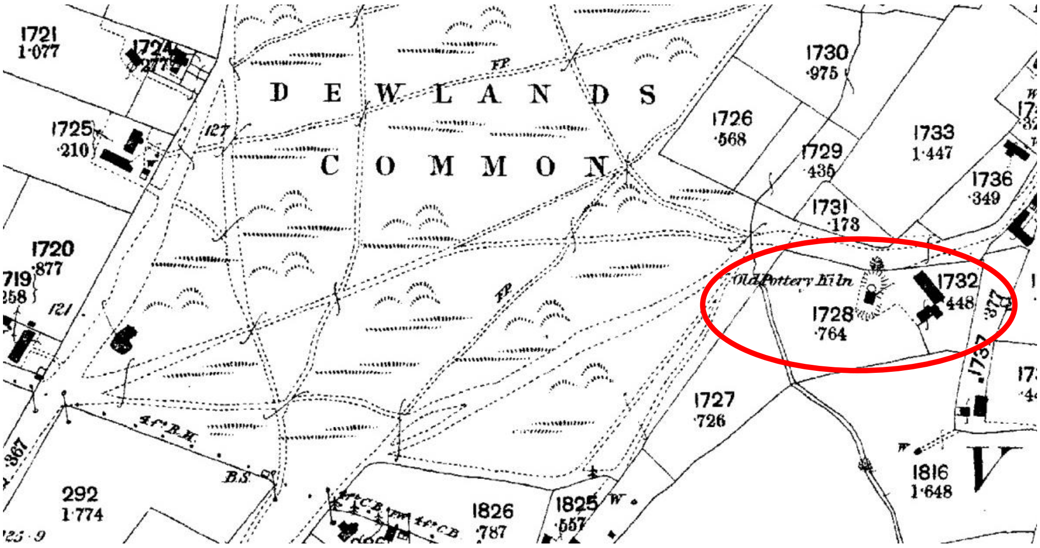


Fig. I.27 (above): VER9 on 1880s OS map. © 2016 Digimap Licance

VER11

NAME: Dewlands Common (West)

DATE RANGE: 1700s – 1850-80s

EVIDENCE TYPE: Historic mapping

HAMLET/VILLAGE/AREA:

NGR: SU 0779 0857

NMR: SU00 NE78 + SU00 NE80

SCHEDULED: No

GEOLOGY: Broadstone sand member

POTENTIAL FOR FURTHER WORK: Negligible – Most of site removed by modern housing, site layout on mapping.

VDPT ID: Verwood Kiln 11

YOUNG (1979) ID: N/A

INFORMATION:
On 1880s OS map (below) and tithe map.

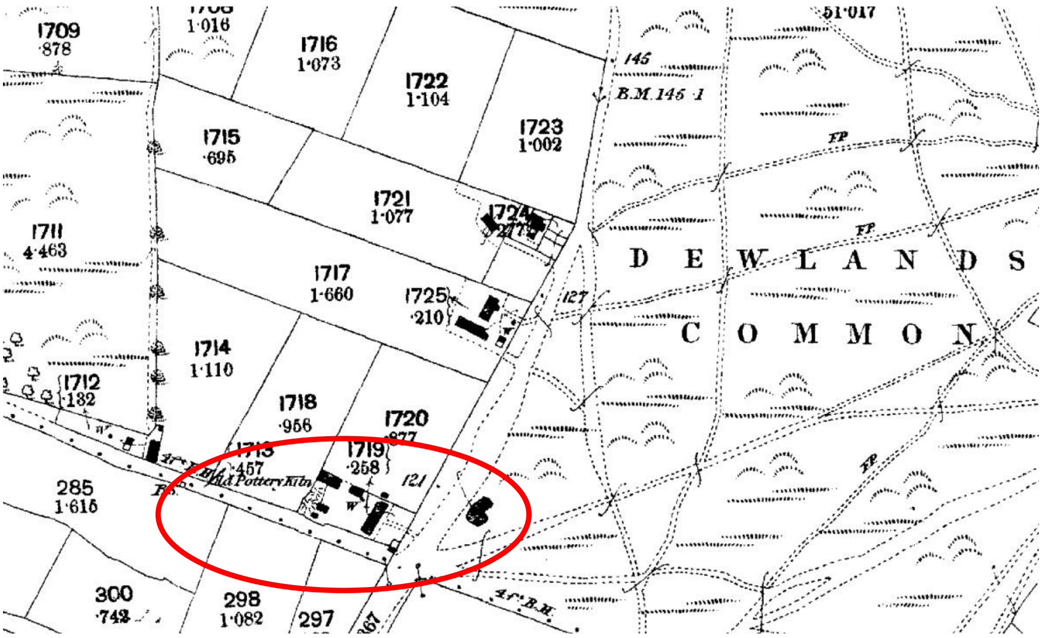


Fig. I.28 (above): VER9 on 1880s OS map. © 2016 Digimap Licance

VER12

NAME: Verwood Farm

DATE RANGE: 1700s – 1750s

EVIDENCE TYPE: Sherd Concentration

HAMLET/VILLAGE/AREA:

NGR: SU 0815 0802

NMR: SU00 NE79

SCHEDULED: No

GEOLOGY: Broadstone clay

POTENTIAL FOR FURTHER WORK: Unclear – Only large pond present - possibly old clay pit?

VDPT ID: Verwood Kiln 12

YOUNG (1979) ID: N/A

INFORMATION:
Not on any OS or tithe map.

VER13

NAME: Ebblake

DATE RANGE: 1600s – 1700s

EVIDENCE TYPE: Excavation, geophysical and topographic survey

HAMLET/VILLAGE/AREA:

NGR: SU 1028 0776

NMR: SU10 36

SCHEDULED: No

GEOLOGY: Broadstone clay

POTENTIAL FOR FURTHER WORK: Negligible – now occupied by industrial buildings and kiln was excavated.

VDPT ID: N/A

YOUNG (1979) ID: N/A

INFORMATION:
Excavation of the remains of a demolished kiln led by Alan Graham in 1997 for VDPT this followed on from trial trenching, topographic survey and a magnetometer survey (undertaken by Bournemouth University in 1997). This has not yet been published as the pottery is yet to be sorted, identified and quantified.
Not on tithe or OS mapping.

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Appendix II:
An Archaeological Desk-Based Assessment of Medieval to Early Post-Medieval Later Pottery Production Sites in East Dorset and West Hampshire:

Part One – Dorset Parishes
and
Part Two – Hampshire Parishes

Version 2 – December 2018

D.Carter

Summary

A rural ‘country’ pottery industry has been in operation in east Dorset and west Hampshire from the medieval period into the mid-20th century. The industry comprised a major element in the economic and social history of the area, the significance of which, has been highlighted by numerous local historians, and archaeologists, from the 1950s onwards. This industry ended production in the Verwood area, thus has carried the name of the ‘Verwood pottery industry’ since the 1970s.

All but two of a total of 38 post-medieval and early modern pottery production sites (Algar *et al.* 1987) lie within east Dorset, with the remaining sites lying within west Hampshire. The majority of these sites lie within the modern parish boundaries of Verwood and Alderholt, Dorset.

The aforementioned areas have been heavily affected by development from the 1970s which increased rising exponentially over time. Numerous sites, such as that at Ebblake - Verwood, have only been identified as part of rescue excavations undertaken during, or prior to, development. Most significantly, the towns of Verwood and Alderholt contain the highest concentration of pottery production sites, it is these urban centres which have seen rapid residential and commercial expansion.

The potential origins of this pottery industry remain shrouded in mystery. This applies to both locations of early production, also in addition to the reasons behind the appearance of the industry. It is likely that the presence of the Reading and London clay beds, the occurrence of large areas of managed woodland and heathlands, and the low carrying capacity of the land in regard to agriculture, have all played a role in the establishment of pottery production in this area. Historic documents relating to the Alderholt area suggest pottery production as far back as the 14th century (Sims 1969; Alger *et al.* 1979; 1987), and it is this that has led researchers to believe that the beginnings of the Verwood pottery industry originated here, during the medieval period.

Two important studies have charted the positions and distribution of pottery production sites across this area. The first was undertaken in 1969 by John Sims for the Farnham School of Art, the second, which built upon the former, was undertaken by the now defunct Verwood and District Potteries Trust (VDPT), who outlined their results in two pamphlets the first in 1979 and an updated edition in 1987. Following these, there has been little attempt collate and present the data; this would help illustrate the broad picture of what is known of the industry, in addition to clarifying the information inferred from place name and documentary evidence. Draper and Copland-Griffiths (2002) provides an exceptional overview into various industries including pottery production - alongside numerous aspects of everyday life in general across east Dorset; however, while useful in raising awareness of the pottery industry, the work contributed little in expanding our knowledge of the origins of the industry.

The results of the DBA reveal that the parishes of Alderholt, Cranborne and Verwood contain the most evidence for medieval and early post-medieval pottery manufacture. Those of lower importance include Damerham and Horton. These areas should be considered for further archaeological investigation, with the aim of increasing our understanding of past-pottery production along the east Dorset/west Hampshire border.

Contents of DBA

Abbreviations

AONB – Area of Outstanding Natural Beauty (government designation)
DHC – Dorset History Centre
DHER – Dorset Historic Environment Record
DRS – Dorset Record Society
HHER – Hampshire Historic Environment Record
LEN – List Entry Number
OS Maps – Ordnance Survey Maps
REF – Reference Number
UID – Unique Identification Number for Scheduled Ancient Monument
VDPT – Verwood and District Potteries Trust
VCH – Victoria County History

1. Introduction

This document outlines the evidence for, and the significance of, numerous pottery production sites within east Dorset and west Hampshire, forming part of a study towards a doctoral thesis in archaeology, undertaken at Bournemouth University. This document has been designed to be read without the completed thesis, but a broader picture is provided within that document. It is anticipated that upon completion of the study, this document will be submitted to the relevant HER service, to enable future archaeological research and allow archaeologists in the planning sector to gain a greater understanding of past pottery production in the region and to tailor their efforts and responses accordingly. In essence, an amount of the evidence outlined here may have also been included, in less depth, within the relevant thesis document.

This document has two parts; the first covers the relevant parishes of east Dorset, while the second covers the relevant parishes of west Hampshire.

The study concentrates on the medieval and early post-medieval (Tudor into Stuart) periods up to c.AD1650; although, later evidence has been outlined where appropriate to highlight the importance, historic character and economic nature of given areas. The bulk of evidence for pottery production in this region is dated firmly to the mid post-medieval period and later (post-1650), and therefore this study seeks to ascertain avenues of future investigation and aims to further current understanding of pottery production during the medieval and early post-medieval periods.

For ease and consistency, the study employs the following date ranges taken from Historic England (2018), which is a recognised standard within the Heritage Industry (reproduced in Table II.1).

Table II.1: Time Period by Years AD (after Historic England 2018)

Period	Description	Start date (year AD)	End date (year AD)	Attributed to broad period description
Roman	Traditionally begins with the Roman invasion in 43AD and ends with the emperor Honorius directing Britain to see to its own defence in 410AD.	43	410	N/A
Early Medieval	This dates from the breakdown of Roman rule in Britain to the Norman invasion in 1066 and is to be used for monuments of post Roman, Saxon and Viking date.	410	1066	N/A
Medieval	The Medieval period or Middle Ages begins with the Norman invasion and ends with the dissolution of the monasteries.	1066	1540	N/A
Post-medieval	Begins with the dissolution of the monasteries and ends with the death of Queen Victoria. Use more specific period where known.	1540	1901	N/A
Tudor	Dating to the reign of the Tudor monarchs.	1485	1603	**Post-medieval**
Elizabethan	Dating to the reign of Elizabeth 1st of England.	1558	1603	**Post-medieval**
Jacobean	Dating to the reign of James I of England (VI of Scotland).	1603	1625	**Post-medieval**
Stuart	Dating to the reign of the Stuart kings of England (including the Commonwealth inter-regnum).	1603	1714	**Post-medieval**
Hanoverian	Dating to the reign of the Hanoverian kings of Great Britain.	1714	1837	**Post-medieval**
Victorian	Dating to the reign of Queen Victoria of Great Britain.	1837	1901	**Early Modern**
Modern	Previously recorded as 'Modern'.	1901	2000	**20th Century**

The region of east Dorset and west Hampshire has an extended history for pottery production. The first signs of any organised expansive industry take the form of the Romano-British New Forest-type wares (Sumner 1927 and Fulford 2000). Subsequently, there appears to be a hiatus in terms of any obvious organised pottery industry, along with minimal evidence for pottery production as a whole; this implies a cessation of production until the early medieval period. The evidence of this data comprises a solitary pottery pit kiln identified at Michelmersh (north of Romsey – Mepham and Brown 2007), with no other known contemporaneous production source in close vicinity. One notable pottery assemblage recovered from Penny's Farm, Cranborne, Dorset, (Bellamy 2001) contains pottery dating from the 12th century, which is visually, and chemically similar to that being produced at Laverstock, Salisbury (Musty *et al.* 1969). This has been demonstrated by the recovery of sherds datable to this period from excavations, which – based on the presence of certain inclusions within the pottery - have potential to originate from the clay bands of the east Dorset/west Hampshire region; although further work is required to confirm this. Sherds of this nature have been recovered from numerous areas, most notably from modern construction work in cities such as Salisbury (Mepham 2000), and Southampton (Brown 2002), as well as those discovered more locally at Wimborne (Coe and Hawkes 1991) and Poole (Horsey 1992).

Spoerry and Hart (1989) have already outlined areas on the Dorset – Hampshire border, extending down to the Purbecks. They have summarised the following from their recovered evidence:

> *"South and East of the dip-slope of the chalk massif lie the 'acid heathlands' that extend into the New Forest and beyond. At the interface of these two natural zones outcrop the Reading Beds and London Clay in bands ranging from tens of metres, to four kilometres, across. This area has provided the natural basis for ceramic manufacture over many centuries, especially in the far east of the county between Wimborne and Fordingbridge, where abundant supplies of water and fuel are also available. These natural raw materials formed the basis for the Verwood and district industry (Young 1979, Algar el al. 1987), which lasted from at least the 14th century until the 1950s. It is evident … that there is an abundance of information concerning the post-medieval industry in this area. Some references to medieval production have also been located and it is surely only a matter of time before some of these early sites come to light. By tracing the extent of the Reading Beds and Oxford Clays… an almost continuous ribbon of documentary and other evidence for ceramic production is apparent… It is surely no coincidence that so many vague medieval references that relate to ceramic production appear for parishes on this arc"* (Spoerry and Hart 1989, p.35).

2. Project Background

Overall the county of Dorset contains relatively little evidence for medieval and early post-medieval (AD1000 - 1600) pottery production (Spoerry and Hart 1989), when compared to that of surrounding regions such as Somerset, Hampshire, Wiltshire, and Devon (Table II.2).

The mass of pottery sherds that might be attributed to the various regions of Dorset provide a stark reminder that, as of 2018, only two medieval pottery kilns have been excavated and published (Field and Musty 1966; Milward 2017). In contrast, east Dorset contains a wealth of information which relates to pottery production from the post-medieval period onwards.

From the 17th century into the mid-20th century, a rural 'country' pottery industry operated in east Dorset and west Hampshire; this formed a major element in the economic and social history of the area. The pottery from this industry is commonly known as 'Verwood-type' ware, named for the last production centre in operation centred in Verwood, Dorset. The distribution of products created by this industry is thought to cover a vast area of southern Britain, encompassing the majority of Dorset, most of Hampshire and southern Wiltshire. Medieval origins for the industry are suggested via the presence of historical documentary evidence, in the Alderholt area, which dates to the 14th century (Algar *et al.* 1979; 1987). However, no physical archaeological evidence, beyond the recovery of sherds, has yet been located to corroborate this. As a result, a search for evidence relating to the medieval precursor to the Verwood industry may yield results, as it is the most well understood post-medieval pottery industry in Dorset.

Initially the first in-depth study of the Verwood potteries was undertaken by John Sims in 1969, on behalf of the Farnham School of Art. This work was built upon by the Verwood and District Potteries Trust, which was created in the late 1970s in response to the vast numbers of pottery sherds of unknown origin being recovered from the Salisbury area during the construction of the Salisbury ring road. The Trust aimed to investigate and record the locations of production sites, as well as establishing their date range and geographical extent. Vast amounts of information were recorded from the last operating potteries via interviews with surviving employees and local inhabitants, along with examinations of photographs, historic documents and maps; this wealth of information was synthesised and presented in a pamphlet (Algar *et al.* 1979; 1987). This, coupled with small scale archaeological investigations on a number of production sites, provide the backbone of our knowledge of the post-medieval phase of operation for this pottery industry. As yet, only one of these investigations has been analysed and published – that of Horton (Copland-Griffiths 1990; and Copland-Griffiths and Butterworth 1991).

Table II.2: Outline of Known and Postulated Medieval/Early Post-Medieval Pottery Production Evidence from Selected Counties of Southern and South West England

County	No. of excavated centres	List of excavated sites/pottery waste	No. of centres from other sources	List of those hypothesised from other sources – (direct documentary reference, chemical analysis/thin section confirmation - etc.)	Total
Devon	4	**Barnstaple** (Morris 2018), **Exeter – St John's Hospital** (Dunning and Fox 1951; 1957) **- Goldsmith Street** (Allan 1984, 136-8), **Hemyock** (Smart 2018).	6	**Bideford** (Grant 2005), **Bere Ferrers, Clayhydon, Plympton, Honiton** and **Totnes** (Allan 2015; Allan *et al.* 2018)	10
Dorset	3	**Hermitage** (Field and Musty 1966), **Shaftesbury** (Carew 2008), **Wareham** (Milward 2017).	1	**Alderholt** (Spoerry and Hart 1989*) **While other potential centres are mentioned only those that the authors considered of Level Three evidence and above are considered here.*	4
Hampshire and the Isle of Wight	10	**Aldershot** (Jervis 2011b), **Bentley [Alton]** (Barton and Brears 1976), **Farnborough** (Pearce 2007), **Hawkley** (Jervis 2011b), **Knighton [IOW]** (Fennelly 1969), **Michelmersh** (Mepham and Brown 2007), **Newport [IOW]** (HER:EWI236, Michaels 2004) **Southampton - High Street** (Webster and Cherry 1972; Brown 2002. **York Buildings** (SOU175, HER:MSH1106), **Totton** (HHER:25722).	3	**Boarhunt** (Whinney 1981), **Damerham** (Le Patourel 1968), **Winchester** (Biddle and Barclay 1974)	13
Somerset, Bath and Bristol	6	**Bristol - Ham Green** (Barton 1963a; Ponsford 1991) **Redcliffe** (Wilson and Moorhouse 1971; Ponsford and Dawson 2018), **St Thomas Street** (Jackson 2004), **St Peter** (Dawson et al. 1972) **Donyatt** (Coleman-Smith and Pearson 1988), **Glastonbury** (C. and N. Hollingrake Pers. Comm.),	8	**Batcombe** (Allan *et al.* 2018), **Blackdown Hills** (Allan *et al.* 2010; Allan *et al.* 2018), **Bridgwater** (Allan *et al.* 2018), **Butleigh** (Allan *et al.* 2018), **Crowcombe** (Allan *et al.* 2010), **Evercreech** (Allan *et al.* 2018), **Milverton** (Allan *et al.* 2018), **Nether Stowey** (Le Patourell 1968; Allan *et al.* 2018).	14
Wiltshire	7	**Calne** – Spey Park (AC Archaeology, unpublished), **Salisbury** (Algar and Saunders 2014), **Lacock** - Naish Hill (Musty 1974, 63), **Laverstock** (Musty et al. 1969, inc. West Grimstead), **Crockerton** (Le Patourel 1968), **Lyneham** (Marter and Gerrard 2003), **Minety** (Musty 1973).	6	**Westbury** – Domesday Reference, **Coombe** (Marter and Gerrard 2003), **Longbridge Deverill** (as previous), **Mildenhall** (as previous), **Potterne** (as previous), **Wootton Bassett** (as previous).	13

This document collates all the data accumulated by past investigations and research, along with any new evidence held by a variety of sources. There are no known documents pertaining to west Hampshire pottery production (at Harbridge) dating prior to the 1720s (Algar *et al.* 1979; 1987), while the evidence for production in east Dorset dates from the 14th century. Outside the area of this study, however, it is worthy of note that an area of

13th-14th century pottery wasters was identified near Totton/Marchwood, during construction of the bypass (HHER: 25722). This highlights that medieval pottery production is known to occur in areas away from the London and Reading clay beds near to the east Dorset and west Hampshire border.

Following the closure of the Trust in the late 2000s, there has been reduced monitoring of both known and existing production sites as a whole, with groundworks and development on sites often going unmonitored (*e.g.* Alderholt kiln 10 in 2016-7; Horton kiln 2 in 2018). However, thankfully two of the sites are scheduled - Cracked Pot Cottage (formerly Prairie Farm), Verwood (UID: DO 858); and Sandleholme, Verwood (UID: DO 857).

3. Aims and Objectives

It is the aim of this document to present the available evidence that highlights potential location, date, extent, and significance of sites of pottery production in parishes on the east Dorset and west Hampshire border. In particular, the assessment focuses on those centres producing coarse earthenwares between the medieval and post-medieval periods. While the production of pottery is also evidenced in this region during the Romano-British period, this remains outside the sphere of discussion for this document.

4. Scope and Methodology

This assessment outlines the results of searches of the following datasets:

- Dorset and Hampshire Historic Environment Records (hereafter D- or HHER);
- National Monuments Records (NMR);
- Historic England's Pastscape;
- The Archaeology Data Service (ADS);
- Information from published sources;
- Information recovered from unpublished sources such as that held either by the Museum of East Dorset (MED), Wimborne Minster, Dorset; or within archives held by individuals formerly of the Verwood and District Potteries Trust (VDPT), with their permission;
- Airborne Light Detection and Ranging (LiDAR) data, held by the Environment Agency.

In addition, this assessment employs documents and historic maps held by local record offices, such as the Dorset History Centre, the Hampshire Record Office, and the Wiltshire and Swindon History Centre.

Vertical aerial images held by the Historic England archive at Swindon have not been examined as pottery production sites tend to be relatively small areas, with the most distinguishing features being the pottery kilns themselves. With this in mind, kilns may be present as soil marks rather than parch marks within ploughed fields; however, arable farming is not widespread in this region, thus the majority of fields of interest are under pasture.

Privately held archives such as those at Crichel House, Dorset and Hatfield House, Hertfordshire may need to be addressed to provide a more comprehensive and complete investigation, but a combination of costs and permissions have prevented their inclusion within this document. Furthermore, where certain additional references have been discovered but not examined for whatever reason there presence has been noted in the relevant section to aid future investigations.

All known pottery production sites within east Dorset and the immediate Hampshire/Dorset border are of post-medieval and later date. The locations of all these known sites are shown within a gazetteer (presented in Appendix I of the thesis). From this, it is apparent that the earlier sites of operation, at least those used during the post-medieval period, reside on the outskirts of villages and hamlets - likely on areas of waste ground. Over time, the industry appears to migrate towards the Verwood area, and may have contributed to the formation of the area we know today as the modern town. This is evidenced by the locations of 'Verwood-type' production sites from the 1800s onwards. The distribution of all known sites is shown in relation to buried geology in Fig. II.1; it is noteworthy that the earliest sites - those found within Horton and Holt, Alderholt, and East Worth - Verwood, all lie on, or immediately adjacent to, the London and Reading clay beds. This implies that the nearby presence of clay is a strong deciding factor in the siting of pottery production sites, in addition to the presence of vast areas of woodland within the region, which has potential to be of greater importance due to the quantity of fuel required for both the firing and drying of prepared pottery.

For ease of reference, the post-medieval known sites will be referred to by a unique site code. Each code comprises the first three letters of the parish, with the subsequent number being the order of discovery (as shown in Appendix I of the thesis); for continuity, the numbering system directly relates to that outlined by Algar *et al.* (1979; 1987).

Numerous extractions pits have been identified on historic mapping - the majority of these are labelled on early OS maps. Earlier mapping does not tend to identify the cause of the disturbance to the ground surface, thus it can often be difficult to discern what is being represented on mapping without the use of hachures as in later OS maps. Where potential quarrying has been identified, geological mapping has been employed to aid in informing the interpretation of the possible cause of extraction, but caution must be exercised as there is a low degree of accuracy in the geological mapping at the local level. In terms of pottery production, the presence of clay and sand pits might have been the sites of raw materials extraction and may have been employed within the creation of past pottery production. The presence of gravel pits may also have a link to pottery production as gravels may occur both with and within bands of clay, which may have been used for pottery production; despite this the presence of gravel pits alone, should not be attributed directly to ceramic production.

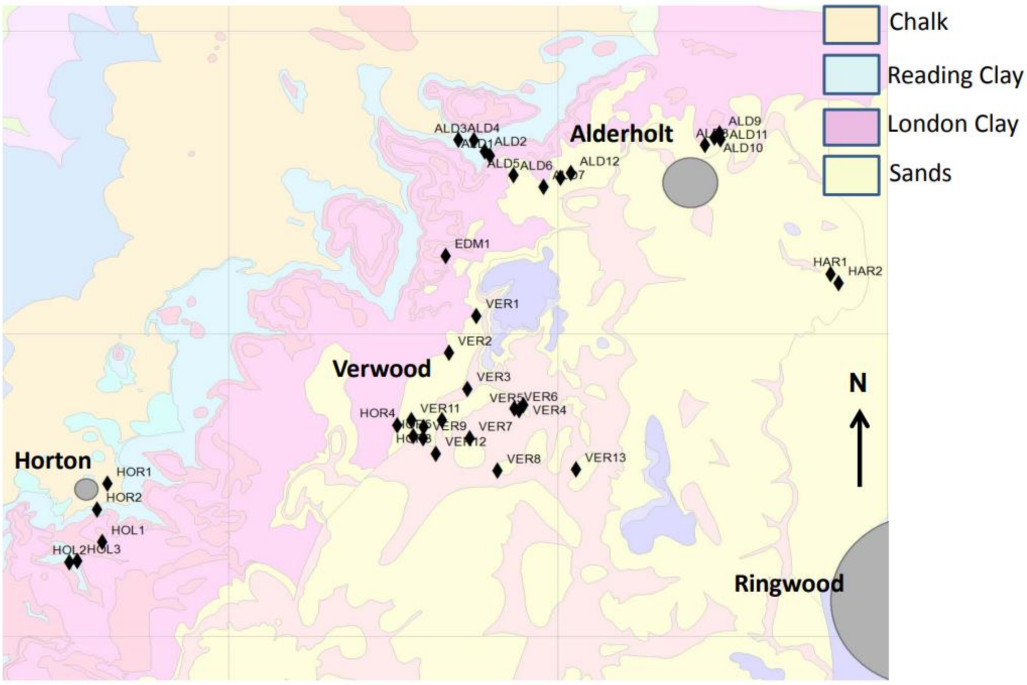


Fig. II.1: Known Verwood-type pottery sites in relation to buried geology

5. Study Area

The area covered by this study, lies within the bounds of east Dorset, and west Hampshire; the majority of parishes lie close to the Hampshire/Dorset border. This includes 22 parishes across two counties (see Table II.3), as defined by the Ordnance Survey (OS Open Data 2017); these comprise an area of some 340km² (see Fig. II.2).

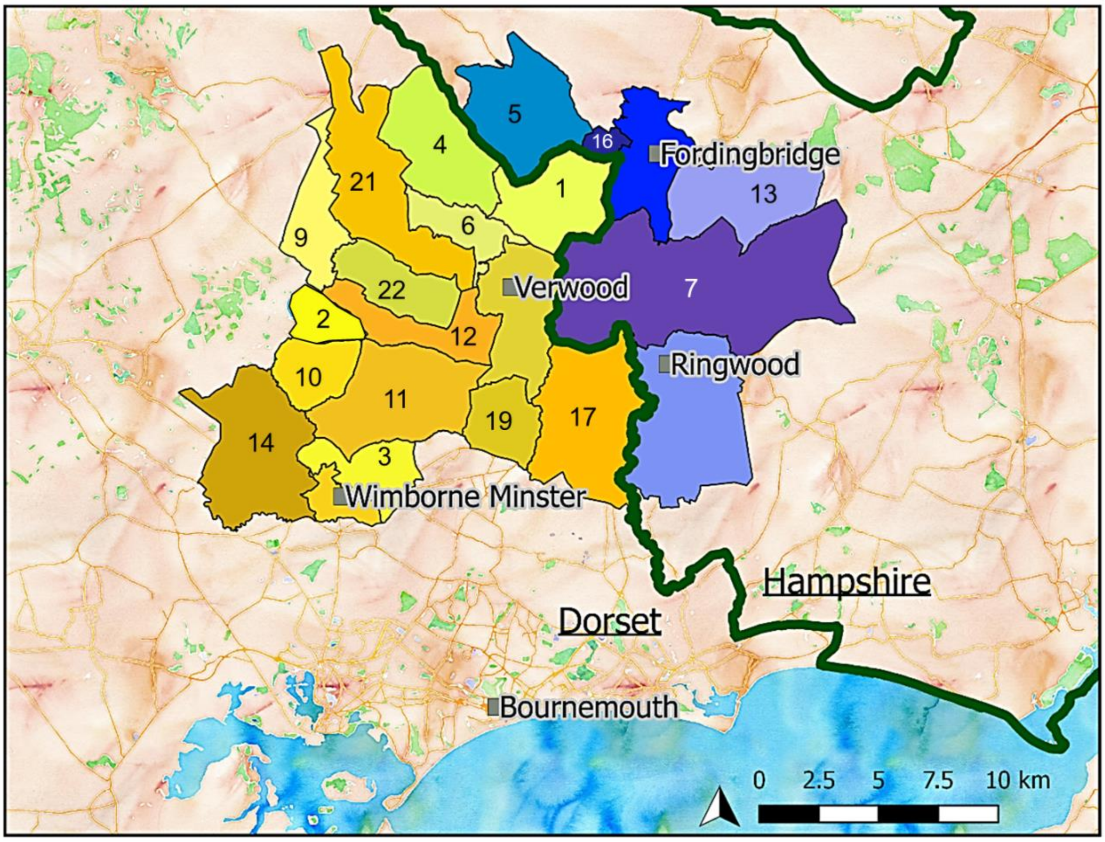


Fig. II.2: Parishes examined as part of the DBA (numbered in Table II.3). Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under CC BY SA

Particular attention has been paid to those parishes that contain known evidence for post-medeival pottery production dating to the post-medieval period, such as Alderholt; Edmonsham; Ellingham, Harbridge and Ibsley; Horton and Holt; and Verwood.

The bulk of the parishes that are covered by this study were formerly part of the Cranborne Chase hunting ground (see Cranborne Parish). The modern AONB carries only the name of the Chase, rather than encompassing the entire area of the former hunting ground; this contemporary designation appears to favour the prehistoric downs, and large agricultural Country Estates in the north while relatively ignoring the industries and heathlands that lie within the former 'outer bounds' of the original Chase, such as the parishes of Alderholt and Horton. At least four of the former medieval deer parks that formed a major part of the character of the Chase, lie outside of the bounds of the modern AONB boundary (*i.e.* Alderholt and two in Holt). The current boundary of the AONB (as of December 2018) absorbs the entire parish of Damerham, crosses roughly through the middle of the parishes of Cranborne (which provides the designation area with its name), Edmondsham, Wimborne St Giles, Woodlands, Chalbury, Hinton and Pamphill. Only small portions of the parishes of Horton and Holt lie within the designation.

Due to the size of the assessment and the amount of evidence and data being considered the document has been split into two parts. Part one contains all information relevant to the county of Dorset, with Part two outlining all information relevant to Hampshire. It is the intention that each segment will be submitted to the relevant county HER service allowing the information to be employed as those curatorial bodies best see fit.

Table II.3: Parishes Included in this Assessment

ID	Parish	County
1	Alderholt	Dorset
2	Chalbury	Dorset
3	Colehill	Dorset
4	Cranborne	Dorset
5	Damerham	Hampshire
6	Edmondsham	Dorset
7	Ellingham, Harbridge and Ibsley	Hampshire
8	Fordingbridge	Hampshire
9	Gussage All Saints	Dorset
10	Hinton (Parva and Martell)	Dorset
11	Holt	Dorset
12	Horton	Dorset
13	Hyde	Hampshire
14	Pamphill	Dorset
15	Ringwood	Hampshire
16	Sandleheath	Hampshire
17	St Leonards and St Ives	Dorset
18	Verwood	Dorset
19	West Moors	Dorset
20	Wimborne Minster	Dorset
21	Wimborne St Giles	Dorset
22	Woodlands	Dorset

All parishes selected for the assessment share a border with those that contain physical evidence for post-medieval pottery production, creating wares that can be attributed to the Verwood-type ceramic tradition. The parishes of Frogham, Burley, Minstead, and Bramshaw, Hampshire along with Ferndown, Dorset have not been included as they are considered to lie too distant from the Reading and London clay beds; these appear to be one of the locational factors relating to pottery production along the east Dorset/west Hampshire border. The decision to exclude these parishes was based on a similarly situated parish – that of St Leonards and St Ives - which the assessment demonstrates contains no relevant evidence. The parishes of Crichel and Witchampton, Dorset, have not been included in this study, although future investigations here may prove fruitful due to the presence of medieval settlement within both parishes; the distance of these parishes from the aforementioned clay beds was a predominant factor in this decision.

6. Significance for Further Work

To rate the significance of a site or area in relation to the search for potential locations and production sites that are operating at an early date, a point system has been created to determine areas of high potential from those of lesser consequence. This is outlined in Table II.4; and the results of each assessed region will be outlined in the discussion section of the document.

Sites shown to have a value of four points or above will be selected for further study and field work as part of the overall PhD thesis.

The assessment outlines various elements of medieval settlement and activity for the region, as this aids in the understanding of past land-use this may aid in the interpretation of various aspects of rural medieval/post-medieval life, economy and ceramic production, across east Dorset and west Hampshire.

Table II.4: Criteria for Point-Based Significance System

Number of Points	Criteria/Eligibility	Criteria ID
3	Historic documentary reference relating to a parish that refers to: potting, a potter(s), clay or sand extraction for potting, purchase of, or mention of the taking/leaving of wood or lead by a known/named potter(s). This must date prior to AD1600s to be eligible, and the presence of a single reference will have the same significance as numerous references for the same area.	A
3	The recovery of 'wasters' as defined by (Rice 2015) that can be dated to prior to the 17th century. The wasters must be in a medieval, late medieval, or early post-medieval fabric, similar to that defined by Mepham (2000) and Brown (2002).	B
2	An archaeological investigation suggesting the presence of an undated kiln.	C
2	Any sites highlighted by either the VDPT in Algar *et al.* (1987) or Sims (1969) as dating to, or prior to the 17th century.	D
1	Potential place name evidence alluding to pottery taking place, or a potter being present, as outlined by Le Patourell (1968).	E
1	A surname name being recorded within the parish, either referring or alluding to potting or a process involved in potting. These must date prior to the 14th century, as outlined by Le Patourell (1968).	F
1	Mention of place/parish in doomsday survey of AD1086. This survey lists the majority of settlements present at this time in England, and is of use to a study of this type, as some settlements, which might have created pottery could be listed within it. References to pottery production itself within the survey is extremely rare, and it is unlikely to be mentioned directly for the study area (Darby and Welldon-Finn 1967).	G
1	Recovery of pottery sherds/vessels dating from the medieval to early post-medieval periods, which do not illustrate any signs of being wasters, as defined by Rice (2015). These must be in a fabric similar to, or that described by Mepham (2000) and/or Brown (2002).	H
1	Evidence for post-medieval pottery production, with an unknown date of enclosure from the heath, or one that predates 1600. This may be illustrated from historic mapping or historic documents.	I

7. Part One: Dorset Parishes

The majority of our known earthenware production sites in the assessment area lie within the county of Dorset; all of these date after AD1600s, with the final site closing at Crossroads, Verwood, closing in 1952. The only published in-depth survey of evidence for medieval potting was undertaken by Spoerry (1989) and Spoerry and Hart (1989) who highlighted many areas of potential medieval potting, throughout Dorset; their work will be outlined where appropriate in the various following sections.

7.1. Alderholt Civil Parish

7.1.1. General Discussion

The parish of Alderholt was created in 1894, and was formerly a part of the Cranborne Hundred (Fagersten 1978). The parish forms the north eastern tip of the County of Dorset, bounded to the north by Damerham, Sandleheath and Fordingbridge (all in Hants). To the west lie the parishes of Cranborne, Edmondsham, with Verwood (all in Dorset), with Ellingham, Ibsely and Harbridge (Hants) lying to the south. The geology of the parish is dominated by Parkstone sand and Broadstone sand and clay. Reading and London clays lie on the county border to the north. The most substantial settlement in the parish is the small town of Alderholt, with the hamlets of Crendell, Daggons and Cripplestyle lying within the western portion. The history of Alderholt is very much an enigma, with the Royal Commission Volume for east Dorset stating:

> "*Little is known of the history of the area. The pattern of scattered settlement in the N., with winding lanes, isolated cottages and farmsteads and small irregular fields, probably indicated slow extension of settlement accompanied by gradual clearance of forest and waste. In the E., where the field boundaries are rectilinear, the land was enclosed from the heathland in 1859 (Enclosure Award, 1858, D.C.R.O)"* (RCHME 1975, p.1).

The idea of slow encroachment into waste and woodland is supported by Darby and Welldon-Finn (1967) who, using information held in the Domesday survey of 1086, show that east Dorset has the lowest population concentration within the wider county at the time, and also reveals that the area is dominated by woodland. This is further corroborated in the origins of the name of Alderholt, which likely derives from the old English words 'Alder' and 'holt', the latter of which meaning – wood/forest (Mills 2008, p.14). Fagersten (1978) notes several changes in the name over time, outlined in Table II.5.

Table II.5: Past Mentions of Alderholt

Date	Name
1315	Alreholt(e)
1398	Areholt
1425	Alberholte
1535	Alderwood

7.1.2. Medieval Alderholt

Alderholt is not mentioned in the Domesday survey of 1086. The nearest settlements mentioned comprise the now lost settlement at Letisford (five households) - although Fagersten (1978) suggests this may be closer to modern Verwood - the relatively large village of Damerham to the north in Wiltshire (80 households – probably an amalgam of several settlements); and the medium-sized settlement at Midgham, Hampshire (12 households). Although Alderholt is not mentioned by name it remains possible that residents of a small settlement or farmstead at Alderholt could have been amalgamated into the records of another settlement. Such integration of entries in the survey is seen elsewhere within Dorset at Piddletrenthide (Taylor 1970, pp.51-3), where several settlements within a parish are amalgamated, potentially for ease, or where multiple small hamlets occur sparsely over a relatively wide area.

A medieval deer park was present at Alderholt from at least the early 1300s (Dorset HER ID: 3001014). Wake Smart and Hawkins (1983, p.84) note that in 1315 Edward II gives Gilbert de Clare the manor of Cranborne and "there were in the Park of Alderholt, by estimation one-hundred and fifty-four acres". Wake Smart and Hawkins (*ibid*) subsequently explain that during the reign of Henry VIII this was disparked and the deer destroyed, with the enclosed park land was then sold off. The Lay Subsidy Rolls of 1327 and 1332 both record Alderholt (*Alreholte)* as being amalgamated with Cranborne (*Craneborne*) and Holwell (*Holewel*); this supports the hypothesis that, at this time, certain single documentary entries for this area actually comprise grouped dispersed settlement or even several induvial farmsteads at this time. The area certainly appears to be a relatively poor one, with 26 out of a total of 51 (c.50%) occupants paying the minimum charge of eight pence in tax for 1332 (Mills 1971, p.75). To place this in perspective another centre for post-medieval potting in Dorset at Holnest, in the west of the county, records only two inhabitants out of a total of 36 (c.5%) paying the minimum eight pence charge (Mills 1971, p.31).

The fact that the location of Alderholt, is first mentioned during the high medieval period, suggests that any substantial settlement did not exist here until the 1300s. However, the importance of the area in terms of pottery production has previously been outlined by Algar *et al.* (1979):

> *"There is little doubt that the Verwood and District pottery industry began in Alderholt probably during the later medieval period. The earliest known reference occurs in the Cranborne Manor Accounts for 1337, when the tenants of the village paid 14/- for the digging of clay to make pots. Whilst the number of separate kilns at this time is unknown, there was clearly already an established and thriving community. Later evidence suggests that the kilns were in a group to the south of the village along what is now the road to Fordingbridge. Here easy access was possible to sand, turf and furze on the adjoining heathland, whilst by 1500, clay was being carried by horse and cart from Crendell Common two miles to the* west" (Algar *et al.* 1979, p.24).

Sims (1969, p.2) suggests that transcripts of the Cranborne Provosts Accounts list an illegible sum for digging clay at Alderholt in 1317-18, as evidenced in records held by Hatfield House, Hertfordshire. From the 1400s onwards, the amount of historical documentary references for pottery production and raw material extraction increase exponentially; this continues into the post-medieval period, where there is a wealth of evidence.

7.1.3. Early Post-medieval Alderholt

Twelve post-medieval pottery production sites are known to lie within the parish of Alderholt. Four of these lie to the north of the modern-day settlement of Alderholt, near to modern Fordingbridge Road.

The nature of settlement at Alderholt is perhaps best highlighted in the Norden Terrier (1605). This map was completed for the Marquis of Salisbury's estate and is the earliest map that could be found to be showing vast areas of the study area; photographs of the map are held by the DHC (Ref: Ph 312A and B). The majority of buildings within the settlement lie on the crossroads that now forms the confluence of Sandleheath Road, Fordingbridge Road, and Hillbury Road. A number of buildings lie to the north east along Sandleheath Road extending up to the site of the '*molendini*' - or mill - on the River Allen, occupied at the time of writing by a bed and breakfast. The only post-medieval pottery production site shown in Norden's map is that of ALD8, where its position at the crossroads is unmistakable. The land here is held by a Joanna Laurence by copyhold; this surname is of interest, as a Thomas Lawrence was potting during the 1700s, succeeded by a Lawrence Lawrence at Edmondsham, thus there is potential that all of these individuals could have been related.

One problem with the Norden map is that it does not appear to illustrate the enclosure of the site ALD9 – a Verwood-type pottery production site. This tenement was built by John Attewater in 1602 (Algar *et al.* 1987, p.22). The possibility remains that this area has been amalgamated with other tenements and presented as one block of ownership/tenancy, this would mean that John Attewater is named as Jacobus Waters, as displayed on the map. This is supported by the presence of the note of '*per diwwifsionem'*. This highlights the fact that one must be cautious when using this map as certain elements display great detail, whereas other articles have been grouped for ease, thus the potential that internal divisions are not displayed or entirely overlooked.

Further information was gathered by the VDPT in the form of historic documentary references to potting in relation to the Alderholt area; these cover both the medieval and post-medieval period, and are outlined below in Table II.6.

The only pottery kiln fully excavated within the parish is ALD3, a brief outline of the results is proposed as part of the gazetteer of sites in Appendix I of the thesis.

Table II.6: List of Historic Documentary Evidence for Alderholt

Date	Description	Source
1317/8	14/- for digging of clay at Alderholt at michaelmas and called 'Sharselver'	Sims 1969
1337	14/- of the tenants of Alderholt for clay dug for making pots	Provosts Accounts 1/1
1392	1d rent for the rent of Thomas Payn - for land	Cranborne Manor Accounts
1392	1d for the rent of John Fauke at Michaemas this year - for land	Cranborne Manor Accounts
1392	1d for the rent of John Ruddock for the piece of land of Walter Ottins	Cranborne Manor Accounts
1317/8	14/- for digging of clay at Alderholt at michaelmas and called 'Sharselver'	Cranborne Manor Accounts
1392	Rents - 4/6 for 9 tenants of Alderholt for clay dug for making pots at Michaelmas being 6d each	Cranborne Court Rolls
1448	John Potter mentioned in Cranborne Tything	Cranborne Court Rolls
1489	Dec 1489 Presented that Robert Adale, John Shergould, and Thomas Grey permitted 'les pyttes' called 'clay pyttes' in that tything to be deep muddy and dangerous to the injury of the whole country. They are ordered to 'impedire' ? Les pyttes before Court under penalty of fine.	Cranborne Court Rolls
1489	21 Dec 1489 Robert Adale and John Shergould fined 1d each for not having filled in 2les pyttes2 called cley pyttes which lie dangerous, as ordered to at the last court. Ordered to fill them in before next Court under penalty of 20/-	Cranborne Court Rolls
1490	10 May John Shergould surrendered a close in Alderholt called Toppeshete. Robert Adale and Thomas Wygmons guardians of the goods of X Clement are admitted	Cranborne Court Rolls
1503	Clay rentals 3/-	Cranborne Court Rolls
1507	2/6 of Divers persons for the leave to dig clay within the manor for the making of pots as appears on the Court Rolls	Cranborne Manor Accounts
1507	Received of Richard Baron for the clay pit in the Heath so left by roll of Court held there	Cranborne Manor Accounts
1507	5/2d the fines of divers persons there for licence to dig clay within the common there for making and burning pots, by the said rolls of court	Cranborne Manor Accounts
1507	2/- as previous	Cranborne Manor Accounts
1517	To this court comes John Tyler, fine 2/8 for leave to dig and take clay from the soil next to Goldoke for making tiles	Cranborne Manor Court Roll
1517	To this court comes John Laurence, John Nueman, Rich Grey, John Laycosten and John Voule and gave fine each for similar licences	Cranborne Manor Court Roll
1534	Clay from Alderholt Common	Cranborne Manor Accounts

7.1.4. The Hamlets of Daggons and Crendell in the Civil Parish of Alderholt

Two relatively small hamlets within the parish of Alderholt lie to the west of the modern large modern-day village; both have an abundance of post-medieval evidence for potting.

7.1.5. Daggons

The village is formed of two parts - Lower Daggons and Daggons. Lower Daggons is a small hamlet lying between Crendell and Sandleheath, while Daggons itself lies to the south, situated between Crendell and Alderholt. In modern times, Daggons has been almost subsumed into western Alderholt, as this now large village has more than doubled in size since the 1960s. Four post-medieval kilns sites lie within close proximity to Daggons and nearby Cripplestyle, the details of these can be found within Appendix I of the thesis. No evidence for production or raw material extraction could be identified at Lower Daggons. In contrast, pottery production in Daggons is mentioned in historic documents from the 1730s onwards (Algar *et al.* 1979, pp.30-31).

No earlier evidence for pottery production at this location could be ascertained, although there is potential that settlement existed here as early as 1332 as a Richard Dagon is named in the Lay Subsidy Roll within the Cranborne, Holwell and Alderholt tithing (Meekings 1971). Settlement at Daggons is evidenced from the 1811 OS map (Fig. II.3), but is not covered in the earlier Norden map of 1605. The 1811 map shows potteries as being well established elements in the landscape at Daggons (Dagham).

Fig. II.3: Extract from 1811 OS Map showing Potteries at Daggons (Dagham)

Additional evidence may be gleaned from tithe map for the Alderholt tithing (DHC Ref: T/ALD), dated 1845. Here, numerous plots near to a post-medieval potting site (ALD7) exist. It is unclear if these relate to the known site or are names that refer to earlier production. Field names such as 'Pot sherd Green' (plot 741); 'Pot sherd Piece' (plot 742), are all likely to relate to the known site as they lie within the immediate vicinity of the site. A number of other plot names occur on the opposite side of the road to ALD7; these plot names may not relate to this site, as they are separated from the production site by a road. However, this block of rather interestingly named plots do lie between two postulated pottery kiln sites (ALD7 and ALD12), and brick and tile production is thought to lie somewhere within the area (Sims 1969, p.3); a number of these may account for the names, but these fields certainly hold potential worthy of examination.

Table II.7: Field Names Pertaining to Ceramic Production in the Alderholt Tithe Map

Alderholt Tithe Map Plot No.	Plot Name in Apportionment
732	Mountains
733	Lower Kiln Ground
734	Upper Kiln Ground
735	Top Kiln Ground
736	Lower Kiln Ground Piece
737	Upper Kiln Ground Patch
738	Top Kiln Ground Peak

7.1.6. Crendell

Crendell lies within the northwest portion of Alderholt, and is first mentioned in the early 1600s as '*Crundole*' on Norden's map of Cranborne, dated 1605. Crendell comprises a relatively well fossilised landscape, which displays a wealth of raw material extraction for pottery production. Mills (2008, p.35) highlights that in 1620, the hamlet can be seen to be named as '*Crendall*', he goes on to state that the place name itself is important as it may originate from the old English word '*crundell'* - referring to a pit or quarry. It is unclear if this is a reference to clay or chalk, as both lie within the vicinity.

Apart from the place name itself, there is no clear evidence for either production or raw material extraction prior to 1605.

The Norden Map (1605) shows numerous '*pitts of potters clay*' on the common adjacent to '*Goldoake*' (Fig. II.4) and it may be to these pits, or the forebears of these, that the place name refers. Crendell was used for clay extraction until 1742 when documentary reference in the Cranborne Manor Court Roll outlines: *"The Potter's Clay being all dug out of the said (Crendell) common the potters are obliged to go elsewhere for a supply".* However, as the clay rents for this area continue beyond 1742, an additional supply in the near vicinity is likely to have been discovered and used.

The 1880s OS Map displays an area of woodland immediately west of the village identified as '*Old Clayground*'. This area is shown on the Norden map as being occupied by numerous plots two of which are owned by a Robert Kente and called '*Crundole Close'*. This area certainly contains evidence for clay extraction, and various undulations are present on the surface in between the existing trees.

A wealth of LiDAR evidence collected by the Environment Agency displays further evidence for clay extraction in the Crendell area. Various visualisation models of the LiDAR data for Crendell were created, these included a hillside, a multi-directional hillshade, a positive openness model, a negative openness model and a sky view factor. The locations of any anomalies in this data is presented in Fig. II.5, where several potential quarry or extraction pits have been highlighted; this has been coupled with any extraction pits identified on the 1880s OS Map. Fig. II.6 shows how these anomalies approximately relate the buried geology, which shows that all most of those anomalies lie in areas likely to be Reading (Thames group) clay extraction or lying on the borders between deposits *i.e.* clays and chalk. This clay appears to be favoured over that of the adjacent London clay for potting, this may because the London (Lambeth group) clay, appears to be favoured for brick production, although there may have been pottery vessels that required the use of the heavier London clay and so the presence of any extraction pits on the London clay should not be dismissed as irrelevant.

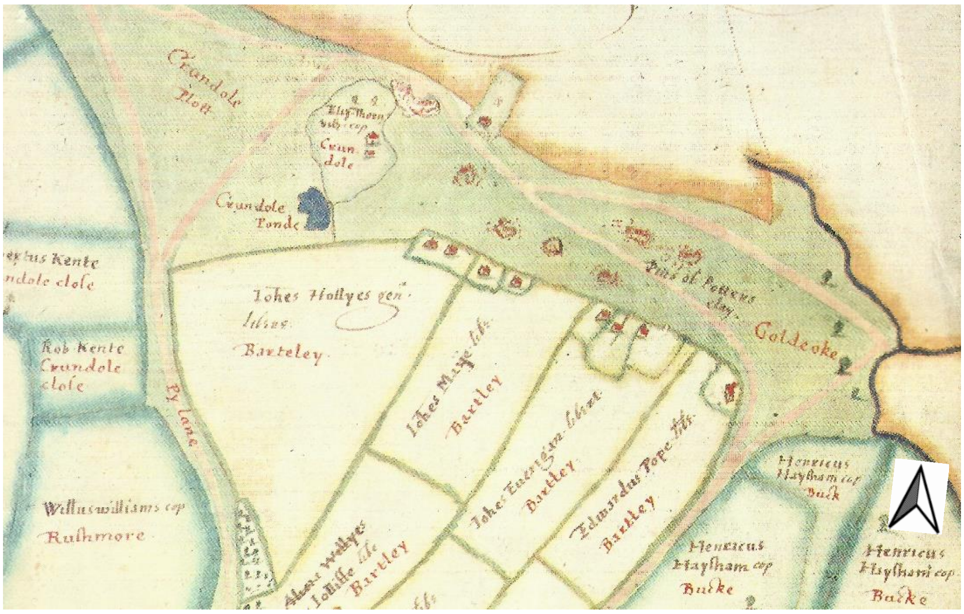


Fig. II.4: Norden's 1605 Map of Crendell (taken from Algar *et al.* 1987, Front Cover)

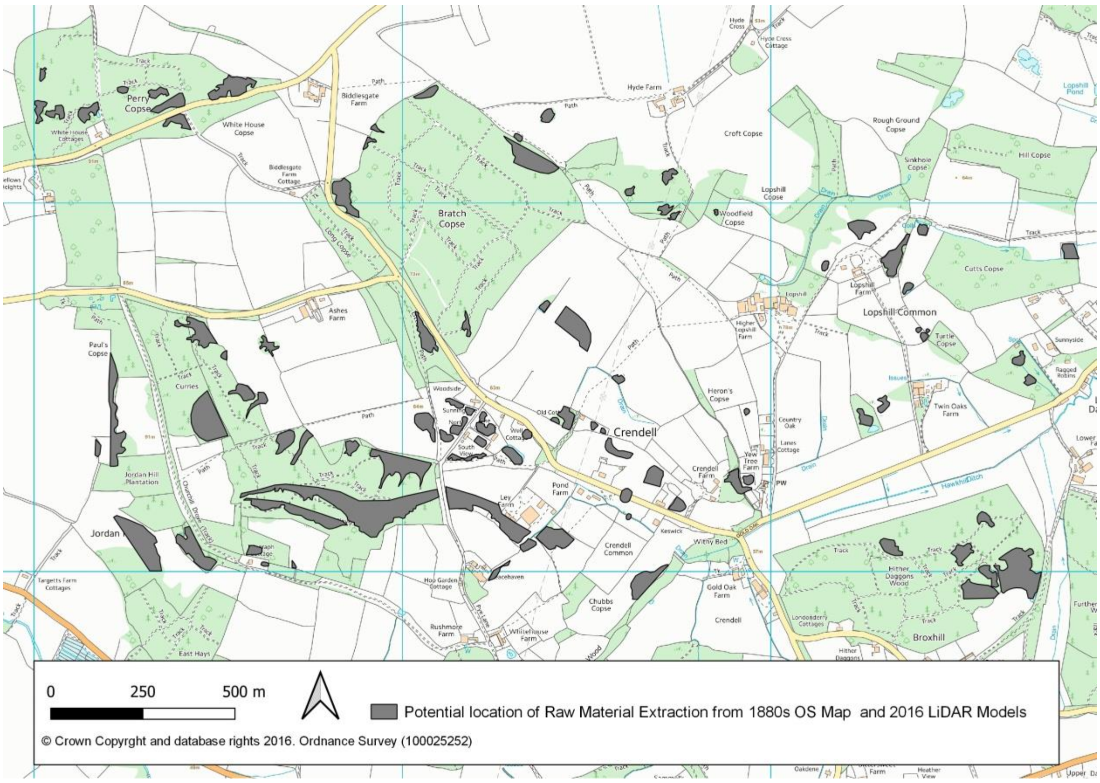


Fig. II.5: Features interpreted from LiDAR and 1880s OS map for the Crendell area

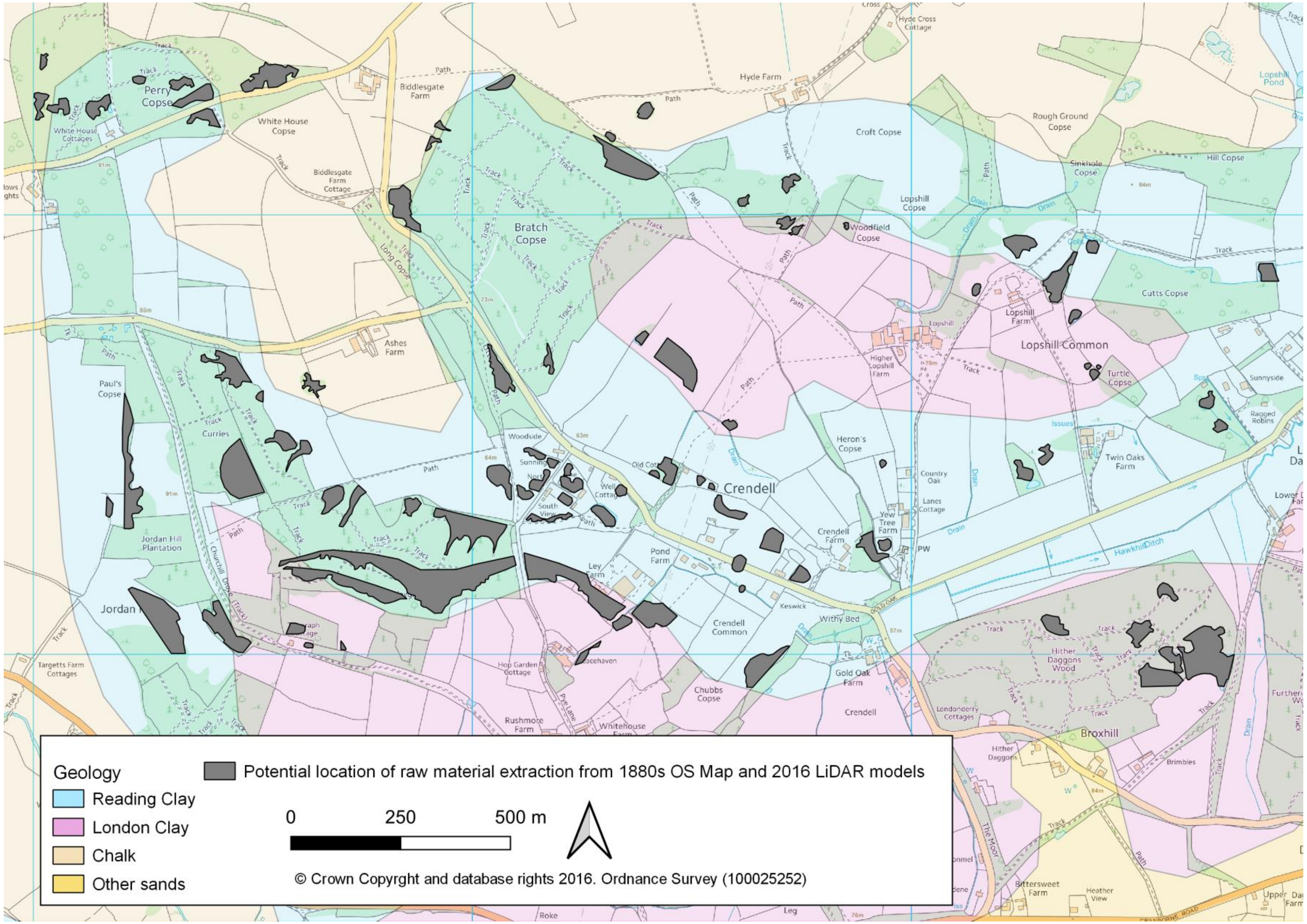


Fig. II.6: Features from Fig. II.5 shown over bedrock geology

A number of elongate features shown in Figs. II.5 and II.6 appear to represent terracing into the hillside to extract clays, while other more expansive topographic features appear to represent open area or trench extraction. This is contrary to the type of extraction shown on Norden's Map which appears to reflect several discrete pit features, rather than vast expansive areas. Drawing on extraction methods used in the Purbecks with ball clays it may be argued that trench and open area extraction are a later post-medieval development of extraction methodology (BCHS 2003); as such these features may be post-medieval in date rather than being of medieval origin.

While a wealth of evidence for raw material extraction can be attributed to Crendell, Norden's map does not exhibit any visible kilns. A number of enclosed properties exhibit more than one building, which may have been used as possible workshops or drying spaces, although there are a range of other non-industrial explanations which could account for this phenomenon. In addition, a small enclosed area to the north, encroaching onto the Boveridge Common - could also yield results, as there are many references to potters encroaching on common lands. Sims (1969, p.23) notes that two properties could have links to early post-medieval potting based on family names. The first is Elizabeth Thorne's property; the Thorne family have later connections to potting, and a branch of the family ends up in possession of the final pottery to close at Crossroads, Verwood. Again, the Thorne property appears to have been enclosed from the common, and two buildings are illustrated. Sims (*ibid*) goes on to suggest that the property held by John Maye, which also comprises two cottages. John could be an ancestor to the later 'Major' family, who were potting in nearby Alderholt the 1700s. Overall, this suggests that Crendell certainly has potential for pottery production dating from the 1600s, and the place name evidence hints at early clay extraction sites.

In terms of early modern and post-medieval pottery production, the village exhibits four kiln sites (again, these are outlined in detail in Appendix I in thesis), although only one has been excavated. This was undertaken by Salisbury Museum Archaeological Research Group in 1975, and the site is of particular relevance to this study, despite it being of post-medieval date. A date of 1750-1820 is suggested by Algar *et al.* (1987), based upon historical documents and the collected pottery, but the authors go on to state that:

> *"From the excavated material it is clear that the kiln itself belonged to the second half of the 18th century, whilst the large quantities of waster sherds redeposited within the insulating mound were of somewhat earlier date"* (Algar *et al.* 1987, pp.23-4).

This suggests that earlier production is taking place in the near vicinity. The remaining three kiln sites have been substantially damaged by a combination of landscaping, re-development and agricultural building construction from the late Victorian period onwards.

7.2. Chalbury Civil Parish

7.2.1. General Discussion

The parish of Chalbury is relatively small, comprising approximately 330 hectares in area. The village of Chalbury constitutes the only modern settlement of any size within the parish, with Didlington Farm lying toward the north western boundary. While there are currently no known pottery kilns within the parish, there is ample possibility for pottery production in this area, as the parish occupies an area of known ancient woodland on the geological boundary between the Reading and London clay beds (RCHME 1975, p.2).

7.2.2. Medieval Chalbury

A number of areas of likely medieval activity are known within the parish, these are indicative of deserted medieval settlements or small farmsteads. The most obvious of these is reflected in the presence of the shrunken settlement of Didlington (DHER ID: 3001014), which is now occupied by Didlington Farm. Fagersten (1978, p.78) notes that this settlement is present from at least AD946, and the evolution of the place name is presented in Table II.8. The origin of the place name remains uncertain, and whether this reflects an old English personal name or topographical location remains ambiguous (*ibid*). Regardless of this, the settlement is present in 1086, recorded in the Domesday survey as lying within the Badbury Hundred and comprising 23 households - a relatively large village for the time in this area. The land was held both before and after 1066 by the Abbey of Wilton. Settlement remains in the form of closes, and house platforms remain as visible earthworks at Didlington; these have been discussed by the RCHME (1975):

> *"Remains of Didlington village … lie N.E. of Didlington Farm on a terrace of the R. Allen….The somewhat indistinct earthworks cover about 5 acres and include a large rectangular platform, due E. of the farm. To the NE two rectangular closes, 20 to 25 yds. Square, are cut into a gentle slope; they are bounded low banks and scarps up to 4 ft. high, and one close appears to retain traces of building platforms, pottery of the 14th or 15th century and later has been found in the area"* RCHME (1975, p.3).

Table II.8: Selected Mentions for Didlington in Chalbury Parish

Date	Name
946	Dydelingtune
956	Dydylingtune
1086	Dedilintone
1244	Dudlington
1327	Dedlyngton

The reference in AD946 relates to a grant of five hides of land at Didlington from King Eadred to thegn Wulfric (Grundy 1935, p.111); it notes the name of Chalbury as being '*Cheolsburge*' (*ibid*) and Horton as '*Horetuninga*' (*ibid*). This charter is the first place that the name of '*Lindune'* - or Flax Hill – appears and it is from this name that the modern place name of Linnen Hill derives. Here, the clays meet the chalk, and it is upon this high point in the landscape that the post-medieval folly/observatory - Horton Tower, stands. A further landmark reference is that of the '*Readen Weg'* or the Red Way, which is likely the road between Chalbury and Horton. Here, the road would have cut into the underlying clays that comprise the adjacent Linnen Hill, as the road that still exists today is relatively sunken at this point, possibly named for the iron-rich red clays that the track has been dug through.

The same area of land is then granted to Aelfred in 956, along with one hide at *Uddinge* (modern day Uddens), Holt (Grundy 1935, pp.112-3).

Work by Charlie and Nancy Holinrake (1990) around Black Barn Farm (now Glebe Farm), Chalbury, noted three large concentrations of medieval pottery sherds; again, this is thought to reflect settlement rather than pottery production, although the collection could not be examined as the location of the deposited archive could not be located at Dorset County Museum. The first area was shown to be north east of the currently named Glebe Farm (DHER: MDO5431); the second was highlighted south of the village of Chalbury (MDO5433); and thirdly, an area west of Hinton Martell was identified (MDO5745). These may represent three distinct areas of settlement within the parish of Chalbury.

The main settlement of the parish, Chalbury, is not outlined in Domesday. Instead, the large size of Didlington in the survey may reflect that numerous smaller areas of settlement, including that at Didlington Farm, and Chalbury, plus others had been amalgamated and recorded as one, as is the case elsewhere for Dorset, for example the parish of Piddletrentide (Taylor 1970, pp.51-55). The village of Chalbury is "almost certainly of pre-conquest in origin. (Although, the)...small size of Chalbury Church shows that the settlement was never a large one" (RCHME 1975, p.2). Fagersten (1978, p.78) notes the numerous place names for this settlement over time, see Table II.9.

Table II.9: Place name Evolution for Chalbury

Date	Name
935	*Chelesbergh*
946	*Cheoles burge (east geat)*
958	*Cheoles byrig (east gete)*
1244	*Chelesbyr*
1297	*Ghelesbury*
1386	*Chalesbury*
1428	*Chelbury*

For the post-medieval period, the only evidence for pottery production that could be identified relates to known production in Horton. This comprises the residence of Elias Talbot whose will is held by the DHC and National Archives (Ref: PROB 11-344-38). He may have been potting at either known production site in Horton (HOR1 or HOR2). Elias Talbot, potter of Horton, is listed as residing in Chalbury in the 1664 Hearth Tax records.

The Manorial Court Rolls for Chalbury and Didlington covering the period from 1337 to 1702 are held privately by the Shaftesbury Estate at St Giles House, Wimborne St Giles. The costs of accessing these documents was too high to enable a thorough examination to be undertaken, and so their contents in relation to pottery production for this era cannot be commented on.

7.3. Colehill Civil Parish

7.3.1. General Discussion

The parish of Colehill was formed in 1894 from the extensive parishes of Wimborne and Hampreston (RCHME 1975, p.4). The parish of Holt lies to its north, Ferndown to the east, Pamphill to the west and the Borough of Poole and Bournemouth to the south. The modern settlements of Furzehill and Colehill comprise the most substantial inhabited areas in the parish. The parish lies a relatively long distance from the Reading and London clay beds known to be used by the Verwood pottery industry; however, the area is dominated by sands of the Poole and Parkstone formations, with elements of Broadstone clays and sands.

7.3.2. Medieval Colehill

There is no reference in the Domesday survey to Colehill; however, one settlement - that of '*Wedechworde'* – which lies within the northeastern bounds of the parish, is included. The settlement comprised 10 households lying within in the Badbury Hundred; all that currently remains of this settlement is the farmhouse of Wilksworth Farm; settlement here dates from the 1500s (DHER: 3 003 001 and MD029111). The place name Colehill first appears as '*Colhulle*' in 1431, and '*Collehill*' in 1547, possibly deriving from the old English for 'charcoal' and 'hill' (Mills 2008, p.32), which suggests historically that the area had an industrial and raw material economy.

As the parish of Colehill did not exist at this time, any medieval evidence will be found within that outlined for Wimborne Minster and Hampreston. The DHC holds the court books for Wilksworth Manor (formerly part of the Hanham Estate); a former manor which lies within the bounds of what would later become the parish of Colehill. These records cover the dates 1594-1612 (DHC Ref. D/HNM/C/1/1 and D/HNM/C/4/1), and were examined for any mention of clay extraction or references to pottery production, but no clear evidence could be identified.

7.3.3. Post-medieval Colehill

While there is no known evidence for potting within the parish at this time, a late post-medieval brick works is recorded in the Dorset HER (DHER: MDO23464); this was most likely associated with a number of clay pits, which lie within in the vicinity (DHER: MDO23462 and MDO23463). These pits are present on both the 1888 and 1901 OS map, but have gone out of use by the 1920s. Old clay pits (DHER: MDO23476) and old gravel pits (DHER: MDO23475), which are also displayed on these maps remain present on the 1920s OS maps, and are also thought to be associated with the aforementioned brickworks. Multiple extraction pits (DHER: MDO23471 and MDO23471) are visible on the early 17th century Harding map (DHC Ref. D1504/1); these are recorded as old gravel pits on the 1888 OS map.

7.4. Cranborne Civil Parish

7.4.1. General Discussion

The parish of Cranborne lies in the north east corner of the County of Dorset. It contains the small town of Cranborne, with the hamlet of Boveridge lying, to the north. The parish is bounded to the northwest by Pentridge and Sixpenny Handley, while the northeastern boundary comprises the county boundary between Dorset and Hampshire. Edmondsham lies to the south, and the relatively modern creation of the parish of Alderholt (formerly a tithing within the Cranborne parish) lies to the east. This creates difficulty in regard to historic documents for both parishes, as early references to Cranborne may refer to locations within the modern parish of Alderholt. The parish is dominated by chalk geology, with small islands of Reading and London clay occurring in discrete pockets. The site of the former Cranborne Castle, to the south of the town, is also positioned on a substantial Reading clay outcrop.

Stevenson (1812, p.24) notes that the parish of Cranborne is one of the largest in the county of Dorset: "...in circumference being about thirty miles, and its longest diameter about twelve". The parish is situated in the valley of the River Crane, where the chalk downs meet the clays and sands, which dominate east Dorset. The early importance of Cranborne for the northeast Dorset region is highlighted by its use as the locational descriptor for the county's largest medieval hunting preserve: 'Cranborne Chase'. With this in mind, Cranborne's history is effectively linked to that of the Chase until the later post-medieval period when the town has significantly declined. The perambulation of the Chase was undertaken during the reign of King John; however, its continued importance as a royal hunting ground is evidenced by this perambulation being confirmed during the reign of Henry III, and again by Edward I in 1280 (Wake-Smart and Hawkins 1983, p.xi). The extent of the Chase has been best described by Wake-Smart and Hawkins (*ibid*, pp.119-120):

> *"The territory of the chase was divided into two districts of unequal extent, the less being circumscribed by the greater, and distinguished by the inner or less, and the outer or large bounds. These boundaries, are respectively set forth in a subsequent document of … Edward I. A.D.1280, and are therein referred back to the time of King John, when the history of the chase commences. The outer bounds include an area whose diameter from east to west is from twenty to twenty five miles; and from north to south from fifteen to twenty miles; in circuit about one hundred miles, containing seven or eight hundred thousand acres of land, comprising seventy-two parishes, and ten thousand of population, taking in some portion of the city and towns of Salisbury, Wilton, Shaftesbury, Blandford, Wimborne Minster, Ringwood, Fordingbridge, and Downton: the inner bounds include a district about ten miles in length. From north to south, three or four miles in breadth, and about twenty-seven miles in circuit, consisting chiefly of woods and pasture land to the amount of about forty thousand acres. The whole was parcelled or subdivided into eight walks or districts, viz. Rushmoxe, Staplefoot, Cobley, Burseystool, Westwalk, Fernditch, Chiefly within the inner bounds, Alderholt and Chettered between the inner and the outer bounds. There were also in former time nine parks for the preservation of Deer in the out-grounds, or, the district beyond the inner bounds, viz, Wardour, Wilton, Falston, in Wilts; Breamore, Burgate, Rockbourne, in Hants ; Alderholt, Blagden, Gunville, in Dorset."*

The modern-day area of the Chase, lies north of the main Blandford to Salisbury road (A354) and has relatively few remnants of its ancient splendour (Hinchy 1957, p.57).

7.4.2. Medieval Cranborne

The earliest record relating to Cranborne concerns the founding of a monastery, and is found in the chronicle of Tewkesbury Abbey:

> *"About the year 930, in the reign of King Athelstan, flourished a certain noble knight sprung of the illustrious stock of Edward the Elder and known by the name of Haylward Snew on account of his fairness. And being not unmindful of his end, he built for himself and Ælfgifu his wife in the days of King Ethelred and St. Dunstan the archbishop a small monastery to the honour of God and Our Lord Jesus Christ, His Mother, and St. Bartholomew the Apostle, and endowed it with lands and possessions. And having assembled there brethren to serve under the obedience of an abbot according to the rule of St. Benedict, he made Tewkesbury, of which he*

> *was patron, wholly subject to it. These things were done about the year 980. And Haylward, having died and received burial in the church which he had built, was succeeded by Ælfgar his son, the father of Brihtric, who according to the vow of his parents 'amplified' the church which they had begun"* (Page 1908, p.70).

The Domesday Survey of 1086 notes that the lands remained in the hands of the Saxon 'Snew' dynasty until 1066 when the lands were presented to Queen Mathilda van Vlaaderen; wife of William I. The survey of the town records a total of 37 households, comprising eight villagers, 12 small holders, 10 slaves and seven cottagers. In addition to this, extensive tracts of woodland are recorded; an area of woodland measuring two leagues long by two leagues wide is documented as being associated with lands at Cranborne in 1086. In comparison Edmondsham, which lies immediately to the southwest, can boasts woodland covering an area of some five by one and a half furlongs, while the lands of Boveridge to the north includes one by a half leagues.

Penn (1980, p.49) notes that there is little evidence for growth of the town, but assumes growth occurred around the abbey and its successor. A castle is thought to be present on the southeastern fringe of the town from at least the 12th century; the remnants of the monument are protected as a scheduled ancient monument (UID: DO17). A fair in Cranborne was held by Richard de Clare in the late 13th century (*ibid*), and a medieval market house was in ruins by the early 1500s (*ibid*). From 1314, Cranborne is referred to as a borough, although no record of a charter has been ascertained (*ibid*).

A *Willelmo Poterne*, resident of Boveridge, a hamlet which lies within the northern part of the parish of Cranborne, is listed in the 1332 Lay Subsidy rolls (Mills 1971, p.76), paying three shillings and 10 pence in tax. This distinguishes him as the highest tax payer within Boveridge, which somewhat contradicts the hypothesis that he is potting, as during the post-medieval period - the height of potting as an industry for this area - potters are not the wealthiest inhabitants within a given area, and certainly would not be paying the largest amount of tax within a given administration parcel. It is perhaps more likely that Willelmo's family name derives from a place such as Potterne, near Verwood, Dorset.

Very few archaeological investigations have been undertaken in this area in past years. However, one of note is that of Penny's Farm, Cranborne (Bellamy 2001) where significant amounts of medieval and Anglo-Saxon pottery were recovered. The medieval sherds were initially recorded as being of Laverstock-type, or part of the Wessex Coarseware fabric group. These may have been the products of an east Dorset industry.

A number of Reeve Accounts for the Cranborne area are held by the National Archives at Kew in their Special Collections; these date from 1323 – 1326 (National Archives ref: SC 6/832/2-832/3).

As with other parishes such as Alderholt, lying immediately to the east, the parish of Cranborne contains an area of enclosed Parkland. Blagdon Park (DHER: 3005032) comprises one of the largest examples of its type within the east Dorset region. Hutchins (1873, p.383) notes that this was created by Roger Damory in 1321, and was disparked in 1570.

7.4.3. Post-medieval Cranborne

The Norden Map of 1605 of Blagdon Park shows that a '*Crockherne Yate'*, likely referring to a Crockerton Gate (Cantor and Wilson 1970, 196-199) - comprises a southern entrance to the former park, which has likely gone out of use by this time (see above). This is probably related to the place name Crockerton Hill (see point 7.4.4.).

The town was in decline throughout the early post-medieval period, with the causes of its final decay being not overly clear. The formation of the Western Turnpike in 1757 bypassing Cranborne completely was the final 'nail in the coffin' for the town's economy and symbolises its lack of importance at this time (Wake-Smart and Hawkins 1983, pp.10-11).

The presence of extensive landscaping and gardens - a reoccurring theme across large east Dorset Estates - is highlighted by the presence of Boveridge House (DHER Ref: 3 005 058).

With regard to post-medieval manufacture Stevenson (1812, p.450) notes other industries - excluding agriculture - taking place at various locations across Dorset. For Cranborne, he states there is "a pottery for coarse earthen-ware". This is perplexing, as Stevenson has highlighted one production site at Cranborne – yet failed to mention those sites known to be producing wares at Alderholt - including those at Crendell and Daggons - all of which lie within five miles of Cranborne; sites producing in the Verwood area at this time (see Appendix I in thesis) are also overlooked. With this in mind, one must be cautious when considering where this 'Cranborne Pottery' site exists. It is worthy of note that Stevenson (1812) also lists two potteries in Beaminster, Dorset, which are not present in Spoerry and Hart's (1989) survey. The Beaminster potteries comprise yet another Dorset ceramic industry of which we know very little; this highlights that while Dorset's prehistoric and Romano-British archaeology is being thoroughly investigated, thus our knowledge of these periods is continually being advanced, the history and archaeology of certain areas from less than 250 years ago remains somewhat of an enigma.

Further evidence has been postulated by Spoerry and Hart (1989, p.32), who state that a James Thorne, Potter, records a will in Cranborne dated 1682; this could not be found within the DHC or PRO catalogue. Based upon other existing evidence, the suggestion that Mr Thorne is potting in the town of Cranborne does not necessarily correlate, as he is most likely potting within the parish of Cranborne, thus could therefore be located anywhere from Alderholt to Verwood during this time. A similar situation applies to Lawrence Chubb, potter, who records a will in Cranborne in 1714 (DHC Ref: Ph.133/3), but he can be placed at ALD1 (see Appendix I in thesis) at Gold Oak Farm, Crendell, which lies three miles to the east. This demonstrates the fact that as Cranborne is such a large parish, which is only split during the late 1800s, any evidence that is not descriptive beyond parish level prior to the 1840s (when tithings begin to be more commonly used in administrative documents, and people can be tied to places via tithe maps) could relate anywhere between Verwood, Alderholt and Cranborne – making narrowing a location in this area very difficult.

7.4.4. Undated Pottery Production Evidence for Cranborne Parish

In terms of evidence that cannot be decisively dated, such as that of place and field names, numerous sources for this parish exist. The first to be outlined lies two to three miles to the northwest of the town of Cranborne, on the former road or drove way linking Pentridge to Boveridge. Here, the place names of Crockerton Hill and Crockerton Wood were proposed by Sims (1969, p.1) as a potential site for early production; the name remains to this day, and is present on the 1880s OS map. This area lies to the east of West Blagdon Farm, near to where a mound is recorded – formerly noted as a barrow, but may be natural in origin - on the DHER (Ref. MDO5506).

The land is in private ownership, and while the geology is dominated by chalk, there are discrete outcrops of Reading group clays, sands and gravels along with superficial Head deposits of clay and silt, on nearby Pentridge Down. This area is likely to be associated with '*Crokkernewaye',* which is mentioned in Minsters Accounts of 1325 (Mills 2008, p.35). In terms of determining the occurrence of medieval pottery production, a fundamental problem with this location is that from the mid-1300s until the 1570s this would have been within the aforementioned Blagdon Deer Park; it is felt unlikely that a pottery site would have been allowed to operate during this time within a park, unless it was a late assartment, or an enterprise started after the area was disparked. Consequently, Mills' (*ibid*) discussion of this location as a 'potter's way' or track to the pottery (or -ies) - seems much more likely, thus the potteries that the name relates to must either lie in Boveridge or Cranborne.

The final piece of place name evidence is visible on the Norden map (AD1605) is the field name of Potton Hill (Fig. II.7). While this area has been under repeated cultivation for a number of years – now under arable - the area was formerly occupied by allotments. This has particular significant potential in relation to pottery production, as an outcrop of both Reading and London clay lies immediately adjacent to it on the opposite side of the road, along with a large area of woodland previously called Burrow Wood (Fig. II.7), now Burwood (from the 1880s OS map onwards). Here, an extraction pit is visible on the Norden map, and is displayed and noted on the 1880s OS map as 'Burwood Pit', at the time of writing it is recorded as a Victorian pit in the DHER (MDO23955). Being that this is open in 1605, it is likely that this pit maybe medieval in origin. When visited the modern site is an incredibly large and relatively deep quarry that is now used as a logging yard – clay and quartz gravels remain visible in section within the edge of the former pit. The DHER records other such pits within the wooded area as gravel pits (DHER: MDO23954), despite these lying on Reading clays, sands and gravels.

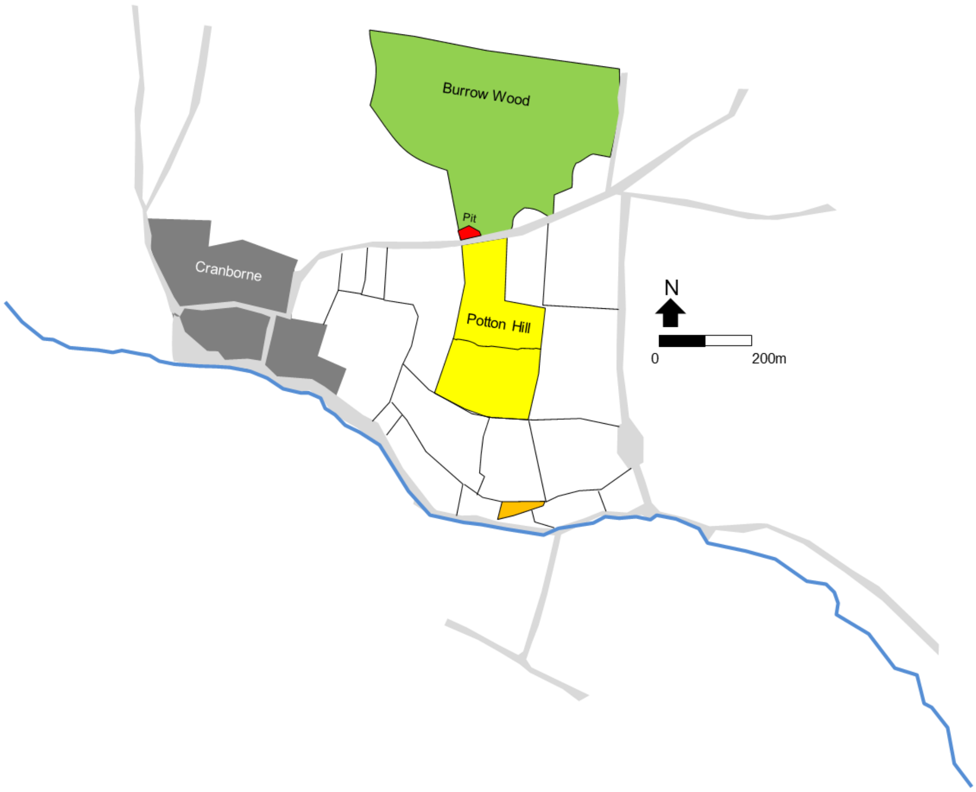


Fig. II.7: After Norden 1605 map; Potton Hill, held by Robertus Kente shown in yellow; a plot with buildings shown is presented in orange; the 'Burwood Pit' is highlighted in red, lying within Burrow Wood (green) – all to the east of Cranborne

A number of extractions pits (DHER: MDO23957 and MDO23957) lie in close proximity to the former motte and bailey - Cranborne Castle. Situated on Castle Hill, this lies within a relatively vast outcrop of Reading and London clay. These certainly post-date the use of the site as a castle, hence are likely to be of late medieval to post-medieval date. These have been recorded in the HER as a mixture of gravel, sand, and marl pits, and they are labelled as such on early OS mapping. The area is only partially covered by the Norden map.

7.5. Edmonsham Civil Parish

7.5.1. General Discussion

The parish of Edmondsham contains a numerous hamlets and farmsteads, such as Pinnoks Moor, West Worth and Gotham, with the major settlement of the parish comprising the village of Edmondsham. The parish of Cranborne lies to the north, Wimborne St Giles to the west, and Woodlands to the south. The eastern and northern portion of the parish lies on the Reading and London clay beds, with chalk and Head deposits to the west. Notable standing historic buildings with the parish comprise the former manor and estate house of Edmondsham House, which is of late Tudor construction (LEN: 1303958). The church of St Nicholas is a Grade II* listed structure (LEN: 1154150). It is of 12th century origin, with 14-15th century additions, as with most churches in the area, there was major restoration in the 19th century, but the church and village are certainly of medieval origin. This is supported by Fagersen (1978, p.101), who traces the evolution of the place name (Table II.10).

Table II.10: Edmondsham Place Name Derivation

Date	Name
1086 (Domesday Survey)	Amedesham
1175-6	Edmodeshani
1226	Edmodesham
1393	Emondesham
1563	Edmonclesham

Fagersten (*ibid*) subsequently states that the name derives from the settlement of *'Eadmwid's farm'*; while Mills (2008, p.39) provides the perhaps more obvious personal name of Eadmod or Eadmund. Either way this certainly reflects an Anglo-Saxon origin for the settlement, however small the size.

7.5.2. Medieval Edmondsham

The entry in the Domesday Survey for Edmondsham records 13 households, noting that the land is held by the King (William I), Humphrey the Chamberlain, and Lady Edeva; as a whole the land is valued at seven pounds and five shillings, and comprises two areas of woodland, both measuring five by one and a half furlongs. Collectively, the entry implies a relatively organised landscape, which supports the previously outlined hypothesis of an Anglo-Saxon origin for Edmonsdham.

A medieval deserted village at Westworth Farm lies within the bounds of the parish (DHER: MDO5541).

A 12th century document mentions the place name of '*Tothill*' in Edmondsham. The deeds for this messuage – which comprises four acres in one field and four in another - is of significance as this location is known for post-medieval pottery production (see point 7.5.3). It may be that there is no pottery production taking place here at this time, but the fact that this location exists during the 12th century is of importance.

There is no clear evidence for pottery production during the medieval period, although evidence of such might be found within the historical documents of the Medlycott, Hussey and Monro family archives, which held land here between the 14th and 20th centuries. These are held privately in an unknown location.

7.5.3. Post-medieval Edmondsham

There are at least two for post-medieval pottery manufacture within the limits of the parish. The first is that of EDM1, which is located in Gotham (DHER: MDO5539), and outlined within Appendix I of the thesis. The second site is that of '*Tofthill*', outlined in two leases held in the Shaftesbury Estate Archives, at St Giles House, Wimborne St Giles. The first (Ref: LE78) dated 1674 outlines that a William Saunders leases a messuage called '*Tofthill*' of one acre in Edmondsham, from Lord Shaftesbury. This then passes to a Lewis Kerley, Potter, of Edmondsham in 1684 (Ref: LE79). Sadly, there is no evidence as to where '*Tofthill*' is within the parish, nor is there any similar or subsequent place name which may have derived from this name.

7.6. Gussage All Saints Parish

7.6.1. General Discussion

The parish of Gussage All Saints possesses a rather irregular shape, bounded to the east by the parishes of Wimborne St Giles and Edmondsham, to the south by Critchel, Horton, and Woodlands; and to the west by Gussage St Michael. The below ground geology comprises predominantly chalk. While there is no clear evidence for pottery production in this parish, there are several medieval, and later, monuments that need to be considered if one is to successfully present the nature of settlement in rural east Dorset during the medieval and post-medieval periods.

7.6.2. Medieval Gussage

Perhaps the most well-known medieval monument within the parish is the shrunken settlement of Brockington. This lies on the northern bank of the River Allen, opposite the now deserted medieval settlement of Knowlton. The visible banks, house platforms and enclosures are protected as a Scheduled Ancient Monument (UID: 35213). The village of Brockington does not appear in any of the Lay Subsidy rolls, thus is likely to have been amalgamated with the adjacent village of Knowlton. The settlement does not appear in the Hearth Tax records, thus it has certainly become deserted by the mid-1600s. The Parish Church of All Saints is a Grade I listed building (LEN: 1304213), and has elements of 14-15th century date. This highlights the presence of at least a small settlement here from the high medieval period onwards, if not earlier.

The only other monument of medieval date that is listed in the Dorset HER, for this area, is a droveway (DHER Ref: 3007069). This appears to run in a northeast direction, away from Brockington.

7.6.3. Post-medieval Gussage

Numerous elements of the Wimborne St Giles Estate lie within the parish, in addition to the occurrence of some standing park and landscape garden structures. Numerous houses dating from the late 18th and 19th century survive today, with the oldest and most noteworthy being Gussage House (Grade II listed LEN: 1323464). This building has elements of late 17th century architecture.

7.7. Hinton Civil Parish

7.7.1. General Discussion

The parish of Hinton contains a number of small hamlets and farmsteads, such as Hinton Parva, Stanbridge and Hinton Martell, with the most substantial being Gaunts Common, which lies on the eastern boundary of the parish. The small parish of Chalbury lies to the north, Witchampton to the west, Wimborne Minster to the south, and Holt to the east. The majority of the parish lies on an extensive band of London clay and sand, with a thinner band of Reading clay and sand running from Hinton Martell in the north, to Hinton Parva in the south. The western extent of the parish is dominated by chalk and alluvial deposits which are associated with the River Allen; this forms the western boundary of the parish.

The Domesday Survey records the location of Hinton Martell, as having 49 households and rated at the high value of £23. The description of such vast tracts of lands of mixed usage implies that an exceptionally extensive area has been recorded as one location.

The most substantial standing historic building within the parish comprises Gaunt House (Grade II listed), which is located in Hinton Martell (LEN: 1120104). The standing building was built in 1809, and began life as a country house, with later reuse as a school; the site is potentially of medieval origin (DHER: MDO5731). The HER records a scatter of medieval pottery to the west of Hinton Martell (see Chalbury Parish); this may represent former settlement, or may occur via manuring processes. The parish contains no known evidence for pottery production, nor any evidence for potential ceramic raw material extraction.

John Day has undertaken a very thorough look at the documents pertaining to the medieval period for this parish; this is held by the DHC (ref. RON/2/2/Hinton Martel/2). His study highlighted no evidence for pottery production or raw material extraction, but provides a detailed outline of the history of the parish.

Manor Court Rolls relating to the various manors within the parish are held by the National Archives (Ref. SC 2/169/4); these date from 1547-9, with those from 1628 – 1676 held privately by the Shaftesbury Estate (M 32 and M 127; see also fines heriots etc. 1633-42 - M 41). The costs involved in viewing those of privately holdings has already been outlined as a preventative factor, therefore these were not examined.

7.8. Holt Civil Parish

7.8.1. General Discussion

The parish of Holt is relatively medium in size, covering an area of some 2220 hectares. It was created in 1894, formed from elements of Chalbury, Gussage All Saints and Wimborne Minster. The parish of Holt is bounded to the north by that of Horton, with West Moors lying to the east, Ferndown and Colehill to the south, and the parishes of Hinton and Pamphill to the west. The modern settlements of Mannington, Holt Wood, Higher Row, Lower Row, Uddens, Clayford and part of Gaunts Common lie within the parish, with the most substantial village being that of Holt. Substantial areas of the parish have been retained as heathland, now defined as the Holt Heath National Nature Reserve, which is maintained by the National Trust. This reserve gives a fine indication of the type of landscape that previously dominated numerous areas within the parishes of east Dorset.

Two surveys of 'The forest and chase at Holt, Dorset' are held by the National Archives. The earliest of these dates to 1594-5 (DL 44/534), with the later dating to 1597-8 (DL 44/573); these have not been assessed as part of this study and may provide valuable information regarding ceramic production in this parish.

7.8.2. Medieval Holt

The Domesday Survey records two locations within the parish of Holt; these comprise Petersham, and Thorn Hill. The first of these comprises 11 households with a small amount of woodland measuring one furlong square. The latter, Thorn Hill, comprises 10 households, with no woodland mentioned, although a large expanse (five acres) of meadow land. Warren (1967, p.167) notes that Holt Forest is referred to as 'The Forest of Wimborne' in the Domesday Survey, and this is the only ancient forest in Dorset still to appear by that name on the early Ordnance Survey Maps. By 1269, areas of the forest are likely to have been inhabited, as the right to hold fairs and markets at Holt was granted in 1368, with an annual fair on St. James' day still being held as late as the beginning of the nineteenth century (*ibid*).

Two deer parks lie towards the north of the parish, these comprise Holt Old Park (DHER: 3012035), and Holt Park (DHER: 3012036). The first documentary reference to these spaces as a chase during in the mid-14th century, however these are likely not embanked until the 15-16th centuries (Cantor and Wilson 1970, pp.202-4).

The RCHM (1975, 32) notes:

> *"The history of settlement appears to be one of slow exploitation of the forested London Clay and Reading Beds, with subsequent settlement on the heathland. Mannington, Petersham and Thorn Hill are recorded in Domesday (*V.C.H., Dorset iii, 86, 102, 110*). Honeybrook and Grange farms, existing by 1333, and Bothenwood farms, existing by 1402, may be later settlements; Uddens may have existed by the 14th century."*

Fagersten (1978, p.82–3) notes that the place name of Holt first appears as '*Winburneholt'* in 1184, followed by '*Winburnehold'* in 1252, and first appears as '*Holte*' in 1286. Petersham Farm appears as '*Pitrichesham*' in the Domesday Survey, along with '*Monitone*' (Mannington), and '*Tornehelle'* (Thorn Hill).

With regard to early medieval evidence, a findspot is recorded in the DHER at Uddens Park comprising of early medieval pottery sherds (Ref. 3009068). This may reflect potential for settlement of early medieval date in the Uddens area, on the southern boundary of the parish, which predate that mentioned previously. This is supported by the origin of the place name as traced by Fagersten (1978, p.83 - outlined in Table II.11), who subsequently outlines a potential origin of the Uddens name as potentially deriving from the personal name of *Udd(a)* (Fagersten *ibid*).

Table II.11: Place Name Evidence for Uddens House – modern-day Uddens Park

Date	Name
956	Udding
1331	Uddyng
1661	Uddings

7.8.3. Post-medieval Holt

Three potential areas for pottery production exist within the parish. These are confined to the northwest and date to the post-medieval period as outlined in Appendix I (in thesis as HOL1-3). All three sites comprise concentrations of Verwood-type sherds, along with the presence of wasters. One site that holds a particular uncertainty is that of HOL1, located at Linen Hill Farm (DHER: 3012037). This area is known to have been used for raw material extraction for nearby brick kilns associated with another ceramic production site (both pottery and brick kilns at HOR2 - DHER: 3013026 and 3013037, respectively), lying within 500m to the north (see point 7.9). Evidence from excavations at Potters Wheel, Verwood, show that clay and sand extraction pits are often backfilled with wasters, a similar situation may be the case for Linnen Hill. This may mean that extraction pits have been backfilled with pottery production waste from elsewhere and then categorised as a separate production site.

Production at HOL3 was confirmed by Wharton (1985, pp.124-5), who identified 125kg of pottery and bricks. Refitting pottery comprised similar forms with comparable surface treatments and rouletting to examples recovered from HOR1, thus a date of 17-18th century was assigned for production. It may be that HOL2 represents the eastern extent, or waste from, HOL3.

A number of gravel pits are noted in the Dorset HER, these are located close to, or within, the Holt Heath National Nature Reserve (DHER: MDO27510, MDO27509, MDO27511 etc.). It is felt likely that this does not reflect evidence for pottery production, but instead represents remains of gravel extraction for the many trackways and road surfaces in the area due to the distances involved from any known settlements.

In terms of brick production, a brickworks is evident on the 1880s OS map (DHER: MDO40365) to the southeast of the village of Holt Wood, in Holt Forest. This site is associated with at least three adjacent clay pits, and is likely associated with a nearby sand pit situated at '*Furze Ground'*.

Two surveys on the valuation of timber within Holt, Kingston Lacy and Badbury highlight the forested nature of these areas and parishes at this time, the earliest of these surveys dates to 1558-9 (Ref. DL 44/10), the latest dates to 1567-8 (Ref. DL 44/174). These have not been examined as part of this study, but the presence of such surveys alone, provides an insight in to the extensive nature of such a valued resource. Warren (1967, p.199) notes that a Commission of 1595 records the boundaries of the Forest which were defined by the use of place names that still be defined to this day, which show a vast extent of woodland.

7.9. Horton Civil Parish

7.9.1. General Discussion

The parish of Horton can be shown to have an extended history. This approximately east – west orientated parish is bounded by the Woodlands parish to the north, Verwood to the east, Chalbury and Holt to the south, and Gussage All Saints to the west. The parish contains the modern settlements of Horton and Haythorne. The geology within the parish is dominated by chalk to the west, with Reading and London clay beds to the east. The most substantial standing buildings of historical importance within the parish comprise the Bridge at Stanbridge; this is Grade II* listed, situated on the parish boundary with Gussage All Saints (LEN: 1323533); this is thought to have medieval origins. Abbey House, which lies within the village of Horton, likely on the site of a former monastery; the house is Grade II* listed, with elements dating from the 1500s. The Church of St Wolfrida, which is Grade I listed (LEN: 1154780), may also share its origins with the monastery church has elements of 12th/13th century date, with extensive restorations and rebuilding from the 18th century onwards. For the post medieval period, one of the most prominent standing features in the parish is that of Horton Tower (LEN: 1120082); this is Grade II* listed, with the RCHME (1975, p.37) noting that this is 18th century in date.

7.9.2. Medieval Horton

Fagersten (1978, p.83) notes that the origin of the place name Horton may derive from '*horh*' the old English for muddy - and '*tun*' - the old English for farmstead or settlement. The name can be traced as outlined in Table II.12.

Table II.12: Place Name History for Horton

Date	Name
946	hore tuninge
1033	Hortune
1231	Horton

The RCHME (1975, p.34) notes that William of Malmesbury records a Benedictine abbey at Horton, endowed by Orduf, son of Earl Ordgar, the founder of the of the Benedictine house at Tavistock in AD961. Early in the 12th century the Horton abbey became a cell of Sherborne. Page (1908) notes that:

> *"Horton, dedicated to St. Wolfrida, the mother of Edith abbess of Wilton, was situated, like Little Malvern and other foundations of that age, in the midst of forest; centuries later Leland writes of the abbey as four miles distant from Wimborne much by woody ground"*

The RCHME (1975, p.34) continues to discuss the development of settlement in the parish:

> *"…the original settlement in the parish and the site of a 10th-century monastery, stands at the junction of the Chalk and the Reading Beds and at the source of the brook. Extension of settlement has been confined almost entirely to the forested and heathy areas in the E. Earthworks on Horton Common, near the E. boundary, indicate early settlement; Waeneca's Farm, recorded in 1033… must have been in the vicinity, probably near Bridge Cottages. Encroachment on the heath continued until late in the 19th century, especially in the areas E. of Horton Heath Farm, near Burnt Firs, and also in the N. of the parish"*.

The Domesday Survey records that Horton comprises 17 households, and has a taxable value of £4. Woodland is noted as covering a region of one by a half leagues, with the land being held both before and after 1066 by the abbey of Horton.

A geophysical survey (Carter *et al.* 2016) undertaken to examine the buildings associated with a relatively undisturbed post-medieval pottery production centre, revealed evidence for a smaller circular kiln or oven, which subsequent excavations showed to be a roof tile kiln of 15th - early 17th century date (Carter In Prep). This site is located near HOR2 (Appendix I in thesis), and may be associated with nearby brick kilns identified by the VDPT in the 1980s, which were subsequently rediscovered in a series of geophysical surveys (Carter 2008).

7.9.3. Post-medieval Horton

The RCHME (1975, p.34) notes that at the end of the 17th century, the Manor of Horton was:

> "*sold by the Uvedale family to Sir Anthony Sturt of London, whose heirs proceeded to embellish the place in various ways. The church was largely rebuilt, Horton Tower was erected, two ornamental lakes were formed and alterations appear to have been made to the manor house. In 1765, on inheriting the Crichel estate, Humphrey Sturt lost interest in Horton and these somewhat ambitious projects were abandoned.*"

Five production sites are known for the parish of Horton - two (HOR1 and HOR2 – see Appendix I in thesis) lie within close vicinity to the village, and are of 17th to 18th century date. The remaining three sites relate to the expansion of Verwood, and are in operation from the 18th to 19th centuries. HOR1 is the only Verwood-type pottery kiln so far to be both excavated and published in detail (Copland-Griffiths and Butterworth, 1991). One of the problems relating to the parish of Horton is that it is unclear as to which sites certain documents relate to; this has been addressed somewhat in the gazetteer (Appendix I in thesis).

The Horton Manor Court Book for 1590-1686 is held privately by the Shaftesbury Estate (ref. M 42); however, this has previously been examined for ceramic production evidence by Tony Light, and thanks are due to him for passing on the information. The results are outlined in Table II.13. Further documents held by the estate - such as the presentments and list of customs from 1589-1759 (ref. M51) - have not been examined, but may hold material of benefit to this study.

Table II.13: Historic Documentary References to Potters/Pottery Production and Raw Material Extraction in the Horton and Chalbury Parishes

Date	Reference	Description
22/3/1635	Horton Court Books (Wimb St Giles)	'Order that no Brickburner, potter or dryer do burn any turves, heath or furses out of the commons of this manor'
1652	Horton Court Books (Wimb St Giles)	Elias Talbot listed as having no right of common
1668-1671	Chalbury Court Rolls and Rentals (Wimb. St Giles)	Ellis Talbot – rent 1/6d each half year
9/10/1671	Horton Court Books (Wimb St Giles)	'We present John Thorne, Christopher King, Luke Downing, Elias Talbot and Richard King for encroaching on the common and not laying it out again by the time formerly limited. Whereby they have forfeited 8/6d apiece. Ordered that they lay it out by 2nd day of February next upon paine of 10/- a piece.'
1672	Chalbury Court Rolls and Rentals (Wimb. St Giles – E/S/1) E/S/7 E/S/8 E/S/6	Ellis Talbot – copyhold Tenement or cottage and yard next to the common 0/0/33 Close of arable adjoining 1/2/16 In Elder Hedge Furlong – arable 0/2/22 East Church Hedge Furlong – arable 0/2/33 West Church Hedge Furlong – arable 0-3-05 Allands Furlong – arable 0-3-00 Ellis Talbot holds Copy dated 14th April (1648) 24th reign Charles I Aged 54 Improved value of tenement £3 old rent 3/- Elias Talbot's Copy altered to 'the wife of' and later to 'in the lord's hands'
1674-5	M133	Copy altered to 'Nicholas Talbot' 1674 and then Widow Talbot 1675
8/8/1674	Horton Court Books (Wimb St Giles)	'Elias Talbot dead since last court'
1675	M134	Elias Talbot dead since last Court, widow admitted as tenant
1676	M135	Jane Talbot – house out of repair
1684	Horton Court Books (Wimb St Giles)	Richard Lacy to make his hedges against the common and against his neighbour's garden by St Andrew's Day next. We present Thomas Lacy for annoyance of the highway by the laying of clay in the heighway neere his house. We present William Frost and Thomas Lacy for laying open the clay pitts in Hay Thonre, and to fill then up by St Andrew's Day.

7.10. Pamphill Civil Parish

7.10.1. General Discussion

The modern parish of Pamphill covers an area of some 2350 hectares. It was formed in 1894 from part of the parish of Wimborne Minster. Pamphill is bounded to the north by Witchhampton and Hinton parishes, while to the east lies Holt, Colehill and Wimborne Minster. The southern boundary comprises Sturminster Marshall and Corfe Mullen, with Shapwick and Tarrant Rushton to the west. The geology of the parish is dominated by chalk and overlying Head deposits, the eastern portion of the parish occupies an area of clays and sands belonging to the West Park Farm group, with sparse deposits of London clay. The RCHME (1975, p.44) notes that the:

> "…*principal monument in the parish is Kingston Lacy, a mansion and parklands designed by Sir Roger Pratt and built c. 1663, but much altered by Barry, c. 1835. The parish contains a large number of 16th and 17th-century timber-framed cottages".*

A portion of the Kingston Lacy Estate is a Grade II Registered Park and Garden (LEN: 1000718); with the House being a Grade I listed building (LEN: 1119511). The most prominent features and buildings in the landscape relate to the Kingston Lacy Estate, such as the vicarage, the Keeper's Lodge and various estate workers' cottages.

7.10.2. Medieval Pamphill

The RCHME survey goes on to state that:

> *"It is difficult to reconstruct the early pattern of settlement because much of the land lay within the Wimborne group of Royal Manors at the time of the Domesday survey. It is probable, however, that there were at least four early settlements: Bradford and Barnsley in the N. and E., on the Allen, Old Barford in the S.W., on the Stour, and Kingston near the middle of the area, on or near the site now occupied by Kingston Lacy... Later settlement developed in the S.E. area …, probably because it was close to Wimborne Minster. The hamlets of Pamphill, Cowgrove and Chilbridge were in existence early in the 14th century if not before; they, and perhaps also Tadden, started as open 'greens' in the former woodland. Lodge Farm (11) in the W. of the parish represents settlement on the Chalk at a later period, possibly after enclosure, which appears to have begun early (A. L. Clegg, History of Wimborne Minster (1960))"* (RCHME 1975, p.44).

With regard to the Domesday Survey records for the Pamphill area reveal a similar situation to that of Alderholt and Cranborne. Settlements were likely in existence here, but have perhaps been amalgamated with others in the parish of Wimborne Minster, which records over 50 households.

Past investigations within the parish have centred on making further discoveries in terms of Romano-British and Iron Age archaeology; this is due to the presence of Badbury Rings (Scheduled Ancient Monument UID: DO 22), various Roman roads (*i.e.* Scheduled Ancient Monument UID: DO 741) and the military fort at Shapwick (Scheduled Ancient Monument UID: DO 833). This is reflected by the majority of the HER entries for the parish lying within the northwestern portion, near Badbury.

The Church of St Margaret and St Anthony, which lies within Pamphill, is a Grade II* listed building (LEN: 1304525). The building originally formed a 13th century chapel associated with a leper hospital (Page 1908, p.106), the site of which is now occupied by a group of single-storeyed almshouses. The stone house at Lodge Farm has been dated to the 14th or early 15th century, and is thought likely to be a former hunting lodge (Keen and Papworth 1988). The presence of these monuments evidences medieval activity within the parish, beyond that of various farmsteads, as outlined above.

The earliest document known for the Kingston Lacy Estate is held by the National Archives dating to the 1290s (Ref. DL 29/1/1). As it is a summary of accounts for various manors, it is felt unlikely to contain the level of detail usually necessary to record any evidence for ceramic production within the parish. Other documents, such as the Reeve's accounts dating from 1367-1468 (National Archives Ref. SC 6/832/13) may be more beneficial. The work of Le Patourell (1968) shows that searches of Court Rolls can be beneficial. For Pamphill, these run from 1383 (DHC Ref. D-BKL/C/G/1/42) to 1498 (Ref. D-BKL/C/G/ 1/24), and comprise part of the Bankes archive, held by the DHC. A thorough search of these revealed no obvious mentions for pottery production or clay extraction. The sole discovery of interest is that certain accounts in the early 1400s of the manor are recorded by a William Pottell, but there is no obvious link beyond his surname for evidence of pottery production; this evidence alone is not considered strong enough to warrant proof of ceramic manufacture. The Kingston Lacy Manor Reeve's Accounts from 1388–1446 (DHC Ref. D/BKL/C/G/3/2-21) may be of benefit towards the study., in addition to court Rolls of other dates for the Kingston Lacy Manor; these are held by numerous curators, such as Nottingham University (year 1408, Ref. Mi/6/174/7) and Harvard University Law School (years 1430- 1509, Ref. English Manor Rolls/ 82-85). These were not examined due to the costs involved in examination. By the 1480s, the manor house had fallen into disrepair, with the last mentions in historical documents dated to the 16th century; a new house was constructed to the south by John Bankes in the 1630s, which forms part of the house and parkland in use today (Papworth 1998).

Furthermore, records pertaining to a Barnsley Manor at Wimborne, Dorset, that date to the 14th century may be of future interest. The hamlet of Lower Barnsley lies on the northern border of the parish, which would have formerly been part of Wimborne. Relevant documents comprise a survey of 1305, a rental of 1371, and a survey of 1381 (British Library Ref. Tiberius/D.vi); which were not examined as part of this assessment.

7.10.3. Post-medieval Pamphill

As previously mentioned, the Kingston Lacy Estate is the most significant feature in the landscape during this period, and its maintenance, expansion, and influence have had a vast effect on the surrounding parish and estate lands.

In terms of pottery production, there is no evidence of this occurring within the parish during the post-medieval period. Evidence for brick production lies on the eastern boundary of the parish at Stone Lane, Pamphill, and is recorded in the DHER (ref. MDO23444); this is present on the 1880s OS map, along with adjacent clay pits.

7.10.4. Undated evidence for Pamphill

Numerous ponds on the Little Pamphill Common are visible on the 1880s OS map - these lie on areas of London sands and clays, and may represent evidence of extraction for ceramic manufacture. The fact that the extraction comprises recovery of London clay and sand, potentially indicates extraction for cob building construction and/or raw material for brick production, especially as there are known brickworks nearby (see previous).

7.11. St Leonards and St Ives Civil Parish

7.11.1. General Description

The modern parish of St Leonards and St Ives comprises an area of almost 2500 hectares, and is bisected by the modern A31. To the north of the road lies the modern settlements of Ashley Heath, St Leonards and St Ives, and areas further north are dominated by woodland, comprising the Moors Valley Country Park. To the south of the A31 lie extensive areas of heathland, designated as the Avon Heath Country Park. The buried geology of the parish comprises small outcrops of Head deposits, comprising silts and clays to the north, with the remainder of the parish being dominated by various sands, including those of the Branksome and Boscombe groups. Small areas on the western edge of the parish are occupied by superficial deposits of alluvium.

7.11.2. Medieval St Leonards and St Ives

Very little information could be found regarding the nature and extent of settlement and activity during the medieval period for this parish. One piece of information is outlined by Taylor (1970, p.64):

> *"…by 1086 at the latest, a well-defined area of land was on this part of the heathland was being worked by a group of people living in isolated farms tilling the small irregular fields we can still see there today. This pattern seems to be repeated again and again in this part of the county. There is another small block of land four and a half miles east of Wimborne on the county boundary now known as St Leonard's Common. This was the land of a single farm called Rushton, in medieval documents, which was until the late nineteenth century a detached part of Cranborne parish. Long ago C.D. Drew noted that this Rushton was almost certainly listed in Domesday Book as the formerly unidentified Langeford, and was worked by two villain farmers in 1086."*

The Dorset HER records no monuments of medieval date within the parish.

7.11.3. Post-medieval St Leonards and St Ives

Activity during the early post-medieval period for this parish is also very unclear. In regard to quarrying and raw material extraction, one aspect of interest is the presence of a large sandpit, which lies immediately adjacent to the modern A31 (DHER: MDO27593); this is located on the western side of the parish. Similar extraction pits are marked on the 1880s OS map; these are located on the eastern side of the parish, lying south of the Ringwood Union workhouse and Laurel cottage; here, the excavations are recorded as gravel, sand and clay pits. Again, no obvious answer as to the function for extracted materials is apparent; however, the expansive gravel pits are likely to have been related to the construction and maintenance of the nearby road and trackway network.

Other monuments that date to the later part of this period exist within the parish; these comprise listed buildings such as the Grade II listed Ashley Lodge (LEN: 1303758), and Ashley Farmhouse dating from the 17th century (Grade II – LEN: 1323558). Although not a listed structure, the Avon Castle Estate House is thought to be built on the site of a 17th century lodge.

7.12. Verwood Parish

7.12.1. General Description

The Civil Parish of Verwood covers an area of almost 1600 hectares, and is dominated by both clays and sands of the Broadstone Member and Bagshot Beds. Until the late 19th century, Verwood was a part of the parish of Cranborne, thus any records prior to this date will be listed as being located within the Cranborne Parish.

7.12.2. Medieval Verwood

The early history of settlement here is unknown, and the RCHME (1975, p.72) outlines this succinctly:

> *"The history of the area is one of late settlement; Potterne Farm is not recorded until 1283 nor Verwood itself until 1329. Eastworth Farm is probably another medieval settlement, the Horsith mentioned in documents from 1249 onwards (Hutchins III, 386). The slow clearance and enclosure of the heathland continued throughout the medieval period and later, but it seems to have accelerated in the late 18th century; even by 1811, however, settlement was largely confined to the W. and N.W. of the parish (O.S.1811)."*

Fagersten (1978, p.107) notes that the Verwood place name derives from '*Fair Wood'* meaning beautiful wood, and is in use from the medieval period, evolving into its modern form from the 1300s (Table II.14).

Table II.14: Verwood Place Name History (after Fagersten 1978)

Date	Name
1329	Fairwod
1412	Fairewode
1416	Le Fairewode
1436	Fayrwod

The farm to the south of Verwood is named Potterne Farm; this is present on every map consulted, dating from the 19th century onwards. No maps earlier than this date showing this area could be identified. Fagersten (1978, p.108) notes that this name derives from the old English for 'pot-shed' or workshop. He goes on to state that the addition of 'Wimborne' to the name potentially could relate to the settlements vicinity to Wimborne St Giles rather than the town of Wimborne Minster (Table II.15). This is present on the 1811 OS map as *'Potters Farm'*; the nearby enclosure at Potterne Hill (to the north of the farm) is also present on the same 1811 edition.

Table II.15: Potterne Place Name History (after Fagersten 1978)

Date	Name
1283	Poterne
1384	Wymborne Poterne
1396	Poternewimborn
1430	Wymborne Potterne

While neither Potterne or Verwood/Fairwood is mentioned in the Domesday Survey, the now lost settlement of Letisford is. This has previously been noted as being a hamlet near Cranborne (Powell-Smith 2018); however, Fagersten (1978, p.101) notes that this may lie closer to Verwood as the place names occur together in a 1416 reference. Wake-Smart and Hawkins (1983, p.173) notes that the settlement may relate to East Worth. The evolution of the place name is outlined in Table II.16.

Table II.16: Letisford Place Name History (after Fagersten 1978)

Date	Name
1086	Levetesford
1169	Luuedesford
1244	Leftesford
1329	Lestisford
1416	Lestesford juxta le Fairwode

An archaeological evaluation at East Worth (Garner 2016) revealed that deposits of Anglo-Norman date, occur in a land parcel immediately south of Edmondsham Road, lying to the southwest of modern Eastworth Farm. This area also contains a high concentration of archaeological evidence for high to late medieval deposits, and comprises the most promising area of medieval habitation in the immediate area west of Verwood. This area may represent the lost village of Letisford and it is hoped that the entire portion of "Site 2/A" in Garner (2016, Fig. 23) will be subject to intensive archaeological excavation. As medieval habitation can be shown to be taking place here, and post-medieval pottery production (see VER2 in Appendix I in thesis) possesses an early start date (17th century) the site has particular importance for both past pottery production but for understanding the dispersed nature of medieval habitation in east Dorset.

A number of medieval, or later, closes were recorded by the RCHME (1975, pp.72-4); the entry for these outlines that:

> *"…sixteen or more* (closes), *now deserted, cover some 60 acres on Lower Common. They vary in area from 2 to 10 acres, are roughly rectangular and are bounded by low banks and ditches. Twelve closes form a compact group around* (SU) *099060, but they are not all contemporary. Single closes exist in the W. in fragmentary condition. Since none is shown on O.S. 1811 the closes appear to have been abandoned before that date.*"

This reinforces the suggestions of others that settlement and landscape usage during the medieval period onwards is restricted to small, dispersed farmsteads, generally lying on the outer regions of an area which would later develop into the town of Verwood.

7.12.3. Post-medieval Verwood

While there is a wealth of evidence (Draper and Copland-Griffiths 2002) for pottery production during the late post-medieval and modern periods of history, evidence for pre-18th century production is relatively sparse. For the most part, it appears to be confined to the fringes of the modern town; as evidenced by the site at Burrows Farm, East Worth, a potential scatter of wasters near to Eastworth Farm (Algar *et al.* 1987) and a previously unrecorded pottery kiln at Ebblake, Verwood, which was discovered prior to the extension of an industrial estate.

The kiln at Ebblake (VER13 in gazetteer) was previously unknown and identified via a surface scatter of Verwood-type pottery. The site was excavated by Alan Graham, employed by the Verwood and District Potteries Trust, with support from the Dorset Archaeological Committee in 1997. Permission was granted by the then landowner to undertake a geophysical survey (comprising magnetometry by Bournemouth University), topographic survey (transects recorded by Bournemouth University - using total station) and subsequent excavation on land to the rear of the Ebblake Trading Estate, as no planning condition regarding archaeology was attached to the permission granted for a new car park. The excavation recorded the presence of a heavily demolished kiln with numerous pottery wasters. The kiln was built of brick, and the construction cut for it was of a squared shape in plan. The pottery dated to the 17th to 18th century, and post-excavation analysis is currently being undertaken on a voluntary basis. It is hoped that the work of volunteers supervised by the author of this report, will allow this information to be brought into the public domain.

The site of Burrows Farm lies within the complex of farm buildings, and has seen what appears to be almost complete destruction. The kiln mound is visible on both the 1880s and 1901 OS map, and continues to be recorded on maps until 1984, when it ceases to be represented. The land is held privately, thus it has not been possible to visit the site, but it is not present on recent satellite photography, nor is it present in LiDAR data dated 2014 onwards.

The potential site in vicinity to Eastworth Farm (VER2 in gazetteer), remains somewhat of an enigma. The presence of the site was highlighted by Young (1979, pp.105-6) who was informed of the existence of a kiln mound opposite the farm within living memory (presumed to now be the site of the dwelling known as The Old Granary). This was supported by the presence of scatters of wasters discovered in vicinity to the crossroads upon which the farm sits, along with a small number of historic documentary references (Algar *et al.* 1979, p.35). Archaeological recording undertaken during the creation of a pathway at the aforementioned dwelling, located at the corner of Eastworth Road and Edmonsham Road recorded numerous almost complete discard vessels and numerous potential wasters (Copland-Griffiths 1996). Recent investigations in the vicinity (Garner 2016), ahead of development, found no physical evidence for kilns; however, expansive pits, possibly relating to clay extraction, contained amounts of Verwood-type pottery. The investigations recovered few obvious wasters (28 in total, weighing 1318g - Garner 2016); all of these were recovered relatively close to the aforementioned crossroads. The substantial amount of medieval pottery recovered from features of this date during the investigations, highlights the presence and intensity of medieval activity in this part of the modern parish of Verwood.

The RCHME (1975, p.72) notes that the area comprises relatively late settlement development; this is supported by the presence of numerous post-medieval buildings in the parish. The majority of these comprise cob-built structures dating to the 18th century, and likely represent former cottages; most are Grade II listed structures. A small number of larger listed buildings exist, such as Potterne House (LEN: 1120093); a Grade II listed farmhouse. The building has elements of late 17th century architecture, and its position may relate to that of a former manor house, as outlined in the listing description.

A comparison between the 1811 OS map and that dated 1880s highlights the rapid enclosure and clearance of the heathland, which until that time, had most likely been a slow process from the medieval period onwards. It is thought likely that the various ceramic industries of the area helped fuel this clearance, and the development of the heathland encroachment.

The Verwood area is most well-known as a late post-medieval and modern potting centre. The sites that comprise this part of the east Dorset ceramic tradition are outlined in the accompanying gazetteer, and lie beyond the scope of this document.

7.13. West Moors Civil Parish

7.13.1. General Discussion

The parish of West Moors is relatively small, containing an area of less than 875 hectares. Formerly, this was part of the parish of West Parley, it is bounded to the north by Verwood, with St Leonards and St Ives lying to the east, Ferndown to the south, and Holt to the west. Four DHER monument records are noted for the entire parish, with only one of these being of medieval date; this comprises the possible site of St Leonards Hospital (Ref. MDO6222). In terms of below ground geology, the parish is almost completely dominated by sands of the Branksome and Parkstone groups, with amounts of Broadstone clays confined to the peripheries along the parish boundaries. This, along with a long history of human utilisation of the landscape, has led to extensive heathlands and areas of forest across the parish.

RCHME (1975, p.74) notes that:

> "*St. Leonard's farm, at the confluence of the two streams* (Udden's River and Moors River)…, *occupies the site of the mediaeval settlement of Ruston; this, with associated lands on the N., formerly belonged to Cranborne and it has been suggested that it represents the Domesday 'Langeford' (*V.C.H.*,* Dorset *iii, 74;* Dorset Procs*., 64 [1942], 41).*"

Although not listed structures, the RCHME (1975, p.74) outlines three farms of importance. These comprise Woolslope Farm, Gullivers Farm, and Sturt Farm. The farmhouses are all of post-medieval date, however the origins of the settlements potentially could be much earlier.

7.14. Wimborne Minster Civil Parish

7.14.1. General Discussion

The modern civil parish of Wimborne Minster is very small in comparison to the area's historic bounds which, until 1894 previously contained Colehill, Pamphill and part of Holt. As of 2018, the parish contains an area of some 420 hectares, compared with the almost 4850 hectares that it contained prior to 1894. The entirety of the town lies within the parish, with the earliest part lying upon a low promontory of river terrace gravels between the Rivers Allen and Stour. To the west of the River Allen, the below ground geology comprises clays of the West Park Farm Group. The eastern side of the River comprises silts, sands and clays of the London Clay Formation; all of these are overlain by River Terrace deposits, comprising gravels, silts and sands. The parish is bounded to the north and east by Colehill, with the parish of Pamphill lying to the west, and the borough of Poole and Bournemouth lies to the south. The town possess a wealth of 15–17th century buildings.

7.14.2. Medieval Wimborne Minster

Wimborne boasts one of the earliest religious foundations in the county, originally taking the form of a nunnery built here at the beginning of the eighth century. The Saxon monastery was built by St. Cuthburh or Cuthburga - the daughter and sister, respectively, of the Wessex kings - Kenred and Ine (Page 1908, p.107). Page (1908, p.108) highlights the importance of the town and the veneration paid to its Minster throughout the Saxon period. Penn (1980, p.121) outlines that Wimborne possessed a “double monastery” of both monks and nuns; such an arrangement was outlined in AD836. The importance of both the town and the monastery is outlined by the burial of the Wessex King Aethelred in 871; although, it has been debated that Sherborne may also be a likely resting place. Penn (*ibid*) continues to discuss how there is no additional evidence of the town at Wimborne until the Domesday Survey of 1086.

The complexity of the manor holdings in the Domesday Survey for the Wimborne area has previously been outlined in relation to the parish of Pamphill. This has been reinforced by Darby and Finn (1967, pp.117-122) who argue that, despite containing burgesses along a church and chapel, Wimborne was not a borough. The survey records that Wimborne Minster was held by the King, along with Shapwick, Moor Critchel and Wimborne St Giles. These contained a combined population of 63 villagers, 68 smallholders and 7 cottagers. The settlement was likely a minor agricultural market town, with the market being mentioned in both 1086 and 1224. The Lay Subsidy Roll of 1334 documents that the town was valued for tax at 67 shillings; this can be compared to the larger market town of Dorchester - which was valued at 92 shillings - the port of Bridport valued at 99 shillings – which evidences that, at this time Wimborne Minster was a market town of medium to low prosperity.

Additional places of interest which lie within close vicinity to Wimborne, which may have been located or partially within the modern parish are settlements such as those of Leigh (three households), which likely lies between modern Wimborne and Colehill; Odenham (unknown population), and Walford (three households) both lying on the northern boundary of the parish.

Excavations at the Lease, located within the southern portion of the town, reveal that this area was a planned settlement from at least AD1200; this was subsequently abandoned by the 14th century, possibly due to the Black Death (Field 1973). Additional excavations in the town have highlighted numerous medieval pottery sherds of potential east Dorset origin. These comprise the old Model Town Site (Cox 1993), Wimborne Town Square (Ladle 2010) as well as work undertaken by Wessex Archaeology (Woodward 1984; Coe and Hawkes 1991).

In terms determining evidence of pottery production within the parish, no clear evidence has been identified in this search. One might expect pottery kilns to exist in an urban setting, even those within relatively agricultural regions, such as Dorset. Such a kiln was identified recently at Wareham, near to the castle ditch (Milward 2017). The presence of high temperature industry has been previously identified in the town, as exhibited by Kiln/Oven 31; this was discovered as part of excavations at the Crown Hotel (Woodward 1984). The nature of this oven, being built of brick, comprising a brick floor, a single firebox and circular firing chamber - closely resembles a smaller version of the kiln types of the Verwood district. However, while small amounts of tile are present within the deposits associated with the kiln, no pottery wasters were recovered from the site, thus the feature is more likely to be an oven of some kind rather than a ceramic kiln.

The Wimborne Manor Court Rolls held by the DHC (Ref. D/BKL/C/J/1-6) run from 1372 – until at least 1400. A thorough search of these presented no conclusive evidence for mentions of pottery production nor raw material extraction. Evidence held within the Wimborne and Kingston Lacy Manor Reeve's account (1367–1468) could hold information of value such as fines and rentals for clay extraction, these are held by the National Archives (Ref. SC 6/832/13), but as they cover numerous manors, the records may not be detailed enough.

The 1400s accounts pertaining to the Wimborne Manor, may also be of future interest. These are held by the various sources, including the DHC (years 1455-7 - Ref. D/BKL/C/J/3/1-3; years 1471-7 - Ref. D/WLC/M 200) and the British Library (years 1426-7 - Ref. Harl. Roll/N/31).

7.14.3. Post-medieval Wimborne Minster

The small size of the population of the town continues to be a prevalent feature into the post-medieval period:

> *"Late in the 17th century the population numbered only 750, of whom 140 lived in the Manor of the Borough. In the 18th century the population increased but slowly, although the aspect of the town was improved by the construction of a few town houses. The character of a small Georgian country town persists in spite of modern changes; even by 1921 the population had risen only to 3,683, and much of this was in consequence of late 19th-century development of the land on the E. of the Allen."* (RCHME 1975, p.78).

Historic records exist for the aforementioned Manor of Leigh, which lies close to the border between the parishes of Colehill and Wimborne. Two series of Court Books are held by the DHC, the first date from 1594-1612 (Ref. D/HNM/C/1/1), and the second from 1627-79 (Ref. D/HNM/3/1) - both may be beneficial for future research.

7.15. Wimborne St Giles Civil Parish

7.15.1. General Discussion

Wimborne St Giles is a relatively 'L-shaped' parish that extends north – south with a south eastern spur. This parish is bounded to the north by that of Sixpenny Handley and Pentridge, with Cranborne lying to the northeast, Edmondsham to the east, and the parishes of Woodlands and Gussage All Saints lie to the west and south, respectively. The geology is highly variable across the parish; the bulk of the parish sits on chalk, with the south eastern spur sited upon the clays, silts and sands of the Reading and London beds. This parish holds particular potential for raw material extraction for pottery as the band of Reading clay which passes northeast to southwest across east Dorset and is particularly thick here (c.1km). In terms of archaeology, the parish is dominated by prehistoric burial mounds such as the Oakley Down Barrow Group, the Drive Plantation Group and the Salisbury Plantation

Group, all of which are located towards the north of the parish, and post-medieval articles such as the St Giles Estate. Medieval features, such as deer parks, are relatively overshadowed by the presence of earlier and later features. Three villages lie within the parish of Wimborne St Giles; they comprise Sutton Holms, Wimborne St Giles and Monkton Up Wimborne.

7.15.2. Medieval Wimborne St Giles

Wimborne St Giles is noted in the Domesday Survey alongside the entry for Moor Crichel, Shapwick and Wimborne Minster. Comments on the historic size of the parish is difficult to ascertain due to the amalgamation of settlements as limited entries.

The RCHME (1975, p.92) notes that:

> *"The parish contains several early settlements. Four in the Allen valley are mentioned in Domesday. Monkton Up Wimborne in the N.E. was part of Cranborne until late in the 19th century. Next is Wimborne All Hallows, a separate parish until 1733; the site of the church is known, but almost nothing remains. Further S.E. the village of Wimborne St. Giles stands near the centre of the parish. To the S. of St. Giles lay Philipston, now deserted (Dorset Procs., 88 [1967], 210). Roughly rectangular land-blocks associated with these settlements are still defined by continuous hedge-lines. Oakley Farm on Oakley Down was a separate settlement within Monkton Up Wimborne; it existed in 1333 and probably earlier.*
>
> *Much of the S.E. part of the parish, on the Reading Beds and London Clay, was a detached part of Gussage St. Michael until the 19th century. It contains the scattered hamlet of Sutton Holms, of which the history is not documented."*

With regard to the Wimborne St Giles Estate, the following is taken from the entry for the Grade ii* Registered Park and Garden, which form the grounds around St Giles House:

> *"In the late C14 the manor of Wimbome St Giles passed by marriage from the Plecy family to Sir John Hamley. When Sir John died in 1398, the property was inherited by his daughter by his second marriage, who was the wife of Robert Ashley. The estate has remained the property of the Ashley and Ashley Cooper family ever since.*
>
> *In the late C16, the estate was inherited by Sir Anthony Ashley, Clerk to the Privy Council, who is said to have introduced from Holland, and grown at St Giles, the cabbage (CL, 1904). When Sir Anthony died in 1627 the estate passed to his only daughter who was married to Sir John Cooper of Rockbourne, Hampshire, and was mother to Sir Anthony Ashley Cooper.'* (Historic England 2018)

Manor Farm at Monkton Up Wimborne possesses a farmhouse of 16th century origin with various later extensions; it is a Grade II listed building (LEN: 1120128).

Two parks lie within the parish (Cantor and Wilson 1969, p.246-7). The first, Rye Hill (Sumner 1919), appears to have provided more of an amenity function for the manor rather than performing the more common role of deer park or chase (Cantor and Wilson 1969, 246). The second area, known as 'Deer Park Farm', is more likely to have served a role as an enclosed deer park or hunting ground, evidenced by the occurrence of ponds as outlined by Cantor and Wilson (1969, p.246-7). However, little history is known regarding either park, which suggest they may both be late additions to the landscape there.

Wimborne St Giles Manor court rolls cover the dates 1366-1496, these are held privately by the Shaftesbury Estate (Ref. M61 -86). Later rolls for this manor, dating from 1497-8 are held by Havard University Law School (Ref. English Manor Rolls/125). A gap in these rolls exists until 1500 when various fragments of documentation take the records up until 1600 (Shaftesbury Estate Ref. M115). These have not been examined as part of this study due to the costs involved and remain as potential avenues for further investigation.

7.15.3. Post-medieval Wimborne St Giles

As previously outlined for this parish, the house within the St Giles Estate has had a dramatic effect in remodelling significant aspects of the landscape. The park is a Grade ii* Registered Park and Garden (LEN: 1000723), while St Giles House itself is a Grade I listed building (LEN: 1120129). Construction for this started in the 1650s, and various alterations can be dated to the 1740s and 19th century. The house has recently undergone a phase of restoration and consolidation.

Other prominent features exist in the landscape of this date such as the Church of St Giles. This Grade I listed building (LEN: 1120134) has probable medieval stone work within the fabric of the north tower. The main body of the church dates to 1732, with 20th century additions. Numerous cottages of post-medieval date exist throughout the parish, the majority of which formed part of the accommodation for estate workers.

The remains of a substantial brickworks lie near Sutton Common; this is shown on the 1880s OS map, situated on the northern edge of Boys Wood. Later mapping suggests the site continues production into the 20th century and is now a mixture of residential housing, timber works and commercial enterprises.

The Court Books for Monkton Up Wimborne run from 1592–1851; these are held privately by the Shaftesbury Estate (Ref. M147-8). Due to this and the relatively late date of the records in relevance to this study, these have not been examined.

7.16. Woodlands Civil Parish

7.16.1. General Discussion

In comparison to other parishes included in this study, the parish of Woodlands is of medium size, and is often considered alongside its neighbour, Horton (lying to the east and south). Woodlands was created in the 19th century, comprising the hamlets of Knowlton, Baggeridge and Woodlands, which formerly lay within the parish of Horton (Hutchins 1873, p.150). The parish of Gussage All Saints lies to the west, and that of Wimborne St Giles forms the northern boundary. The geology of the parish can almost down the middle, with the western half dominated by chalk, while clays, sands and gravels lie to the east; small outcrops of sands and clays of the Reading and London beds overlie the chalk at areas such as Knowle Hill. The geology of the eastern half of the parish of Woodlands, from west to east, comprises sands and clays of the Reading Beds, followed by sands, silts and clays of the London beds; the eastern boundary between the parish of Woodlands and Horton lies on Broadstone sands and gravels. The parish contains numerous villages such as that of Whitmore, Haythorne and Woodlands; various hamlets and farms also exist, such as Matterley Drove Farm, Knowle Hill, Bagman’s Farm and Woodlands Manor Farm. The villages of Whitmore and Woodlands has seen considerable expansion, which can be charted from the 1901 OS maps to the modern day. In similarity to the civil parishes of Hinton and Pamphill, Woodlands has seen considerable archaeological investigations into the nature of the prehistoric activity here (Field 1963; Allen 1995; Burrow and Gale 1996). These investigations have centred around the Knowlton area, examining the scheduled henge complex (UID: 35209) and surrounding scheduled barrow group (UID: 35210). The presence of the ruined medieval church (Grade II* listed building LEN: 1120071) situated within the former henge monument, has been a focus for various studies, these have mostly concentrated on the western extent of the parish (*e.g.* Beresford and Joseph 1979, pp.49–52).

7.16.2. Medieval Woodlands

The only settlement mentioned within the Domesday Survey for the parish of Woodlands is that of Knowlton. At least 19 households are mentioned in one entry, while a second combines numerous entries held by the king including Winfrith Newburgh. The site of the now deserted medieval settlement at Knowlton is a scheduled ancient monument (UID: 35212), thus it is difficult to envision that this and Brockington comprised two separate settlements – with one part lying either side of the river - an association between the two should not be readily discounted. The RCHME (1975, pp.112-114) has recorded significant earthworks for this deserted medieval settlement and a detailed plan can be found within that volume. Fagersten (1978, p.86) notes that Knowle Hill – a place which still exists today and stands as a rounded outcrop of Reading and London beds overlying the chalk, and appears as '*Cnolle*' from at least AD1212. It may be that this significant landscape feature has provided the name for the settlement currently known as Knowlton, which lies within 2km to the east. Fagersten (*ibid*) subsequently lists the evolution of the place name for the settlement we know as Knowlton; this is outlined in Table II.17.

Table II.17: Knowlton Place Name Evolution (after Fagersten 1978)

Date	Name
1086	Chenoltone
1212	Cnolton
1237	Cnouton
1250	Chnoldon
1332	Knolton

In the 14th century the settlement of Knowlton is certainly of relative prominence, as the Lay Subsidy Roll for 1332 records the settlements of Long Critchel, Gussage All Saints, Knowlton and Wimborne St Giles as lying within the 'Knowlton Hundred'; a total of 28 inhabitants are listed for Knowlton.

To the east of Knowlton, situated between North Farm and Knowle Hill lies a concentration of medieval pottery recovered from field walking (DHER: 3 028 09). This area has been suggested as the site of the medieval deserted settlement of Baggeridge (DHER Ref. MDO6490). Both the nearby Bagman's Lane, a medieval routeway nearby Bagman's Farm, and Bagman's Copse, support this hypothesis (RCHME 1975, p.111). Taylor (1967, pp.209-10) notes that Baggeridge is mentioned in both AD1273 and 1325, and is likely to have been a small scale settlement or farmstead.

At the eastern end of the parish lies the former deer park of Woodlands Park (DHER 3 028 088), this area is now used as a golf course.

One part of Woodlands Farmhouse - a Grade II* listed building (LEN: 1303380), contains elements datable to the 16th century, while the remaining elements date to the 17th century onwards.

While the parish contains no clear evidence for potting datable to the medieval period, a number of sources may contain references pertinent to future investigation. One such source comprises the Court Rolls for the Hundred of Knowlton, which list information for the years 1355–1587; these are held at Nottingham University (Ref: Mi 5/164/1-52). A number of surveys and deeds for rentals date from 1382-1585, which are also held by the University, these pertain to a number of different manors including Woodlands (Ref. Mi 5/166/1-80). All of the aforementioned records may contain references to pottery production and raw material extraction, but have not been examined as part of this study due to the costs involved in searching such a vast amount of archival documents.

7.16.3. Post-medieval Woodlands

As with the evidence for the medieval period, there is no clear evidence for pottery production in this area during the post-medieval period.

A number of chalk pits lie at the western end of the parish, such as Ash pit, Yewtree pit and Marland pit (all present on 1880s OS map). These may be associated with the presence of a lime kiln (DHER: 3 028 099), which is also shown on the same map. At the eastern end of the parish an extensive array of probable gravel pits lie on the Bracklesham beds; these are all cut into the former Woodlands common. It is felt likely that these do not relate to pottery production, and may instead be associated with the former brickworks at Sutton, which lies to the north in the parish of Wimborne St Giles. A large pond that may represent a former clay extraction pit is visible to the south of a structure known as ‘The Round House’, which is situated on the outskirts of the village of Woodlands.

Beyond this numerous post-medieval houses date from the 17th century onwards, these comprise a mixture of cottages and farmhouses, which highlights the past nature of the economy for this area.

8. Part Two – Hampshire Parishes

8.1. Damerham Civil Parish

8.1.1. General Discussion

Damerham is a parish located on the Hampshire-Dorset border, comprising a total area of 1891 hectares. In 1895, the parish of Damerham, which historically lay within the Hundred of Fordingbridge, and transferred from Wiltshire to Hampshire. The manor of South Damerham is an ancient one, being previously held by King Alfred and later King Eadmund who, in AD940-6, passed the manor to his queen Athelfleda, who then bequeathed the land to Glastonbury Abbey (Page 1911). The western boundary comprises the parish of Cranborne, with Martin to the north, and Rockborne and Sandleheath to the east. The geology is dominated by chalk, with deposits of Reading group sands to the east and sands, gravels and clays to the south.

8.1.2. Medieval Damerham

Damerham (*Dobreham*) is recorded in Domesday as comprising 80 households, which consist of 14 villagers, 22 smallholders, six slaves and 38 freedmen. The entry is likely an amalgamation of several farmsteads within a given area – all owned by Glastonbury Abbey. This is considered likely when the population is compared to nearby market towns, *e.g.* Cranborne at 37 households, and Wimborne Minster c.50 households (both were considered relatively prosperous market towns at the time).

The only evidence discovered in relation to the occurrence of pottery production within the parish is that presented by Le Patourell (1968, Table 3), who notes a potter in Damerham holding a virgate (c.30 acres) of land there in 1260. A letter in the Copland-Griffiths collection held by the Museum of East Dorset (awaiting accession) show that Copland-Griffiths wrote to Le Patourell regarding further information in 1979. This showed that the Damerham information relates to a pottery related surname. However, at Laverstock, Le Patourell writes that by the 13th century this surname “is no longer a sure indication of working potters” (La Patourell 1968, p.117). This makes the Damerham surname a less reliable indicator for potting in mid-13th century Damerham than previously considered (Le Patourell 1968, p.121).

A deer park is recorded as lying within the parish in the Hampshire HER within the parish (HHER:63294). This is mentioned in records dated 1226-7, and 1283 (Page 1911). The nearby Stapleton Farm appears to have been a separate holding, first documented in AD1189 (HHER:38924), and with further mentions in the 15-16th centuries.

The medieval importance of the village is attested by the 12th century origins of the Grade I listed Church of St George (LEN: 1094925). The church contains various 13-15th century additions and alterations. A preaching cross of Grade II listing also lies in the village. Barns within the area of Court Farm House display evidence of being late medieval in date, with one small barn having late medieval origins, but this was rebuilt during the 17th century (LEN: 1350968). A larger tithe barn (LEN: 1094886) shares this early date of construction, having alterations datable to the 18th century. The Manor House, an 18th century Grade II* listed building (LEN: 1350950) contains elements of 14-15th century architecture, which have possibly been reused from remodelling of the nearby church.

8.1.3. Post-medieval Damerham

The village contains numerous examples of rural cottages of post-medieval date, including Parvins Cottage (LEN:1157810), Old Cottage (LEN: 1094893) and Meridian Cottages (LEN: 1157520); the majority of these date from the 17th century onwards, and all are Grade II listed. Farmhouses of interest comprise, Old Channel Hill Farmhouse, a Grade II listed 16th century building with 18th century remodelling (LEN:1094889); Channel Hill Farmhouse, a Grade II listed building with 17th century origins (LEN:1094888); and, Manor Farm House, a Grade II listed (LEN: 1301446) of 18th century date, with numerous later additions.

These reinforce the rural agricultural nature of the parish and complement the lack of documented evidence regarding any ceramic production within the parish for either period.

Numerous chalk pits are located towards the southern extent of the village, which are clearly presented on late 19th century OS maps. These are likely to relate to agricultural lime burning and spreading.

8.2. Ellingham, Harbridge and Ibsley Civil Parish

8.2.1. General Discussion

The parish of Ellingham, Harbridge and Ibsley is exceptionally large, possessing an area of 5370 hectares. To the west lies the parish of Verwood, with Alderholt, Fordingbridge, Hyde and Bramshaw to the north, Minstead to the east and Burley to south. The geology here is dominated by sands of the Parkstone and Selsey group with discrete pockets of Broadstone clay. Several small settlements lie within the parish, including Harbridge, Mockbeggar, Ibsley, South Gorley and Ellingham. The modern landscape comprises vast expanses of heath and pockets of forest, these form part of the New Forest National Park, which covers the majority of the eastern half of the parish. There is substantial evidence for pottery production during the Romano-British period; this is mostly centred around the Linwood area in the north where several kilns (HHER: 20957, 20960, 20899, 20900, 20950, 20951 and 27771) and pottery waste have been identified.

8.2.2. Medieval Ellingham, Harbridge and Ibsley

There is ample evidence for medieval occupation and land usage across this parish, aided greatly by the work of the Avon Valley Archaeological Society (*e.g.* 1994). In more recent years, archaeological investigations undertaken prior to sand and gravel extraction, which is commonplace across vast tracts of land around Plumley, Harbridge and Ibsley, has greatly improved the understanding of parts of this landscape. The Domesday Survey provides ample evidence for the dispersed nature of small settlements in the area, which is similar to that seen in south and east Dorset. The survey records Harbridge as comprising 10 households with a value of £3, while North and South Gorley have been amalgamated into five households, with a combined value of 10 shillings. Larger settlements include Ibsley, of 19 households, with one mill and a value of £3; Ellingham, which constitutes a similar sized settlement of 20 households, a mill and £3 value in tax; while Rockford, being larger but less prosperous, comprises 22 households valued at £1 and 10 shillings.

The continued habitation of these small settlements beyond the date of the survey can be corroborated by the date of certain elements apparent in the church buildings that lie within the parish. For example, the Church of All Saints in Harbridge has a 15th century tower, despite being an 1840s rebuild. The church in Ellingham has elements dating to the 13th century, with 15-18th (LEN: 1156533). In contrast, other church buildings within the parish have a relatively late date of construction, *e.g.* those of Ibsley and Somerley.

The dispersed nature of the settlement in the medieval period is highlighted by the Avon Valley Survey (Light *et al.* 1994), with additional information - held in the Hampshire HER. In the west and south of the parish medieval pottery scatters are noted west of Cobley Wood (HHER:29737) and close to North End Farm, along with house platforms (HHER:29751). In the vicinity of Harbridge, medieval pottery scatters are noted near Harbridge Farm (HHER:29416) and Turmer (HHER:29412-3). Additional medieval pottery scatters suggest the presence of habitation during this time near both Ibsley (HHER:29422) and Mockbeggar (HHER:29353). The associated detailed results of these artefact collections note no wasters included within them, but these may be difficult to identiify without the inclusion of glazed products (see Chapter 4 and 5 of thesis). During this time, agricultural activity is clearly of prime economic importance in the area; this is demonstrated by the presence of former field systems at Harbridge (HHER:59504), where potential medieval ponds are also recorded (HHER:59505).

The importance of the main Ringwood – Fordingbridge Road, via Ibsley, throughout the late medieval and into the post-medieval period (shown on the 1811 OS map, and approximately the current route of the modern A338) is highlighted by the presence of the Old Beams Inn, a Grade II listed Public House with 17-18th century additions (LEN: 1156477).

8.2.3. Post-medieval Ellingham, Harbridge and Ibsley

Numerous cottages within the area are protected as listed buildings, including Clover Cottage, near Harbridge (LEN: 1095002), which is a Grade II listed building of 16th century date; later such buildings include Gorley Green Cottage (LEN:1302681) and Thatched Eaves Cottage (LEN:10950141). The presence of many such farmhouses in the area highlights the importance of historic agriculture for this area, these include - North End Farmhouse (LEN:1095006), Ellingham Farmhouse (LEN:1350911) and Newton Farmhouse (LEN: 1095020) all Grade II listed with 17-18th century origins.

There is evidence of a late post-medieval brickworks lying near to the Dorset border at Somerley, plus an *'old brickworks'* is also noted there; this suggests that production has occurred over an extensive period of time.

Prior to the modern mass-extraction of materials, there were various small–scale extraction pits present on the late 19th century OS maps – these were recorded on Nea and Ashley Heaths, encompassing Harbridge, Ibsley, Rockford and Plumley Heath.

In terms of Verwood-type pottery production, the only two kilns known to lie within Hampshire, comprising two pottery kilns at Harbridge; these have been recorded as HAR1-2 in Appendix I of the associated thesis. HAR1 can be dated from 1726-1830s (Algar *et al.* 1987), where the site was run by Thomas Sutton and later a William Hart. The site is closed prior to the completion of the Tithe map, possibly in the 1830s. Little is known regarding HAR2 (HHER: 29727).

8.3. Fordingbridge Civil Parish

8.3.1. General Discussion

The Parish of Fordingbridge is a small to medium sized parish of some 1383 hectares in area. The geology of the parish can be simplified into a northern and southern half, with the north comprising London Clay, and the south comprising sands, clays and gravels of the Poole Formation. The parish is bordered by Alderholt, Sandleheath and Rockborne to the west, with Breamore to the north; Godshill and Hyde form the eastern boundary, while Ellingham, Harbridge and Ibsley lie to the south.

The area contains one major settlement – the town of Fordingbridge - plus smaller villages and hamlets such as Upper and Lower Burgate in the north and Bickton to the south. Two large farms, Highfield and Midgham, lie in the west of the parish.

8.3.2. Medieval Fordingbridge

Three locations within the parish are noted in Domesday; these comprise Fordingbridge, Midgham, and Bickton.

Fordingbridge (*Forde*) totals 13 households, with two mills and a church; the value of £3 shows this to be a very small settlement, which at this time, was smaller than that at Horton in Dorset. The settlement at Midgham (*Mingeham*) as it is recorded in the survey comprises 12 households, with split ownership. This suggests at least two settlements; one of eight smallholders held by Alwy son of Turber valued at 13 shillings, and a second comprising four smallholders held by Edeva – valued at 13 shillings. The final entry listed in the survey comprises Bickton (*Bichetone*), which is the largest within the modern parish. This entry groups together four villagers, 10 smallholders and four slaves (18 households) all held by Earl Hugh of Chester, with 30 acres of meadow four ploughlands, forest and one mill, all valued at £5.

The place name Fordingbridge stems from the bridge at the settlement of '*Forde*' – as it was recorded at the time of Domesday (Coates 1993, p.78). The presence of a bridge here is attested in the 13th century when the bailiff of the town is granted money for its repair (Page 1911). The growing importance of Fordingbridge is corroberated by Light and Ponting (1993, p.3) who note that by the 13th century "the church had become the head of its deanery"; this highlights the importance of Fordingbrdige as an ecclesiastical centre on the River Avon. The Church of St Mary has 12th century origins with 13-15th century alterations, and is Grade I listed (LEN: 1350974). A setting for a church cross of 15th century date is noted near the Church (HHER21580). This small market town is considered to have historically had a tiny hinterland, probably comprising a sphere demarked by the nearby villages of Beamore, Whitsbury, Rockbourne and North and South Gorley, highlighting the low importance of Fordingbridge in comparison to that of Ringwood, Cranborne and Downton (Light and Ponting 1993, p.3). Harding and Light (2003, p.132) note that by the late 13th century Fordingbridge comprised three manors: Rectory Manor of Woodfidley (including Parsonage Farm), Burgate, and Fordingbridge itself. The growing importance of Fordingbridge is emphasised by the presence of the scheduled ancient monument and Grade II* listed (LEN: 1301381) stone bridge across the Avon, which is dated 14-15th century with various additions; this now forms part of Bridge Street. Furthermore, a fulling mill with potential origins in the 1440s is noted in the Hampshire HER (ref. 29716). While no clear reference to markets can be documented prior to the 16th century (Light and Ponting 1993, p.22), it is thought likely that the centre would have held them, given the growing importance of the settlement in the 13th century and increasing fortunes in later years. The position of one market is somewhat unclear, although a market cross is mentioned in the 16th century at the west end of Bridge Street; a fair was held on the 15th August (Feast of the Assumption) and is noted from the 15th century (*ibid)*. The location of a second market is noted by Harding and Light (2003, Fig. 2) at the junction of High Street, Provost Street and Bridge Street.

Additional places of settlement datable to the medieval period and lying within the parish are noted in the Hampshire HER; these comprise a scatter of medieval pottery near Midgham Farm (HHER:39026), with an additional scatter to the southwest (HHER:29741). Further habitation in this area is suggested by ceramic debris to the south (HHER:39026); additional scatters are noted southeast of Bickton (HHER:29848) and to the south of Fordingbridge, to the west of Toad House (HHER:29762). There is historic documentary evidence of settlements located at both Redbrook Farm (HHER:39209) and Ashford (HHER:39204), which is datable to the 13th century.

No information regarding a medieval ceramics industry in the Fordingbrdge area (as determined by modern parish bounds) could be identified.

8.3.3. Post-medieval Fordingbridge

The presence of various cottages and farmhouses within the near hinterland of the town is in keeping with the economy of the wider area; primarily one of agriculture from the late medieval to post-medieval period. This is evidenced in various listed farmhouses such as Parsonage Farmhouse – Grade II listed (LEN: 1166661); Lower Burgate Farmhouse – Grade II listed with 15th century origins (LEN: 1094873); Bickton Manor Farmhouse – Grade II* listed with late 15th century origins (LEN: 1350971). The many watermills in the area highlight the importance of the River Avon as a source for power in the industries of both agricultural and food production processing (*e.g.* 18th century watermill - HHER: 21532; and the Town Mill – Grade II listed LEN: 13509070).

8.4. Hyde Civil Parish

8.4.1. General Discussion

The parish of Hyde is relatively small, comprising 1774 hectares in area. The parish is bounded to the west by that of Fordingbridge and to the north by Godshill, with Bramshaw to the east and Ellingham, Harbridge and Ibsley to the south. The buried geology here comprises mostly of sands of Selsey and Poole groups. The modern parish contains several areas of modern habitation; these include Stuckton in the northwest, Hyde, Frogham and Blissford towards the centre, and North Gorley in the southwest. The majority of the parish, bar the western fringe, lie within the New Forest National Park.

In the western portion of the parish there is substantial evidence for pottery manufacture during the Romano-British period. Kilns are known in the Amberwood Inclosure where scheduled monuments (UID: HA 326) lie north of Latchmore Brook, with further kilns of similar date lying south of Pitts Wood (HHER:70786). These are all probably associated with further kilns lying in the Sloden Inclosure (Scheduled Monument UID: HA 324) and with those in the Godshill Parish to the north (UID: HA 327), located on Crock Hill near Eyeworth. The place name *'Crock Hill'* and *'Crockhill Green'* are likely to relate to the recovery of large amounts of Romano-British pottery here, rather than a reference to medieval pottery manufacture.

Prior to 1855, the parish of Hyde was formerly part of Fordingbridge.

8.4.2. Medieval Hyde

There are no settlement entries within the modern parish of Hyde listed within the Domesday Survey, excluding that of North and/or South Gorley - listed under a single entry (*Gerlei*). The five households listed there are valued at 10 shillings, which illustrates the small-scale, and possibly dispersed nature, of settlement in this area. A medieval field system is recorded in the Hampshire HER (ref. 59662), lying to the southwest of North Gorley, which shows that this area was given to agriculture at this time, with nearby settlement suspected from a scatter of medieval pottery (HHER:29865). In addition, ridge and furrow is recorded in Hyde Common and Criddlestyle (HHER:55697).

The role of this area as a hunting ground during in the medieval period is attested by the presence of a hunting lodge (UID: 30268), located north-northwest of Holly Hatch Cottage. An excavation in 1915 revealed no evidence for a building, and the enclosure was considered to be for stock; however, the size and placement of the monument strongly suggests that this is a medieval hunting lodge. Earthworks in the form of undated terraces and house platforms have been noted in the Sloden Inclosure on Row Hill, but there is no record of these being investigated in any detail (HHER:19695). This appears dubious as the record is surrounded by substantial scatters of Romano-British pottery (*e.g.* HHER:54348). Similar may be said for an undated platform in the southwest of the Sloden Inclosure (HHER:54351).

8.4.3. Post-medieval Hyde

Ceramic manufacture in the post-medieval period is implied via the presence of a brick field noted on the late 19th century OS map at Chilly Hill, near Blissford with clay and sand extraction pits noted in the wider vicinity. The same map shows substantial areas of gravel extraction near Frogham and east of North Gorley. Sporadic gravel extraction is shown within the Sloden and Amberwood Inclosures in the woodland to the east of the parish.

The area shares similarity to those surrounding it, in that during the post-medieval period there are strong signs of an agricultural economy in the west, with an extended history of areas of heath/waste located in the middle of the parish, and areas of forest in the east; the latter is evidenced by the enclosure of Sloden dated 18-19th century (HHER:54427). The western area contains several Grade II listed cottages including Stuckton Farm Cottage – structure of 16th century date, with 18th century and later alterations (LEN:1094858), other similar articles include Spicers Cottage (LEN: 1167243), Prospect Cottage (LEN: 1094852), Woodside (LEN: 1094857) and High Winds Cottage (LEN:1350987); all of which dated 17th century onwards. Farmhouses in the area of this date or later include Fern Gate Farmhouse (LEN: 1094856), Hyde Farmhouse (LEN: 1167225) and Rose Farmhouse (LEN: 1167268). The church at Hungerford, Hyde is 19th century in date suggesting that substantial extension and expansion to the settlements in the western fringe of the parish is relatively late.

A late post-medieval iron foundry is noted in Stuckton, purchased by Armfield of Ringwood in 1882 (Ellis 1975). This closed in 1908, but one of the buildings in the complex is 18th century of date, which potentially suggest an extended history.

8.4.4. Undated Evidence in Hyde Parish

A series of undated clay pits are noted on Row Hill in the Sloden Inclosure. These are assumed to be linked to the known Romano-British pottery manufacture there, but this has not yet been ascertained. They were observed in 1967, but are no longer visible (HHER: 54368). Where possible, these pits need to be examined in further detail where possible as they may relate to the hypothesised location of the medieval settlement of Slacham, within the Sloden Inclosure, a proposition which is considered dubious (HHER: 19695).

Despite the Romano-British evidence for pottery manufacture, and much later post-medieval brick production near Blissford, there is no direct evidence for medieval pottery production in the parish of Hyde.

8.5. Ringwood Civil Parish

8.5.1. General Discussion

The modern parish of Ringwood is a small to medium sized area, measuring a total of 2930 hectares. To the west lies the parish of St Leonards and St Ives in Dorset, with the Hampshire Parishes of Ellingham, Harbridge and Ibsley to the north, Burley to the east and Sopley to the south. The buried geology comprises Branksome sand with discrete pockets of Broadstone clay.

The modern civil parish of Ringwood contains the town of Ringwood, coupled with the villages and hamlets of Poulner, Hangersley, Hightown, Crow and Crow Hill, Sandford, Bisterne and Kingston.

8.5.2. Medieval Ringwood

There is little information regarding Anglo-Saxon Ringwood prior to the Domesday Survey in 1086. The survey has three entries that approximately correspond with areas lying within the modern civil parish of Ringwood; these comprise Ringwood, Bisterne and Crow.

Ringwood, noted as '*Rinwede*' comprised 43 households (56 villagers, 21 smallholders, eight slaves and one riding man) with 105 acres of meadow, one mill and one church, all valued at £8 and 10 shillings, held by King William. Bisterne, noted as *'Betestre'*, comprised nine households (five villagers, four smallholders), valued at £2 held by the King. Crow, comprised nine Households (four villagers, five smallholders) with 36 acres of meadow, all valued at £1 5 shillings and held by the king.

The Church of St Peter and St Paul in Ringwood comprises that with the oldest known origins in the civil parish, datable to the 13th century (Page 1911). Elements of the current standing church contain reused 15-16th century material and is Grade II listed (LEN: 1094964); however, the church was largely rebuilt and remodelled in 1853 (Page 1911).

Page (1911) goes on to note that in 1226 Henry III granted a weekly market in Ringwood on Wednesdays; later in 1337 the Earl of Salisbury, as Lord of the Manor of Ringwood, was granted a yearly fair on the feast of St Andrew (30th November) and later the feast of St Peter (19th June).

Further evidence for medieval habitation in the parish comprise a probable medieval settlement south of Kingston Farm. This comprises rectilinear enclosures, which are visible on aerial photographs (HHER:59653). A substantial surface scatter of 13-15th century pottery is noted to the west of Sabines Farm (HHER:29436). Additional minor farmsteads with medieval origins are noted in the Hampshire HER, these comprise Hurn Farm (*Hierne*), documented in AD1280 as the home of Ralph de Hierne; Brixley's Farm (*Briyxi*) documented in AD1327 as the home of Roger Bryxi, and Moortown (*Mora*), documented AD1298 as the home of Alice de Mora. Finally, Bisterne Manor, a manor house with late 15th century origins is a Grade II listed structure (LEN: 1094981), which shows that the settlement continued from those early origins noted in Domesday as a minor settlement within the hinterland of Ringwood, as it remains today.

There is no clear evidence for ceramic manufacture of medieval date within the records examined for this assessment.

8.5.3. Post-medieval Ringwood

The economy of the Ringwood area at this time mirrors that of Fordingbridge, in that the area is dominated by rural agricultural activity – as evidenced by farmhouses of Bagnam (LEN:1350902), Kingston (LEN: 1350881), Crow (LEN:1157048), Poplar (LEN:1157074), Merryweather (LEN:1178547), Old Farmhouse (LEN:1302615) and Hawthorn and The Quomp, at Hightown - now three individual dwellings (LEN:1095000) are now all Grade II listed, with those at Poulner and Poulner Lane being earlier, of 16-17th century date. Within this network, the role of the market town being a place of processing, via mills utilising the River Avon for power (*e.g.* HHER:18240), and distribution in the local markets. The hinterland that supported this town is considered to be relatively vast in comparison to Fordingbridge, including Ellingham, Harbridge, Ibsley, Burley and probably Hurn, Hampreston and Verwood in Dorset.

The 1880s OS Map for the area shows numerous sites of extraction including clay and gravel pits in and around Crow and Crow Hill, old gravel pits north of Kingston and a Brick Works with associated gravel, clay and sand pits on Hightown common.

No clear evidence for post-medieval pottery production could be found in the Ringwood parish.

8.6. Sandleheath Civil Parish

8.6.1. General Discussion

Sandleheath comprises a tiny parish with a size of 188 hectares. Formerly part of the Fordingbridge parish, Sandleheath is bounded by Damerham to the west, Rockborne to the north, Fordingbridge to the east and Alderholt to the south. There are no relevant scheduled monuments, and very few listed structures. The geology of the parish comprises London clay and sands – ideal for coarse ceramic manufacture.

8.6.2. Medieval Sandleheath

The only monument of potential late medieval origin recorded in the Hampshire HER for Sandleheath comprises the remains of Hawk Hill Mill, Damerham, which was possibly in use from the late medieval into the Victorian period (HHER:21322).

8.6.3. Post-medieval Sandleheath

Very few listed buildings lie within this small parish. One comprises the 17th century building of Sandleheath Manor School (LEN: 1094819). A former tollgate at Sandhill Heath Turnpike Road is noted in the Hampshire HER (Ref. 58896). Pits associated with charcoal burning of post-medieval date are recorded during quarrying works in the area (HHER:21394). Archaeological excavations here recovered timber remains including ash, willow and hazel charred fragments.

Sandleheath Brickworks (formerly Reads) closed 1965, and is shown on 1870s OS map. A start date for ceramic production here is not known, but post-medieval origins are considered likely.

9. Discussion

This desk-based assessment has highlighted numerous aspects of past life within the various parishes in both east Dorset and west Hampshire. In particular, the nature of settlement, economy and aspects of land utilisation, along with the character of raw material extraction has been detailed and explored to the furthest extent possible based upon the available evidence.

The evidence for the nature of settlement during the medieval period onwards suggests that the population was relatively small, and thinly spread occupying discrete farmsteads and with few urban centres in the area. By the post-medieval period this has altered significantly, with numerous farms lying around hinterlands of urban centres, such as that of Fordingbridge and Ringwood which have then become market centres for distribution and agricultural processing. Settlement across the area becomes more nucleated and increases in size over time. The economy was primarily of agricultural nature, which occurred alongside other industries, such as pottery manufacture and, more commonly, brick production; the later of which became increasingly prevalent into the late post medieval period.

Table II.18: Past Pottery Information Scores by Parish

	Criteria Reference Code (from Table II.4)									
Parish	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**Total**
Alderholt	3			2		1		1	1	8
Chalbury								1		1
Colehill									1	1
Cranborne				2	1	1	1	1		6
Damerham						1	1	1		3
Edmondsham							1		1	2
Ellingham, Harbridge and Ibsley							1	1		2
Fordingbridge							1	1		2
Gussage All Saints								1	1	2
Hinton (Parva and Martell)							1			1
Holt							1			1
Horton							1	1	1	3
Hyde					1*					1
Pamphill							1	1		2
Ringwood							1	1		2
Sandleheath										0
St Leonards and St Ives										0
Verwood				2	1		1	1	1	6
West Moors										0
Wimborne Minster							1	1		2
Wimborne St Giles							1	1		2
Woodlands							1	1		2

*Crock Hill and Crock Hill Green on the border of Hyde and Godshill is considered to reference Romano-British pottery evidence – not medieval or later.

Table II.19: Past Pottery Information Scores by Parish and County

Parish	County	Score
Alderholt	Dorset	8
Cranborne	Dorset	6
Verwood	Dorset	6
Damerham	Hampshire	3
Horton	Dorset	3
Edmondsham	Dorset	2
Ellingham, Harbridge and Ibsley	Hampshire	2
Fordingbridge	Hampshire	2
Gussage All Saints	Dorset	2
Pamphill	Dorset	2
Ringwood	Hampshire	2
Wimborne Minster	Dorset	2
Wimborne St Giles	Dorset	2
Woodlands	Dorset	2
Chalbury	Dorset	1
Colehill	Dorset	1
Hinton (Parva and Martell)	Dorset	1
Holt	Dorset	1
Hyde	Hampshire	1
Sandleheath	Hampshire	0
St Leonards and St Ives	Dorset	0
West Moors	Dorset	0

It can be shown that the parishes of Alderholt, Cranborne and Verwood contain the most evidence for medieval and early post-medieval pottery manufacture. Those of lower importance include Damerham and Horton, with the remainder being negligible.

It is proposed here that archaeological site investigations within five parishes – comprising Alderholt, Cranborne, Verwood and Horton in Dorset, plus Damerham in Hampshire - be especially considered in light of identifying additional evidence for medieval and early post-medieval pottery manufacture on the east Dorset/west Hampshire border.

Appendix III: Certified Reference Material (TILL-4), Internal Standards and pXRF results comparison

Values Recorded for TILL-4

TILL-4 was used as a Certified Reference Material (CRM) to corroborate the data collected with the Niton Xl3 pXRF which was used to form the statistical analysis in Chapter 5 of this thesis. TILL-4 is a sedimentary deposit recovered from Scission's Brook, New Brunswick, Canada, available from:
https://natural-resources.canada.ca/sites/nrcan/files/mineralsmetals/pdf/mms-smm/tect-tech/ccrmp/cer-cer/TILL_CERT-eng.pdf

Below are the recorded values relevant to this project recorded from the Certificate of Analysis by the Canadian Certified Reference Materials Project, November 1995 Revision.

Results for TILL-4 from Certificate

Element/Compound	Name of Element	Value as recorded in Certificate (ppm unless stated otherwise)
Al_2O_3	Aluminium	14.4 wt% ox
Ba	Barium	395
CaO	Calcium	1.25 wt% ox
Cr	Chromium	53
Fe_2O_3	Iron	5.63 wt% ox
K_2O	Potassium	3.25 wt% ox
Nb	Niobium	15
Rb	Rubidium	161
SiO_2	Silicon	65 wt% ox
Sr	Strontium	109
TiO_2	Titanium	0.81 wt% ox
V	Vanadium	67
Zn	Zinc	70
Zr	Zirconium	385

Values Recorded for Internal Standards

Three internal standards (IS) were sent for examination via ICP-MS and ICP-AES at Durham University. These were employed as matrix-matched standards for comparison to corroborate the results measured by the Niton Xl3 pXRF. The powdered standards were taken from Verwood-type pottery sherds, one from site VER3, one from site ALD3 (see Appendix I for site details), and one unprovenanced sample (KM1). Below are the results as reported by Durham University.

Results of ICP-MS for Internal Standards (ppm)

Chemical Symbol of Element	Name of Element	ALD3 Internal Standard	KM1 Internal Standard	VER3 Internal Standard
Ba	Barium	299.10	284.20	317.40
Ce	Cerium	67.05	59.62	81.28
Co	Cobalt	5.86	4.75	5.80
Cr	Chromium	117.80	111.40	140.80
Cs	Caesium	7.23	6.56	9.04
Cu	Copper	64.80	99.35	104.50
Dy	Dysprosium	6.60	4.97	5.70
Er	Erbium	3.32	2.77	3.61
Eu	Europium	2.28	1.44	1.92
Ga	Gallium	22.50	23.09	27.32
Gd	Gadolinium	8.59	5.60	7.05
Ho	Holmium	1.24	1.00	1.13
La	Lanthanum	27.58	26.03	39.18
Lu	Lutetium	0.53	0.46	0.52
Mn	Manganese	0.01	0.01	0.01
Nb	Niobium	18.36	18.49	19.83
Nd	Neodymium	47.77	32.82	45.61
Ni	Nickel	39.84	36.63	48.64
Pb	Lead	4872.00	350.60	695.20
Pr	Praseodymium	10.75	8.33	11.79
Rb	Rubidium	88.66	90.30	114.60
Sc	Scandium	15.01	15.06	18.00
Sm	Samarium	10.58	6.69	9.10
Sr	Strontium	103.70	140.80	165.60
Tb	Terbium	1.24	0.87	1.06
Th	Thorium	13.21	12.51	15.53
Ti	Titanium	0.90	0.86	0.96
Tm	Thulium	0.55	0.47	0.53
U	Uranium	2.34	2.02	2.28
V	Vanadium	113.10	120.30	133.50
Y	Yttrium	29.38	27.19	26.42
Yb	Ytterbium	3.35	2.89	3.31
Zn	Zinc	31.92	35.01	34.77
Zr	Zirconium	95.59	91.57	102.80

Results for ICP-AES for Internal Standards (wt% ox.)

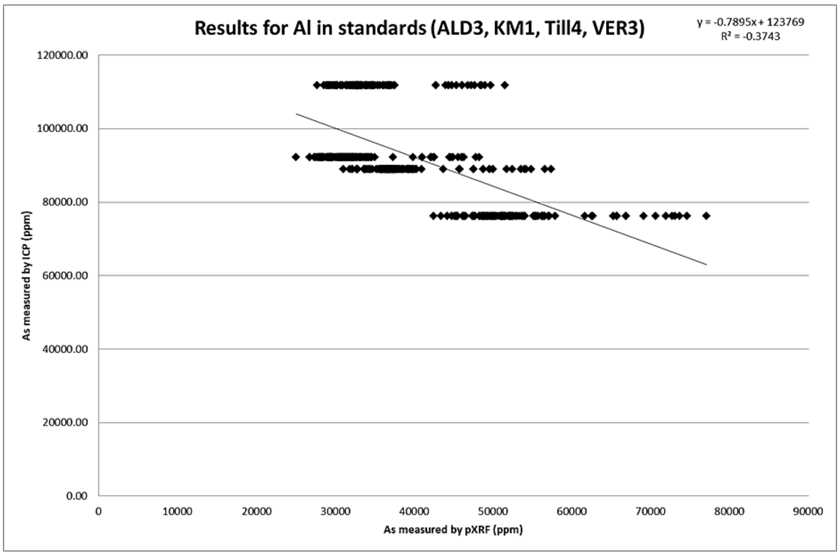
Oxide	Name of Relevant Element	ALD3 Internal Standard	KM1 Internal Standard	VER3 Internal Standard
Al_2O_3	Aluminium	17.26058	17.43	21.12
CaO	Calcium	2.261732	4.46	4.87
Fe_2O_3	Iron	2.998637	3.38	4.75
K_2O	Potassium	1.610799	1.69	1.84
MgO	Magnesium	0.399346	0.39	0.55
MnO	Manganese	0.018328	0.01	0.02
Na_2O	Sodium	0.275206	0.31	0.32
P_2O_5	Phosphorus	0.019084	0.35	0.05
TiO_2	Titanium	1.176214	1.09	1.25

Comparison of ICP methods to pXRF

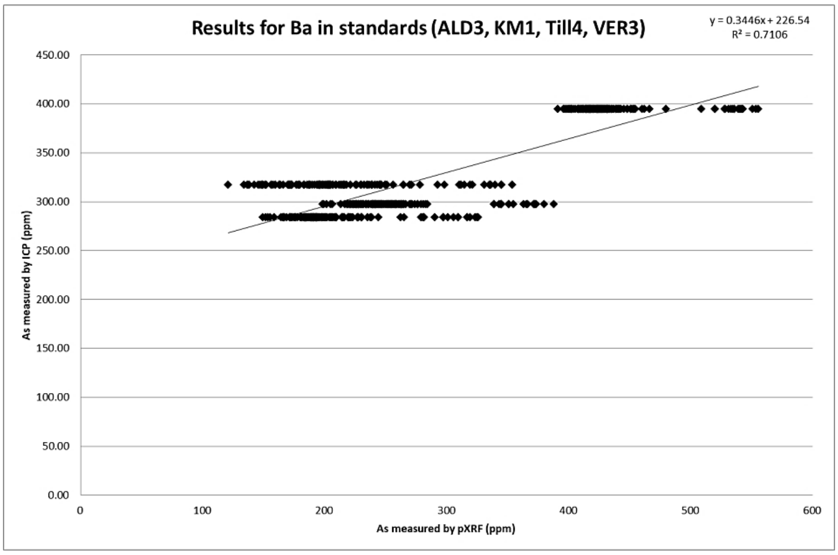
The following comprise observations regarding the correlation of readings taken of the four standards previously outlined as measured for every 30 readings taken with the pXRF and the one measurement taken with the ICP methods. They are plotted against each other to show the degree of correlation between the two methods in order to corroborate the results achieved with the Niton Xl3 results employed in Chapters 3 and 5 of this thesis.

Comparative Correlation Graphs for ICP methods against the same materials measured by pXRF

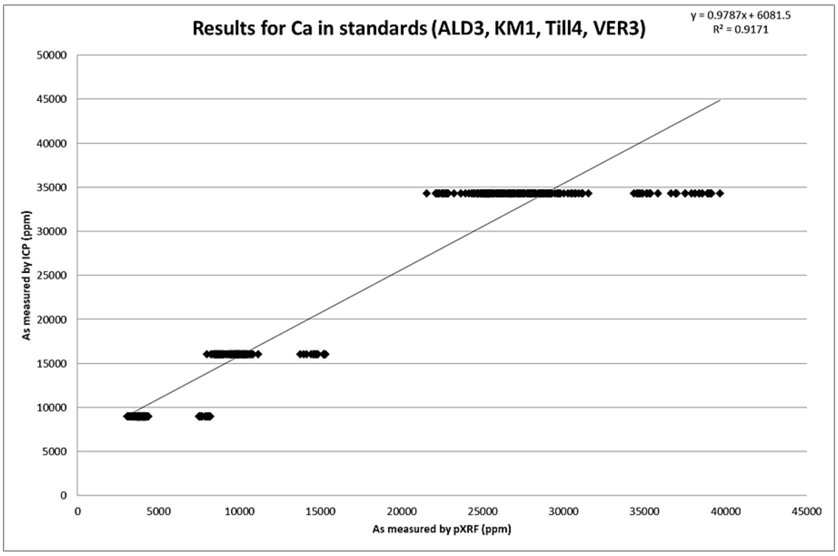
Al - Aluminium



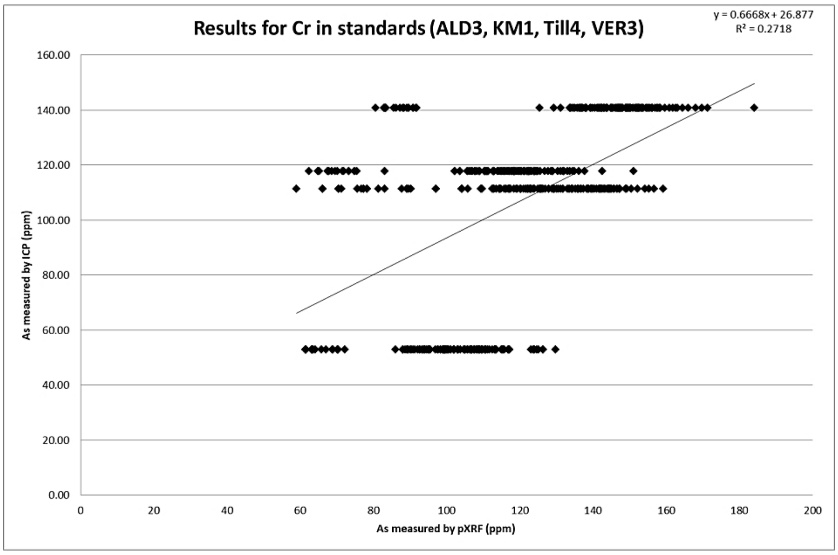
Ba - Barium



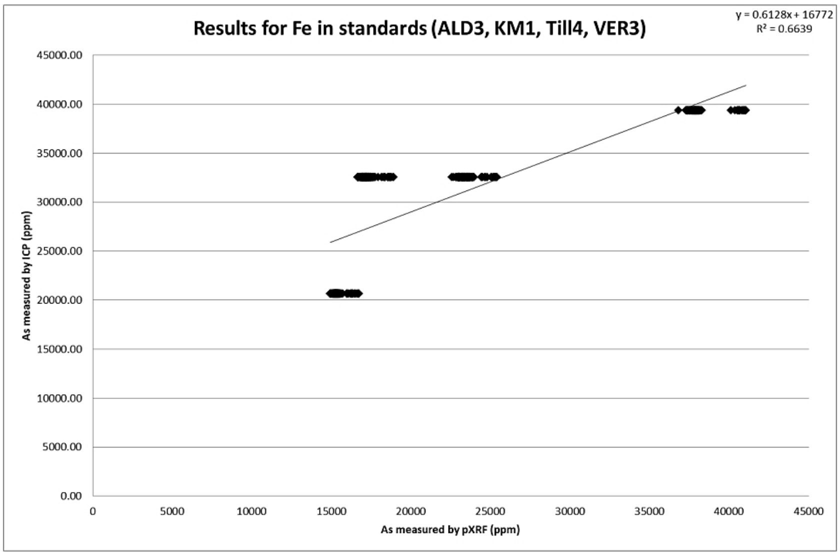
Ca - Calcium



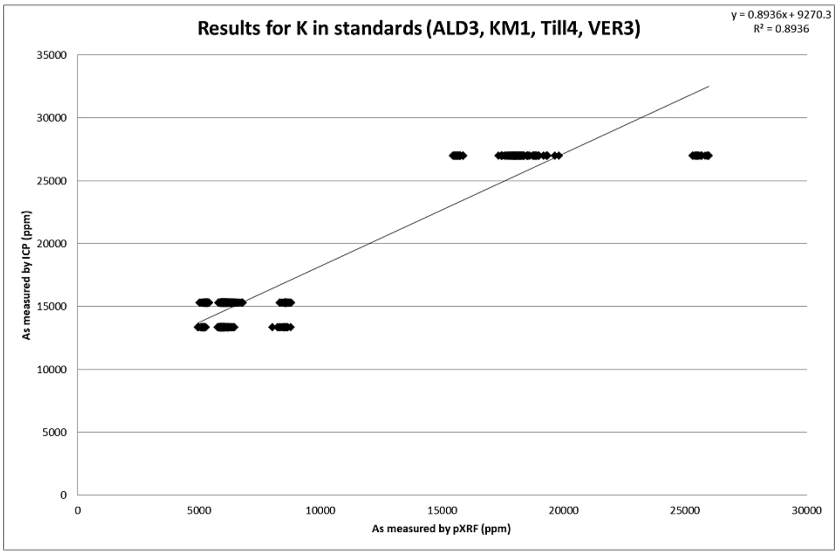
Cr - Chromium



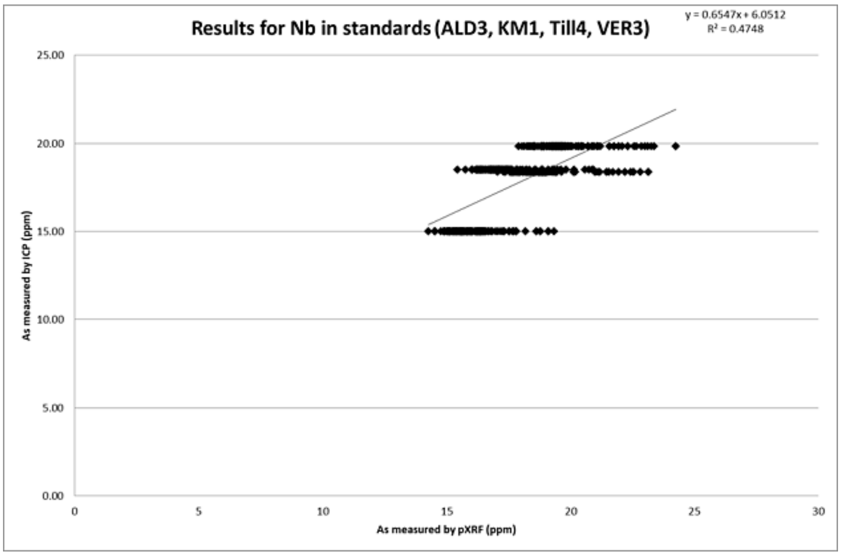
Fe - Iron



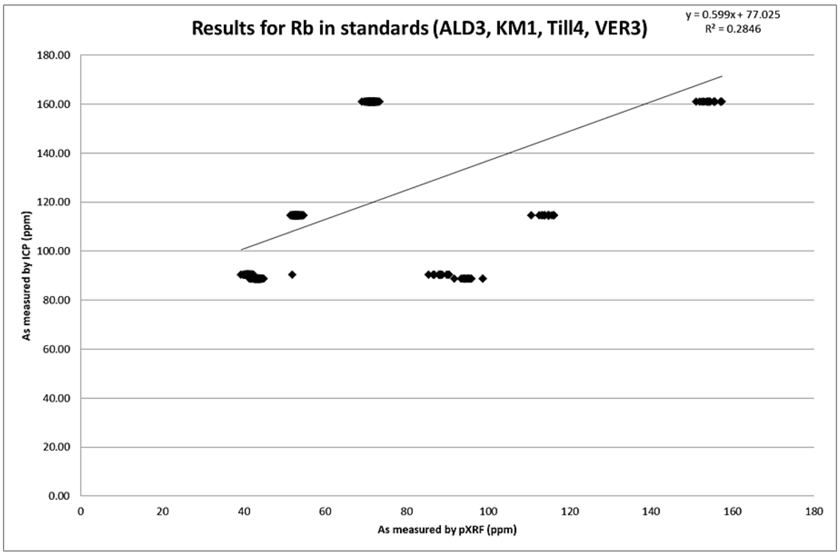
K - Potassium



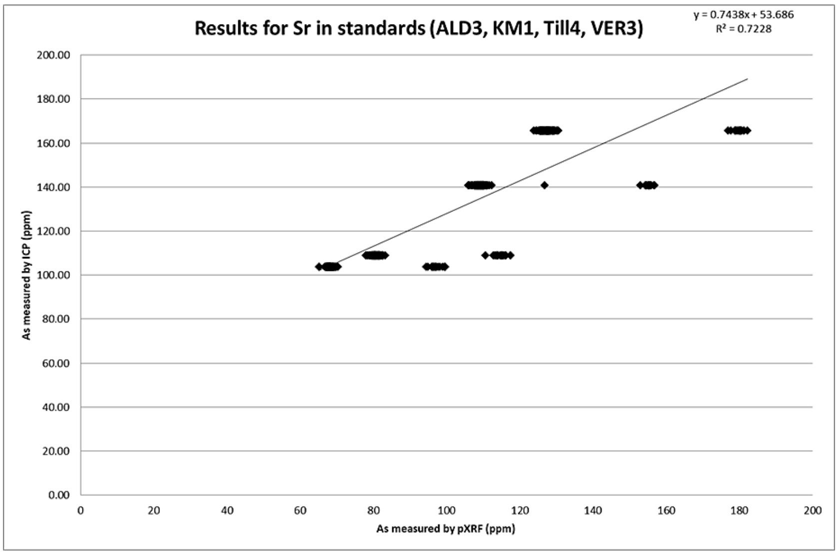
Nb - Niobium



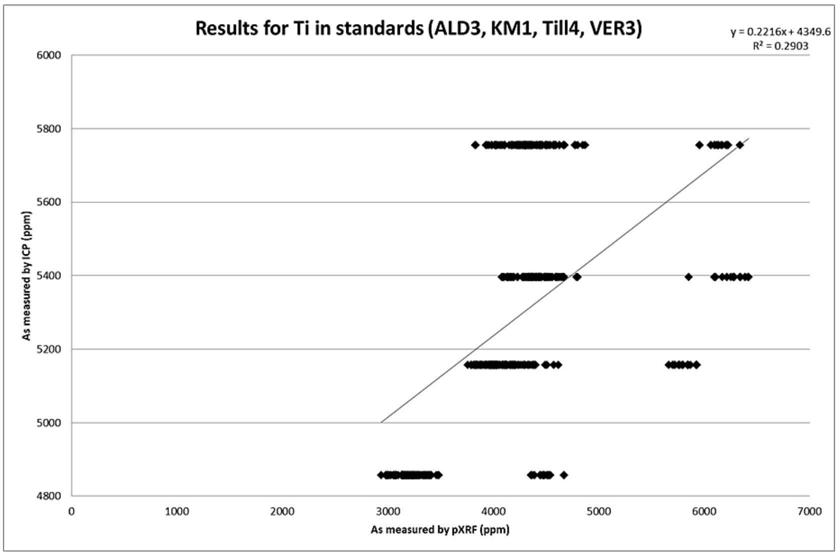
Rb - Rubidium



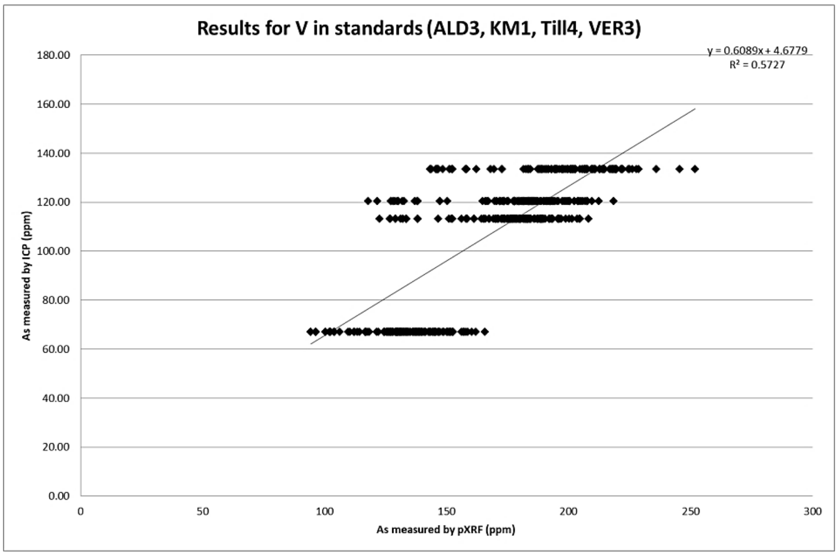
Sr - Strontium



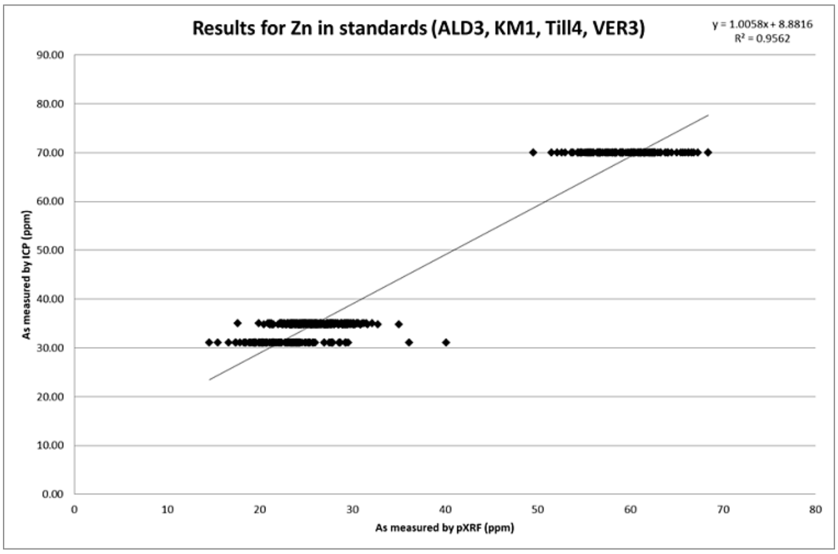
Ti – Titanium



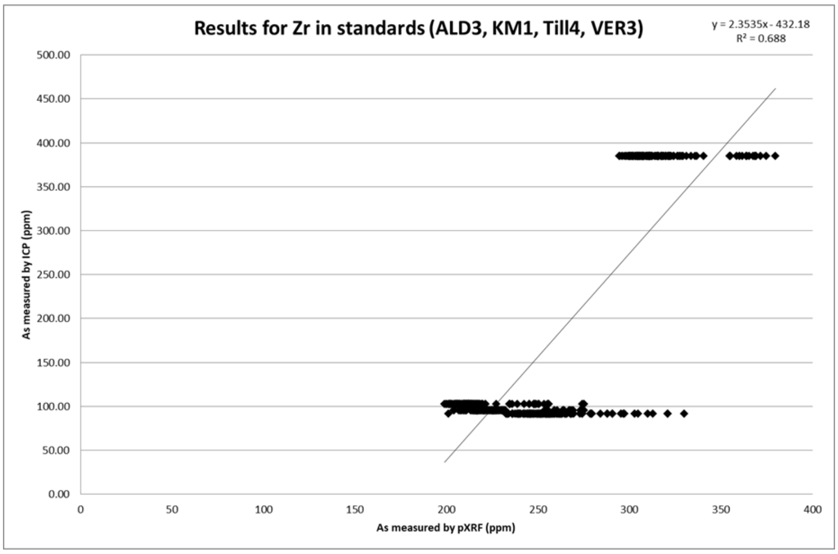
V – Vanadium



Zn – Zinc



Zi – Zirconium



Comment

The first observation of principal interest is the degree of drift within the measurements taken from the standards, which were recorded once per standard for every 30 samples with the pXRF. This is evidenced from the range of results for certain standards (visible as a group of linear readings in the result graphs) as measured with the pXRF. This drift is more marked for certain elements over others; for example, the drift identifiable for iron is relatively low in comparison to that of vanadium, niobium, chromium and barium. Certain elements - such as aluminium, barium, potassium, niobium, rubidium and zirconium - show at least three areas of concentrations of results most likely deriving from the annual re-calibration of the machine by an appropriate technician. More generally, the level of drift stems from this study being undertaken over several years; a problem caused by the extended nature of the data collection as a result of COVID-19 (see COVID-19 Statement), the part-time nature of the study and the large amount of samples being processed. The presence of the vast range in pXRF values in relation to the single ICP reading for most elements shows the need for the direct off-set correction (see section 5.3.1 in Chapter 5), which was applied to the data post-collection to lower the effect of the drift evidenced in these observations.

When comparing results between the ICP methods and the Niton Xl3 pXRF there is weak correlation between results for aluminium, chromium, rubidium and titanium; this is evidenced by low r values (between 0.5 and -0.5) in the graphs on the previous pages. This may be in part due to the filters used by the pXRF. For example, aluminium is analysed using the light filter in the mining cu/zn setting (see Table 9 in Chapter 3). Fig. 15 (Chapter 3) presents that the highest error values were recorded for silicon, magnesium and aluminium (all analysed with the light filter). Similar may be said for chromium and titanium, which are both measured with the low filter; however, the error values for elements measured with the low filter are less than those measured with the light filter (*e.g*. Al and Mg error values against Cr and Ti error values in Table 9). Cumulatively, this suggests that light elements, as measured with the pXRF, comprise values with imperfect consistency and limited correlation when compared with the ICP results. Forster *et al.* (2011, 393) note that light elements are especially susceptible to differences in air attenuation and this may have had a significant role to play in the results for this study, as an extended period of analysis has shown dissimilarity in the same measured material due to differences in humidity and temperature and the resulting effects on air attenuation (along with other potential aspects) on separate days of testing with the pXRF. However, the inclusion of those light elements in this study is deemed not only acceptable but necessary, as ceramics are derived from clays of which the element aluminium forms a major part, thus is required to explore the general trends when comparing the source of different ceramics from within the region under study. This is especially relevant when raw clays from a region are being compared to pottery samples, as was the case here. Without the inclusion of aluminium as a variable in the study, the observation of identifying how temper can limit the comparison of heavily tempered pottery samples to their less tempered counterparts (and their shared hypothesised clay source) could not have been achieved.

There is strong correlation (r value of over 0.5) for barium, calcium, iron, vanadium, zinc and zirconium. This is to be expected for iron, as drift appears to be relatively low in the pXRF measurements, plus there are acceptable levels of drift for both zinc and zirconium. This is most likely due to the measurement of these elements taking place in the main filter, which has consistently shown to record relatively lower error values for a 60 second measurement/filter time in the mining cu/zn setting (Table 9 and Fig. 15). Three elements have high correlations despite not being measured with the main filter; these comprise barium (high filter), vanadium (low filter) and calcium (low/light filters). The results graphs suggest that the consistency and correlations with the ICP results for these elements is relatively robust. The element of greatest surprise to have a high correlation is considered to be that of calcium, which was measured with both low and light filters. The problematic nature of light filter measurements has already been outlined, and it is considered probable that the consistency noted for calcium in the ICP/pXRF correlation graphs could be due the element being measured by the low filter as well as the light (Table 9). This concept is supported to a degree by the high correlations evident in the potassium data (r value of 0.89 and also measured in the low filter), but is somewhat marred by the apparent three group concentrations, as previously outlined.

Overall, the measurements taken with the pXRF for the variables used in the statistical analyses can be shown to be of mixed correlation, with results achieved using ICP methods for those elements that have been shown to display a high effect size in the pilot study (*e.g.* iron, calcium, barium and potassium - *c.f.* Table 27) the correlations are relatively robust. The results outlined here agree somewhat with those identified by Forster *et al.* (2011), in that there is broad correlation between measurements for iron and calcium as measured by both pXRF and other methods, such as NAA. Furthermore, they correlate with those observations made between pXRF measurements and Electron Probe Micro Analysis, as reported by Adlington and Freestone (2017), especially for those correlations reported for calcium, iron and potassium.

Appendix IV: Ancillary data for Pilot Study

Fabric Data Descriptive Summaries

Verwood (VER3)

Statistics for Verwood Site

		Ba	Sb	Sn	Nb	Zr	Sr	Rb	Bi	As	Pb	W	Zn	Cu	Ni
N	Valid	30	1	4	22	30	28	30	12	18	30	10	28	20	0
	Missing	0	29	26	8	0	2	0	18	12	0	20	2	10	30
Mean		304	40	43	20	225	60	47	20	1816	10976	320	78	46	
Median		305	40	45	20	225	60	50	20	1185	3900	325	60	40	
Mode		250.0[b]	40	60	20	170.0[b]	60	50	20	20.0[b]	190	330	60	20	
Std. Deviation		101		21	0	52	12	10	0	1821	15793	99	59	33	
Variance		10259		425	0	2660	156	110	0	3316660	249413446	9711	3538	1057	
Skewness		1		0		0	-1	0		1	2	0	2	2	
Std. Error of Skewness		0		1	0	0	0	0	1	1	0	1	0	1	
Kurtosis		5		-5		0	1	1		0	3	0	3	5	
Std. Error of Kurtosis		1		3	1	1	1	1	1	1	1	1	1	1	
Range		570	0	40	0	210	50	50	0	5770	62880	330	240	130	
Minimum		90	40	20	20	130	30	20	20	20	190	170	20	20	
Maximum		660	40	60	20	340	80	70	20	5790	63070	500	260	150	

b. Multiple modes exist. The smallest value is shown

		Co	Fe	Mn	Cr	V	Ti	Ca	K	Al	P	Si	Cl	S	Mg
N	Valid	1	30	8	30	30	30	24	30	30	30	30	13	30	13
	Missing	29	0	22	0	0	0	6	0	0	0	0	17	0	17
Mean		110	22208	488	153	177	4186	1480	7475	70365	4178	206408	1092	23938	21786
Median		110	19735	270	165	175	4615	1345	7230	76580	3265	224465	1000	4200	17380
Mode		110	10180.0[b]	130.0[b]	170.0[b]	170.0[b]	5100	890	2700.0[b]	37190.0[b]	640.0[b]	107890.0[b]	80.0[b]	140.0[b]	6910.0[b]
Std. Deviation			9383	604	37	61	1128	867	2793	16878	3805	45377	639	32581	13512
Variance			88043803	364564	1368	3669	1271556	751504	7801033	284874812	14479373	2059043060	408397	1061546520	182574342
Skewness			2	3	-1	2	-1	0	1	-1	3	-1	0	1	1
Std. Error of Skewness			0	1	0	0	0	0	0	0	0	0	1	0	1
Kurtosis			5	7	0	7	0	-1	3	-1	10	-1	-1	1	-1
Std. Error of Kurtosis			1	1	1	1	1	1	1	1	1	1	1	1	1
Range		0	46040	1820	140	320	3980	2690	13740	61870	19390	165370	2070	107380	35860
Minimum		110	10180	130	70	90	1660	290	2700	37190	640	107890	80	140	6910
Maximum		110	56220	1950	210	410	5640	2980	16440	99060	20030	273260	2150	107520	42770

b. Multiple modes exist. The smallest value is shown

Crendell, Alderholt (ALD3)

Statistics for Alderholt Site

		Ba	Sb	Sn	Nb	Zr	Sr	Rb	Bi	As	Pb	W	Zn	Cu	Ni
N	Valid	30	1	6	29	30	30	30	17	27	30	14	30	25	4
	Missing	0	29	24	1	0	0	0	13	3	0	16	0	5	26
Mean		378	75	49	16	202	64	47	26	2187	12276	315	59	46	127
Median		392	75	42	17	202	65	46	19	1127	7746	242	43	42	103
Mode		133.7[b]	75	35.4[b]	4.3[b]	64.5[b]	22.0[b]	26.1[b]	11.9[b]	36.8[b]	171.0[b]	76.7[b]	12.9[b]	16.8[b]	83.0[b]
Std. Deviation		123		15	4	54	18	8	26	2893	13538	206	56	23	63
Variance		15087		236	17	2938	334	70	654	8370816	183283085	42355	3103	515	3910
Skewness		0		1	-1	0	1	0	4	2	2	1	3	1	2
Std. Error of Skewness		0		1	0	0	0	0	1	0	0	1	0	0	1
Kurtosis		0		-1	1	0	4	2	15	3	3	-1	10	1	4
Std. Error of Kurtosis		1		2	1	1	1	1	1	1	1	1	1	1	3
Range		502	0	37	16	244	102	44	111	10453	54876	614	267	91	137
Minimum		134	75	35	4	65	22	26	12	37	171	77	13	17	83
Maximum		635	75	73	21	309	124	70	123	10490	55047	691	279	108	220

b. Multiple modes exist. The smallest value is shown

		Co	Fe	Mn	Cr	V	Ti	Ca	K	Al	P	Si	Cl	S	Mg
N	Valid	4	30	24	30	30	30	30	30	30	30	30	18	30	16
	Missing	26	0	6	0	0	0	0	0	0	0	0	12	0	14
Mean		132	20933	314	142	215	3705	3187	8117	69876	2440	204262	1068	38014	28929
Median		129	20357	277	146	197	4155	2609	7374	73497	2059	226711	872	17478	26433
Mode		93.9[b]	7301.1[b]	73.4[b]	42.3[b]	79.1[b]	651.9[b]	526.7[b]	1379.5[b]	24138.8[b]	948.8[b]	81438.9[b]	76.1[b]	1117.3[b]	11251.2[b]
Std. Deviation		39	7265	195	43	117	1398	2433	6604	21391	1274	57100	755	40615	14828
Variance		1523	52782808	37972	1883	13752	1955366	5920284	43618302	457588328	1623723	3260461877	569608	1649541909	219876454
Skewness		0	0	1	-1	3	-1	3	3	0	1	-1	0	1	1
Std. Error of Skewness		1	0	0	0	0	0	0	0	0	0	0	1	0	1
Kurtosis		-4	0	1	0	9	0	11	12	-1	0	-1	-1	-1	-1
Std. Error of Kurtosis		3	1	1	1	1	1	1	1	1	1	1	1	1	1
Range		83	30731	774	164	557	4679	13015	35312	78713	4612	192354	2404	127786	45250
Minimum		94	7301	73	42	79	652	527	1380	24139	949	81439	76	1117	11251
Maximum		177	38032	848	206	636	5331	13542	36691	102852	5561	273792	2480	128903	56502

b. Multiple modes exist. The smallest value is shown

Laverstock

Statistics for Laverstock Site

		Ba	Sb	Sn	Nb	Zr	Sr	Rb	Bi	As	Pb	W	Zn	Cu	Ni
N	**Valid**	30	0	6	30	30	30	30	17	29	30	5	30	7	1
	Missing	0	30	24	0	0	0	0	13	1	0	25	0	23	29
Mean		314		73	17	191	66	44	11	569	3890	150	45	69	58
Median		324		46	17	196	64	45	10	207	1377	162	38	65	58
Mode		82.7[b]		25.5[b]	9.7[b]	101.0[b]	33.4[b]	20.8[b]	7.2[b]	7.0[b]	28.1[b]	108.1[b]	21.1[b]	19.3[b]	58
Std. Deviation		109		82	3	45	15	9	3	679	5238	37	19	41	
Variance		11912		6804	10	2003	240	85	9	461210	27441644	1397	349	1647	
Skewness		0		2	0	0	0	-1	0	1	2	0	1	0	
Std. Error of Skewness		0		1	0	0	0	0	1	0	0	1	0	1	
Kurtosis		0		6	0	0	0	0	-1	0	6	-3	0	0	
Std. Error of Kurtosis		1		2	1	1	1	1	1	1	1	2	1	2	
Range		455		214	13	177	69	38	9	2067	23444	78	73	116	0
Minimum		83		25	10	101	33	21	7	7	28	108	21	19	58
Maximum		537		240	23	278	102	59	16	2074	23472	186	94	135	58

b. Multiple modes exist. The smallest value is shown

		Co	Fe	Mn	Cr	V	Ti	Ca	K	Al	P	Si	Cl	S	Mg
N	**Valid**	0	30	9	30	30	30	30	30	29	29	30	19	30	6
	Missing	30	0	21	0	0	0	0	0	1	1	0	11	0	24
Mean			15360	238	127	171	3406	48893	9719	48185	3393	171440	543	22324	19770
Median			14216	179	125	168	3319	37338	9780	39004	2996	157394	439	13743	18804
Mode			6933.0[b]	93.2[b]	55.8[b]	105.1[b]	984.5[b]	5228.0[b]	3476.6[b]	22975.0[b]	1002.3[b]	23241.0[b]	85.0[b]	1190.5[b]	14954.8[b]
Std. Deviation			4305	145	35	56	1090	35687	3824	25278	1782	59486	405	24650	3966
Variance			18535319	21121	1246	3105	1187158	1273596934	14620613	638976539	3175459	3538582305	164265	607639529	15731077
Skewness			1	1	0	2	0	1	0	1	2	0	1	2	0
Std. Error of Skewness			0	1	0	0	0	0	0	0	0	0	1	0	1
Kurtosis			1	2	0	6	0	0	0	1	4	0	1	4	-1
Std. Error of Kurtosis			1	1	1	1	1	1	1	1	1	1	1	1	2
Range			20639	457	142	278	4375	131844	16129	96441	8465	264599	1498	107483	10080
Minimum			6933	93	56	105	984	5228	3477	22975	1002	23241	85	1190	14955
Maximum			27572	550	197	383	5360	137073	19606	119416	9467	287840	1583	108673	25035

b. Multiple modes exist. The smallest value is shown

Horton

Statistics for Horton Site

		Ba	Sb	Sn	Nb	Zr	Sr	Rb	Bi	As	Pb	W	Zn	Cu	Ni
N	**Valid**	29	0	4	23	30	30	30	13	27	30	9	30	10	1
	Missing	1	30	26	7	0	0	0	17	3	0	21	0	20	29
Mean		455		34	18	223	75	57	15	1171	5372	254	83	35	65
Median		450		33	19	220	70	59	16	142	1835	260	71	30	65
Mode		450		30.0[b]	20	220	60	50	20	31.5[b]	352.3[b]	120.0[b]	40.0[b]	30	65
Std. Deviation		100		4	2	39	21	5	4	1565	6108	91	46	22	
Variance		9916		16	5	1519	428	30	16	2449571	37305680	8238	2096	464	
Skewness		0		0	-1	1	2	0	-1	1	1	0	1	2	
Std. Error of Skewness		0		1	0	0	0	0	1	0	0	1	0	1	
Kurtosis		0		-6	-1	0	6	-1	0	0	-1	-1	2	5	
Std. Error of Kurtosis		1		3	1	1	1	1	1	1	1	1	1	1	
Range		428		7	8	160	91	20	13	4528	16964	250	190	74	0
Minimum		242		30	13	160	59	45	7	32	352	120	30	16	65
Maximum		670		37	21	320	150	65	20	4559	17317	370	220	90	65

b. Multiple modes exist. The smallest value is shown

		Co	Fe	Mn	Cr	V	Ti	Ca	K	Al	P	Si	Cl	S	Mg
N	**Valid**	3	30	13	30	29	30	27	30	30	29	30	12	30	11
	Missing	27	0	17	0	1	0	3	0	0	1	0	18	0	19
Mean		166	29329	203	154	182	3956	3189	13930	67603	3186	205700	1267	26761	26880
Median		160	28139	159	156	190	4345	1854	14158	71611	3080	223145	1305	7184	26002
Mode		128.7[b]	12460.0[b]	110	160	100.0[b]	1620.0[b]	310.0[b]	5250.8[b]	31574.3[b]	3080	116880.0[b]	350.0[b]	2563.9[b]	16590.3[b]
Std. Deviation		41	17150	152	51	48	1183	4820	6921	20395	1644	48414	811	34156	9588
Variance		1683	294108511	23046	2607	2332	1398310	23232729	47903458	415945886	2703303	2343867135	657943	1166600640	91937656
Skewness		1	4	2	1	-1	-1	4	2	0	4	-1	1	1	1
Std. Error of Skewness		1	0	1	0	0	0	0	0	0	0	0	1	0	1
Kurtosis			21	4	2	0	-1	20	3	-1	17	-1	3	0	3
Std. Error of Kurtosis			1	1	1	1	1	1	1	1	1	1	1	1	1
Range		81	100846	495	243	210	3893	25370	29144	69714	9387	165995	2939	109755	33471
Minimum		129	12460	107	70	70	1620	310	5251	31574	1354	116880	350	2564	16590
Maximum		210	113306	602	313	280	5513	25680	34394	101288	10741	282875	3289	112319	50061

b. Multiple modes exist. The smallest value is shown

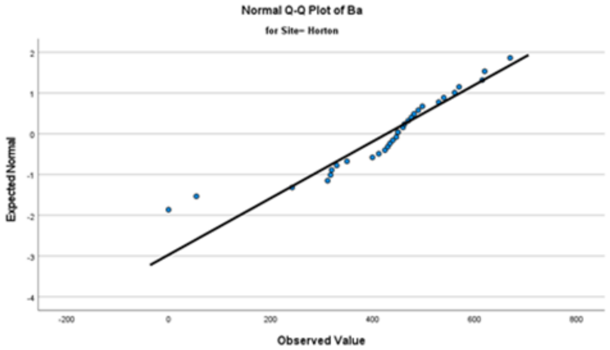
Results of Test of Normality for Pilot Study Data

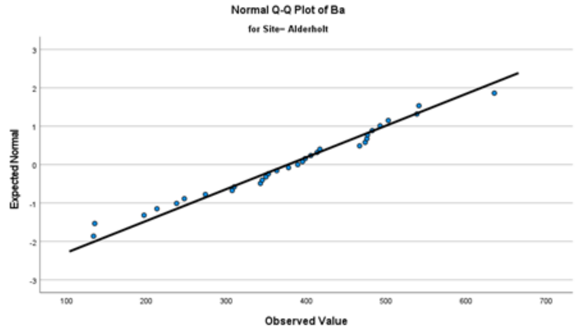
	Shapiro-Wilk Tests of Normality				
Element	Site	Statistic	Degrees of freedom	P Value	Normal distribution of data?
Ba	Verwood	0.898	30	0.0074094	Yes
	Alderholt	0.976	30	0.7228371	No
	Laverstock	0.977	30	0.7294226	No
	Horton	0.977	29	0.7712641	No
Sn	Verwood	0.827	4	0.1612393	No
	Alderholt	0.828	6	0.1035124	No
	Laverstock	0.627	6	0.0009693	Yes
	Horton	0.786	4	0.0794347	No
Nb	Verwood	-	22	-	No
	Alderholt	0.863	29	0.0013939	Yes
	Laverstock	0.985	30	0.9446743	No
	Horton	0.897	23	0.0220582	Yes
Zr	Verwood	0.985	30	0.9424280	No
	Alderholt	0.984	30	0.9099837	No
	Laverstock	0.959	30	0.2936928	No
	Horton	0.964	30	0.3896941	No
Sr	Verwood	0.840	28	0.0005975	Yes
	Alderholt	0.921	30	0.0283854	Yes
	Laverstock	0.969	30	0.5149249	No
	Horton	0.696	30	0.0000014	Yes
Rb	Verwood	0.916	30	0.0210816	Yes
	Alderholt	0.969	30	0.5126295	No
	Laverstock	0.951	30	0.1850970	No
	Horton	0.890	30	0.0048978	Yes
Bi	Verwood	-	12	-	No
	Alderholt	0.466	17	0.0000007	Yes
	Laverstock	0.891	17	0.0484387	Yes
	Horton	0.912	13	0.1934021	No
As	Verwood	0.864	18	0.0142858	Yes
	Alderholt	0.753	27	0.0000235	Yes
	Laverstock	0.783	29	0.0000422	Yes
	Horton	0.721	27	0.0000078	Yes
Pb	Verwood	0.711	30	0.0000023	Yes
	Alderholt	0.805	30	0.0000803	Yes
	Laverstock	0.726	30	0.0000038	Yes
	Horton	0.759	30	0.0000127	Yes
W	Verwood	0.982	10	0.9729842	No
	Alderholt	0.900	14	0.1138120	No
	Laverstock	0.837	5	0.1571109	No
	Horton	0.936	9	0.5453846	No
Zn	Verwood	0.745	28	0.0000134	Yes
	Alderholt	0.573	30	0.0000000	Yes
	Laverstock	0.892	30	0.0052458	Yes
	Horton	0.889	30	0.0045362	Yes
Cu	Verwood	0.736	20	0.0001111	Yes
	Alderholt	0.926	25	0.0688157	No
	Laverstock	0.966	7	0.8716089	No
	Horton	0.779	10	0.0080257	Yes

	Shapiro-Wilk Tests of Normality				
Element	Site	Statistic	Degrees of freedom	P Value	Normal distribution of data?
Fe	Verwood	0.815	30	0.0001225	Yes
	Alderholt	0.976	30	0.7164914	No
	Laverstock	0.937	30	0.0744100	No
	Horton	0.537	30	0.0000000	Yes
Mn	Verwood	0.608	8	0.0001978	Yes
	Alderholt	0.918	24	0.0523721	Yes
	Laverstock	0.877	9	0.1468509	No
	Horton	0.616	13	0.0000905	Yes
Cr	Verwood	0.914	30	0.0187322	Yes
	Alderholt	0.951	30	0.1827548	No
	Laverstock	0.980	30	0.8184687	No
	Horton	0.948	30	0.1501225	No
Ti	Verwood	0.873	30	0.0019953	Yes
	Alderholt	0.873	30	0.0019882	Yes
	Laverstock	0.963	30	0.3620989	No
	Horton	0.882	30	0.0032061	Yes
Ca	Verwood	0.929	24	0.0909059	No
	Alderholt	0.727	30	0.0000039	Yes
	Laverstock	0.885	30	0.0037601	Yes
	Horton	0.476	27	0.0000000	Yes
K	Verwood	0.926	30	0.0381373	Yes
	Alderholt	0.672	30	0.0000006	Yes
	Laverstock	0.963	30	0.3772031	No
	Horton	0.813	30	0.0001149	Yes
K	Verwood	0.926	30	0.0381373	Yes
	Alderholt	0.672	30	0.0000006	Yes
	Laverstock	0.963	30	0.3772031	No
	Horton	0.813	30	0.0001149	Yes
Al	Verwood	0.939	30	0.0861449	No
	Alderholt	0.956	30	0.2404640	No
	Laverstock	0.867	29	0.0017106	Yes
	Horton	0.953	30	0.2015204	No
P	Verwood	0.702	30	0.0000017	Yes
	Alderholt	0.890	30	0.0049319	Yes
	Laverstock	0.857	29	0.0010493	Yes
	Horton	0.632	29	0.0000003	Yes
Si	Verwood	0.923	30	0.0327410	Yes
	Alderholt	0.893	30	0.0057507	Yes
	Laverstock	0.972	30	0.6095302	No
	Horton	0.904	30	0.0104143	Yes
Cl	Verwood	0.972	13	0.9208514	No
	Alderholt	0.936	18	0.2444421	No
	Laverstock	0.868	19	0.0133197	Yes
	Horton	0.855	12	0.0428256	Yes
S	Verwood	0.740	30	0.0000063	Yes
	Alderholt	0.819	30	0.0001495	Yes
	Laverstock	0.768	30	0.0000180	Yes
	Horton	0.711	30	0.0000023	Yes
Mg	Verwood	0.866	13	0.0461040	Yes
	Alderholt	0.916	16	0.1478827	No
	Laverstock	0.923	6	0.5245224	No
	Horton	0.866	11	0.0695652	No

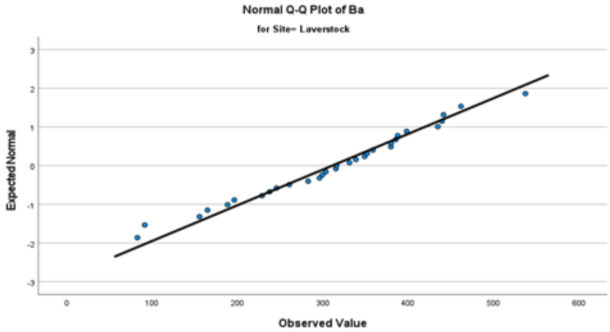
Q-Q Plots For Pilot Study Data

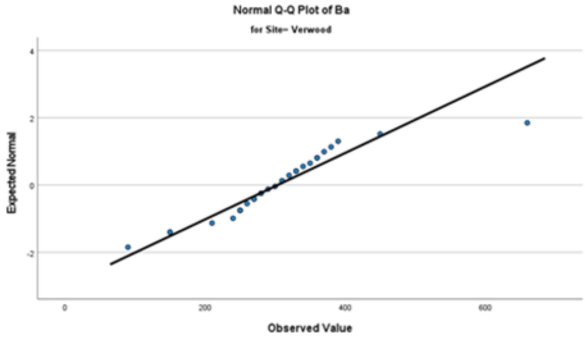
Ba: Horton (below left), Alderholt (below right)



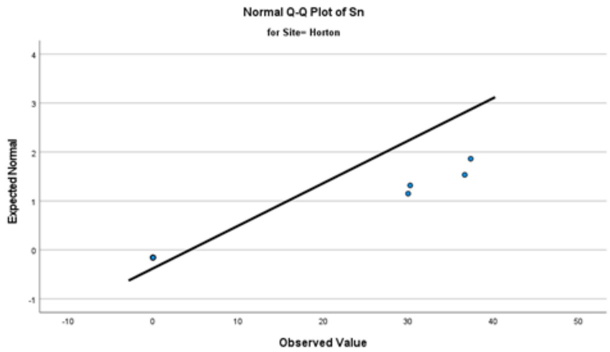


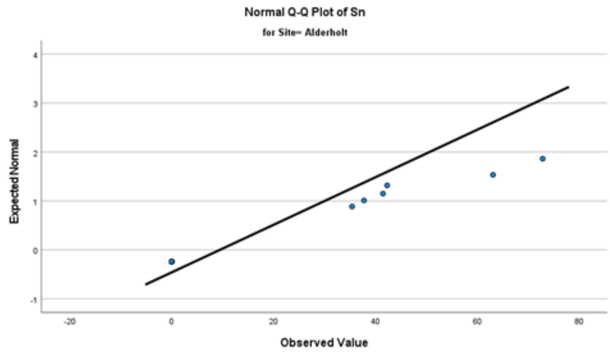
Ba: Laverstock (below Left), Verwood (below right)



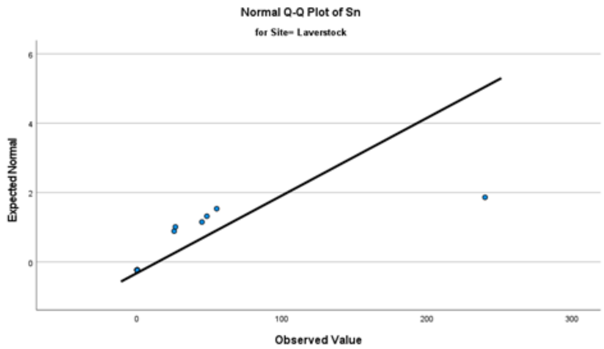


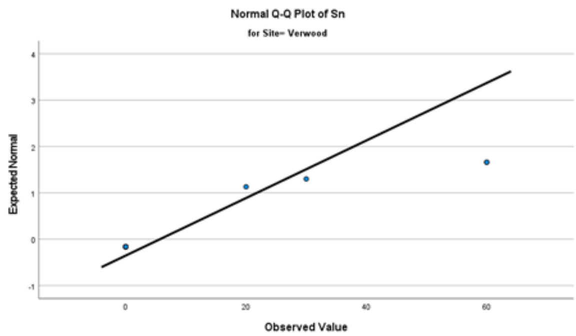
Sn: Horton (below left), Alderholt (below right)



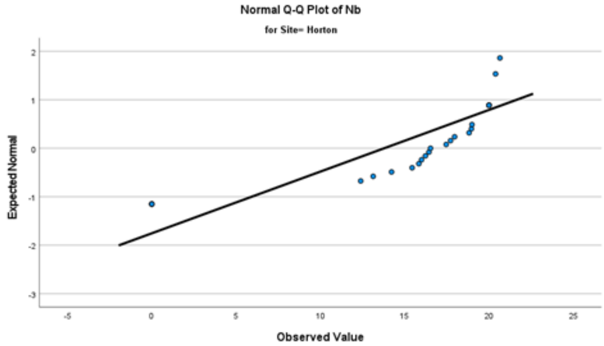


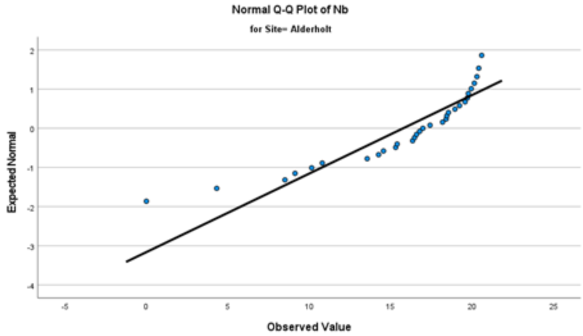
Sn: Laverstock (below Left), Verwood (below right)



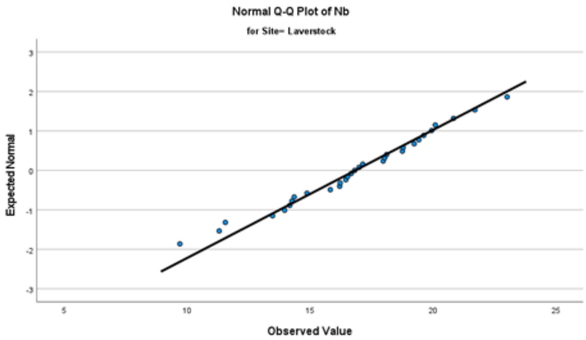


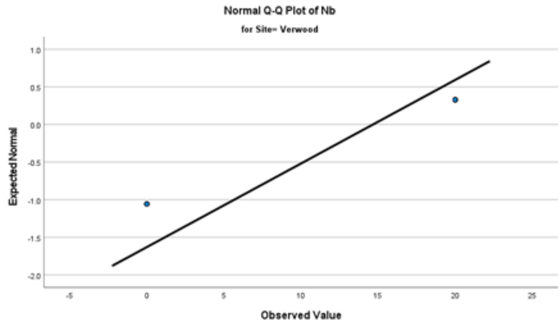
Nb: Horton (below left), Alderholt (below right)



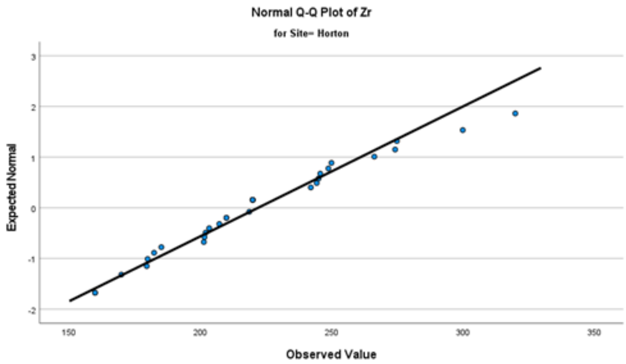


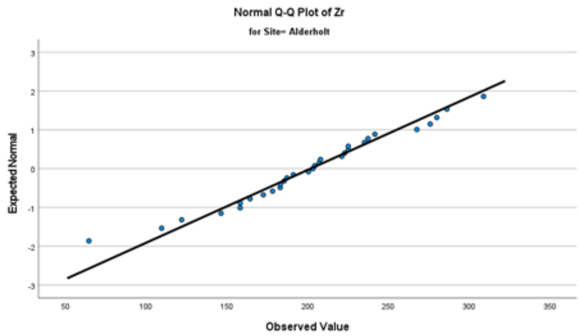
Nb: Laverstock (below Left), Verwood (below right)



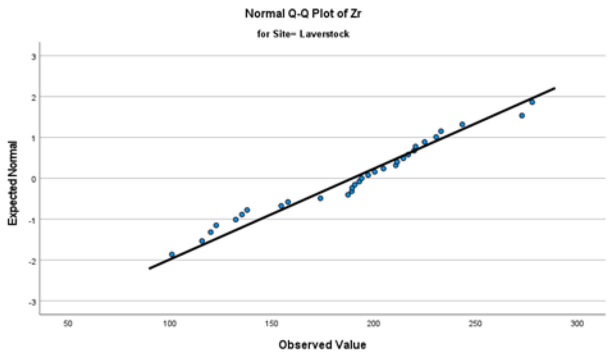


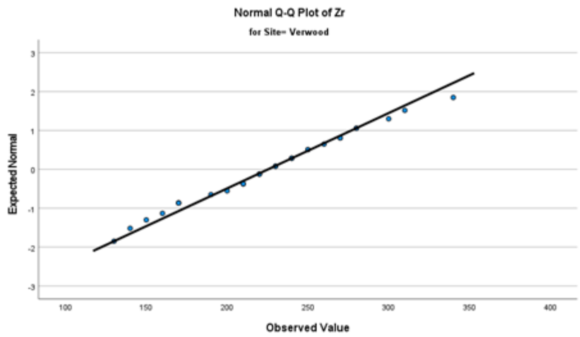
Zr: Horton (below left), Alderholt (below right)



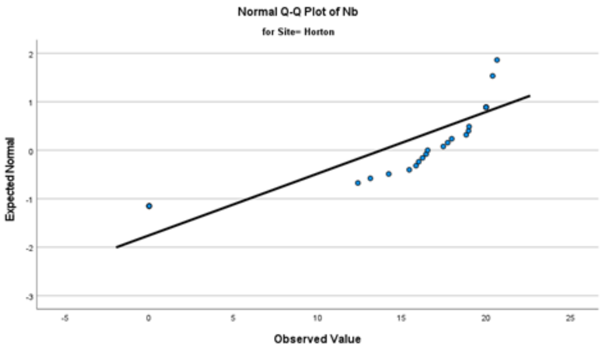


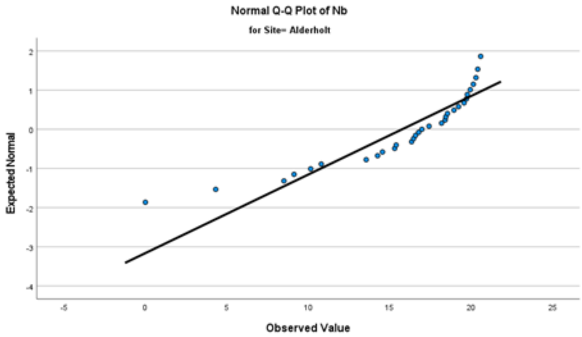
Zr: Laverstock (below Left), Verwood (below right)



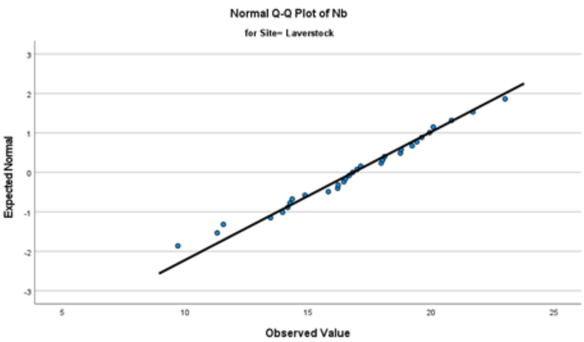


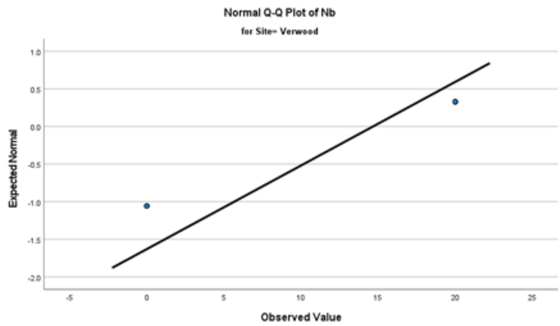
Nb: Horton (below left), Alderholt (below right)



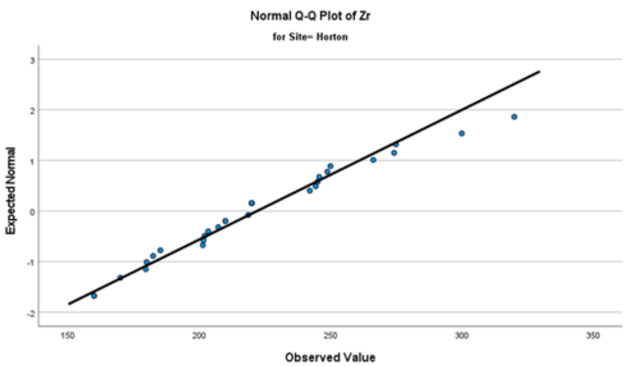


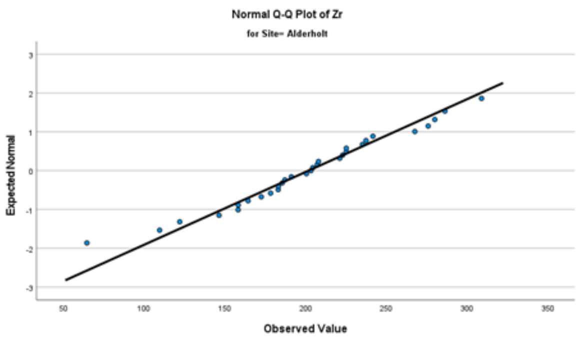
Nb: Laverstock (below Left), Verwood (below right)



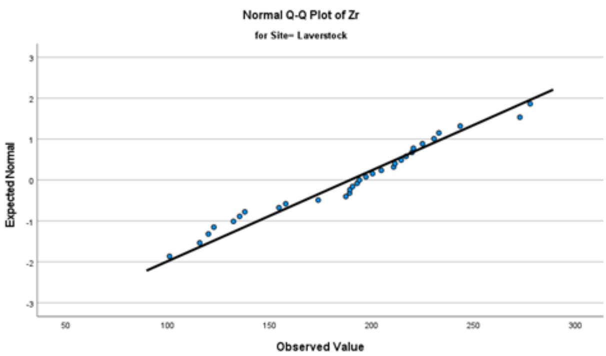


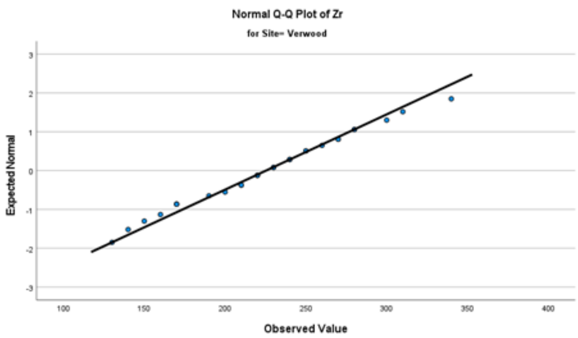
Zr: Horton (below left), Alderholt (below right)



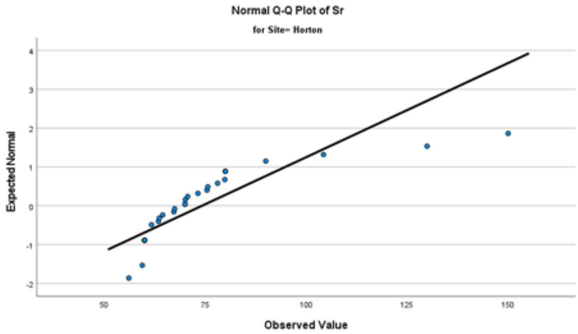


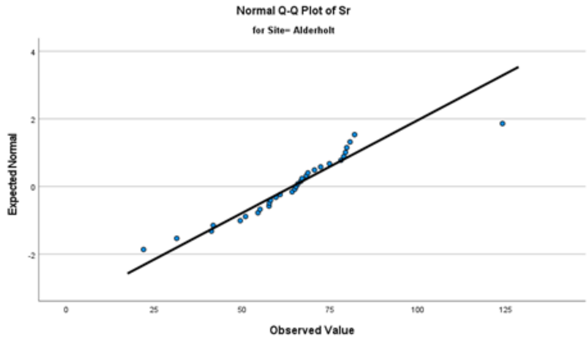
Zr: Laverstock (below Left), Verwood (below right)



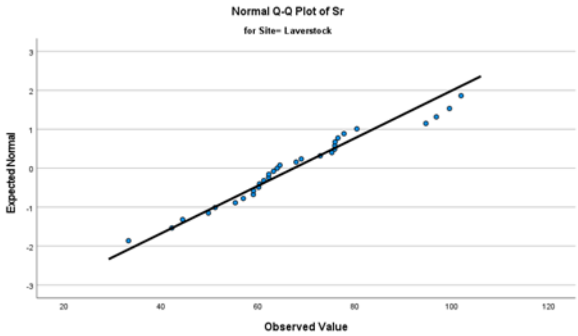


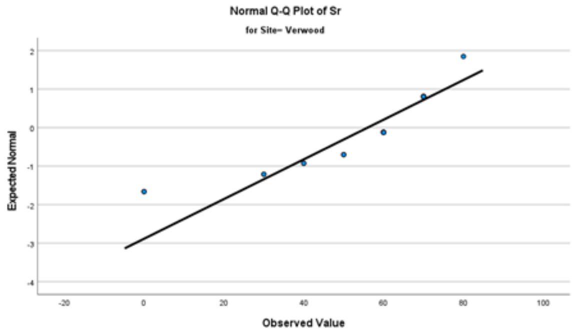
Sr: Horton (below left), Alderholt (below right)



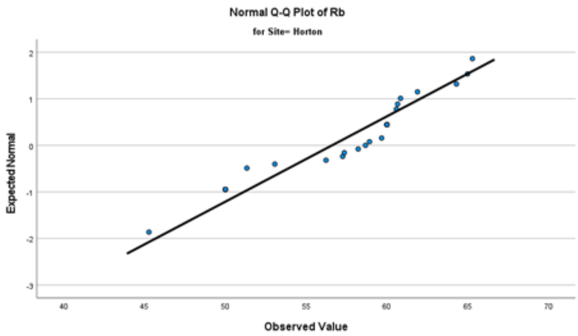


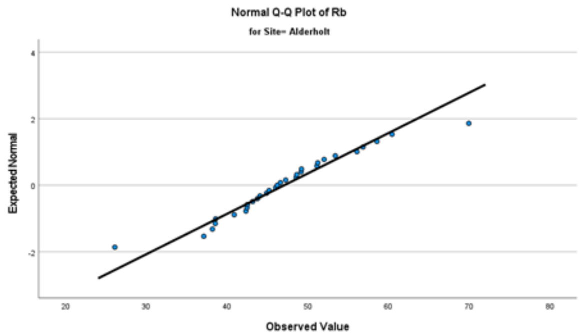
Sr: Laverstock (below Left), Verwood (below right)



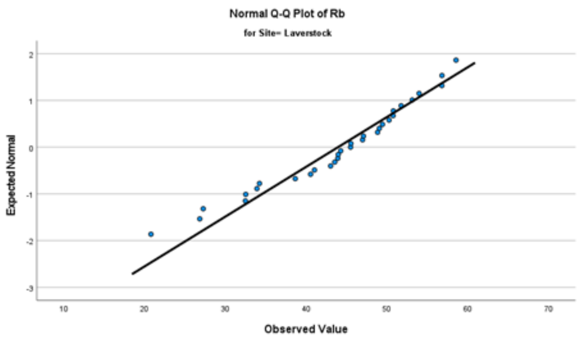


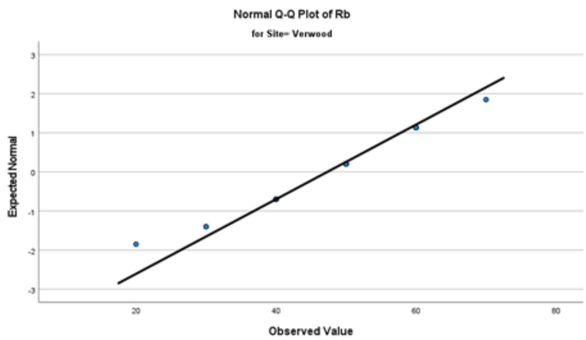
Rb: Horton (below left), Alderholt (below right)



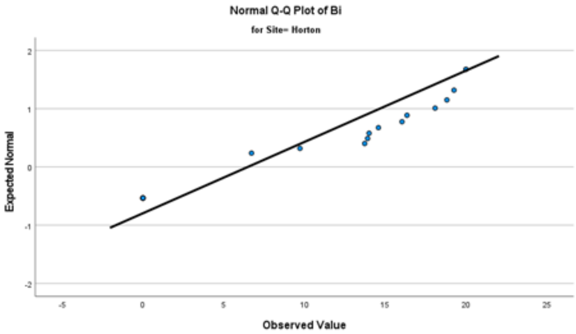


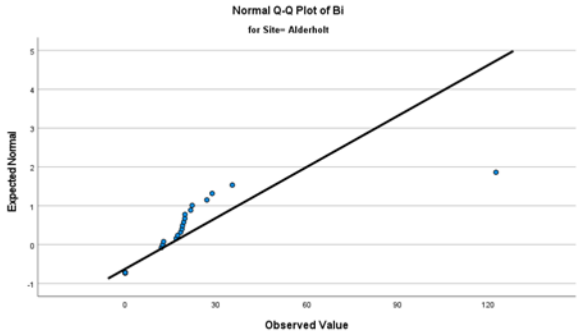
Rb: Laverstock (below Left), Verwood (below right)



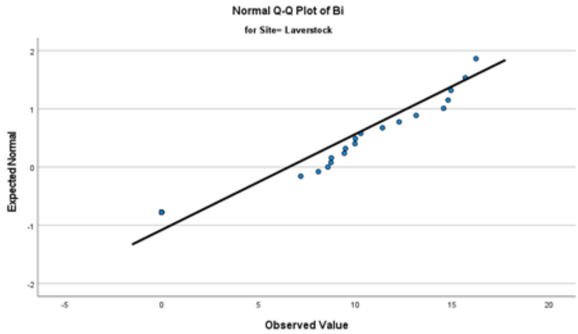


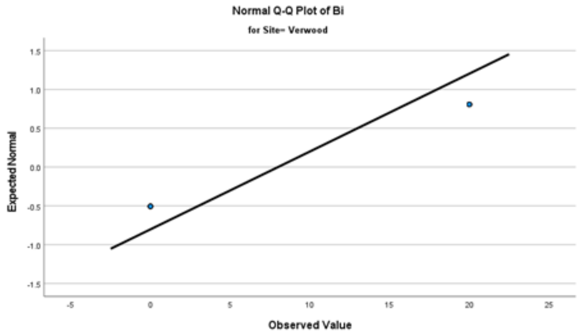
Bi: Horton (below left), Alderholt (below right)



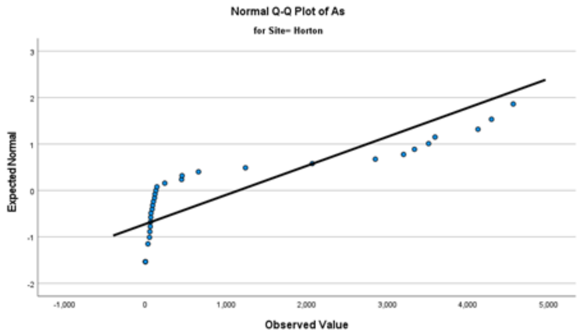


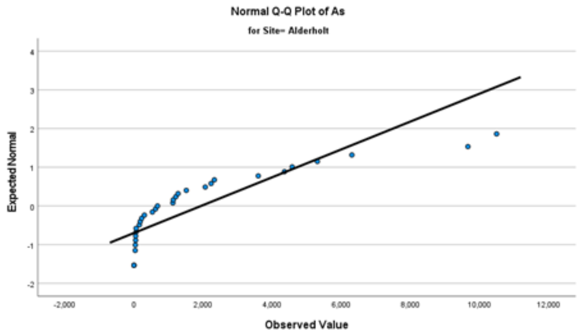
Bi: Laverstock (below Left), Verwood (below right)



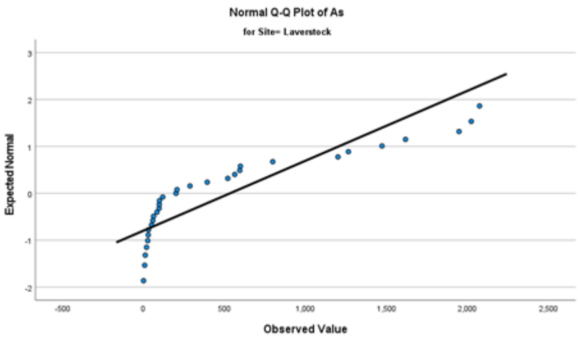


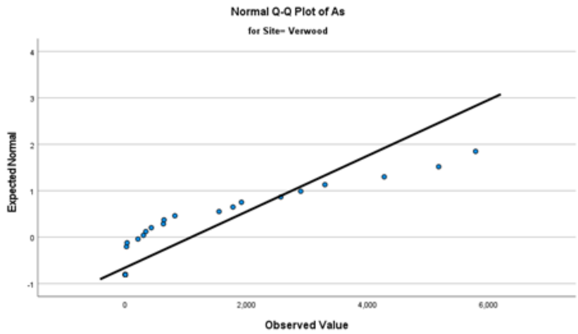
As: Horton (below left), Alderholt (below right)



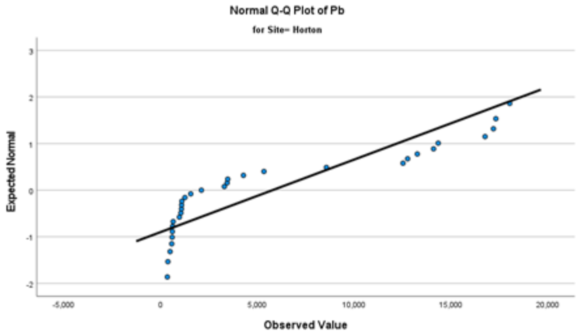


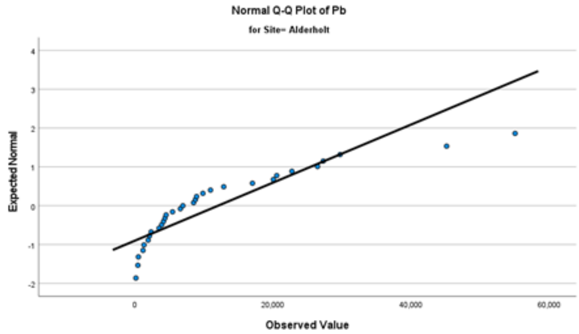
As: Laverstock (below Left), Verwood (below right)



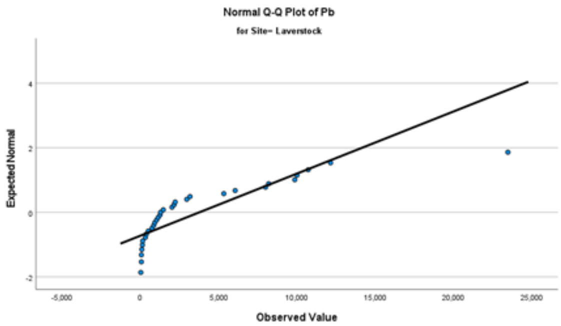


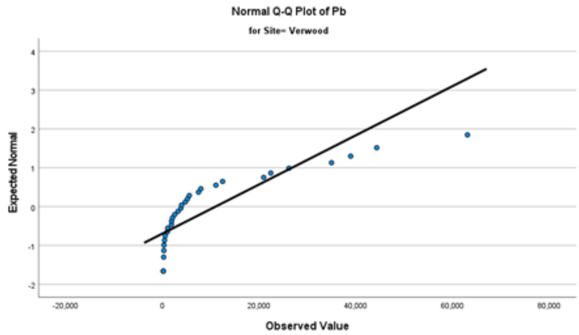
Pb: Horton (below left), Alderholt (below right)



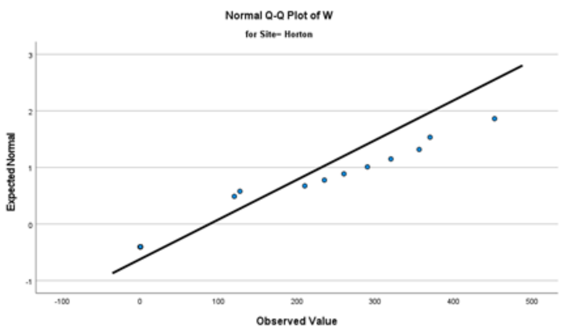


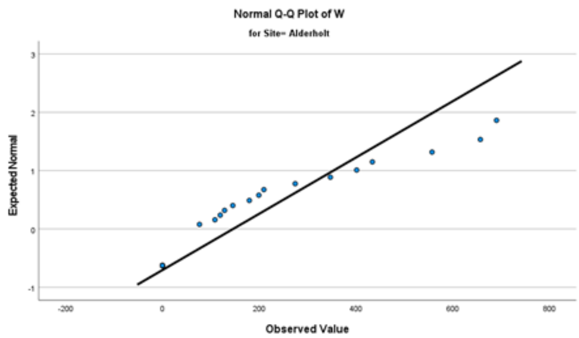
Pb: Laverstock (below Left), Verwood (below right)



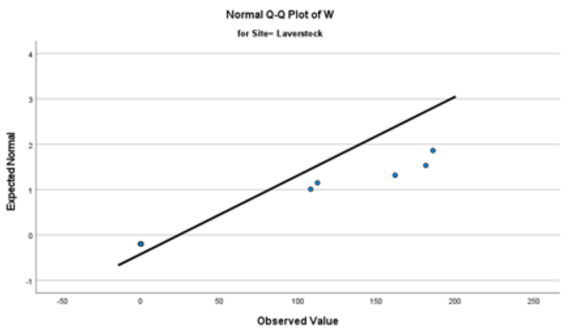


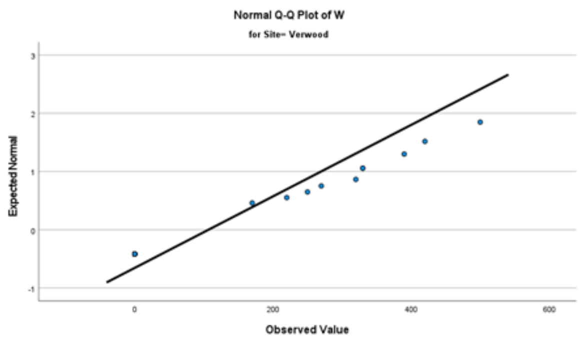
W: Horton (below left), Alderholt (below right)



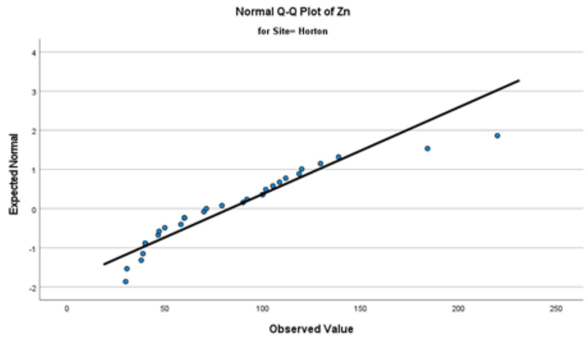


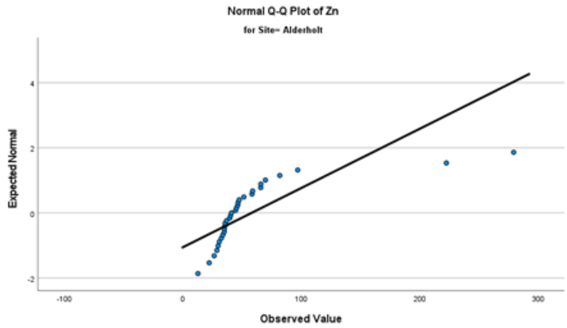
W: Laverstock (below Left), Verwood (below right)



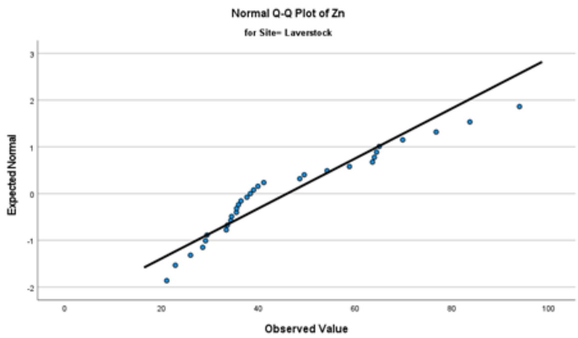


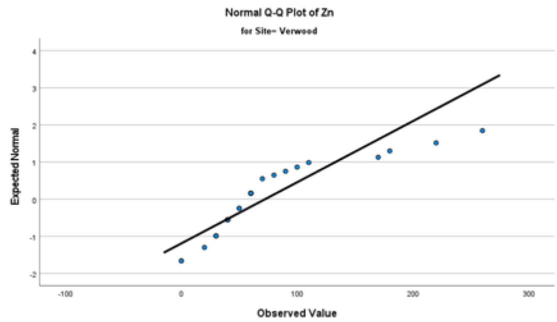
Zn: Horton (below left), Alderholt (below right)



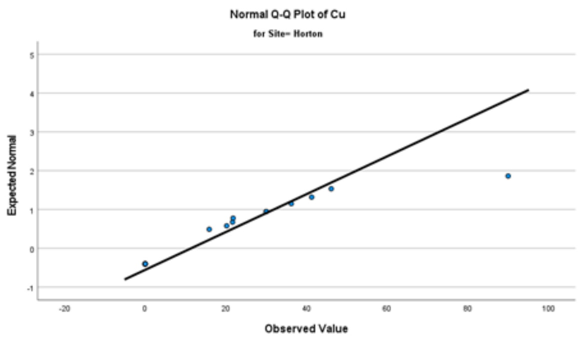


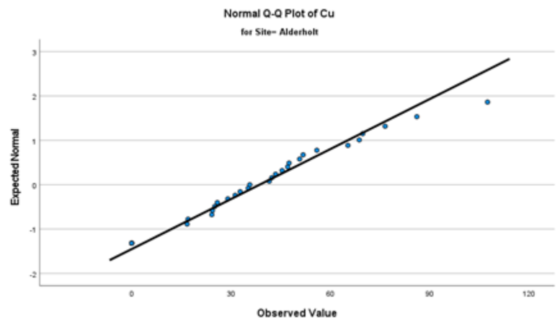
Zn: Laverstock (below Left), Verwood (below right)



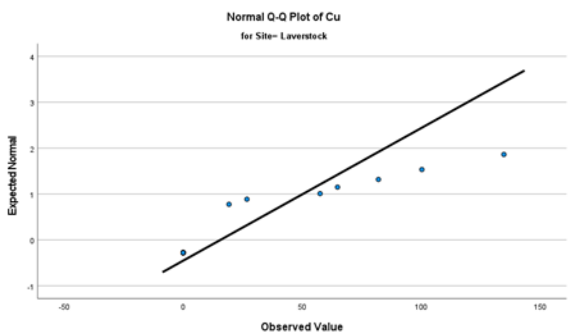


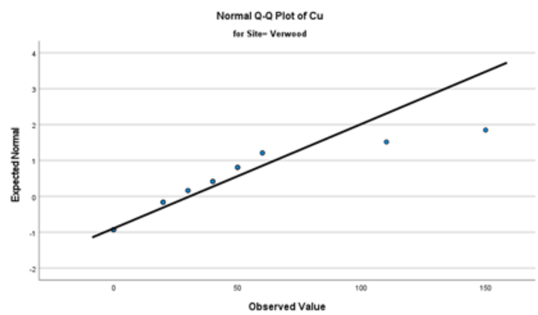
Cu: Horton (below left), Alderholt (below right)



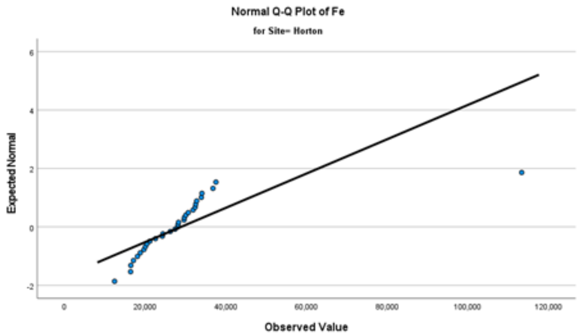


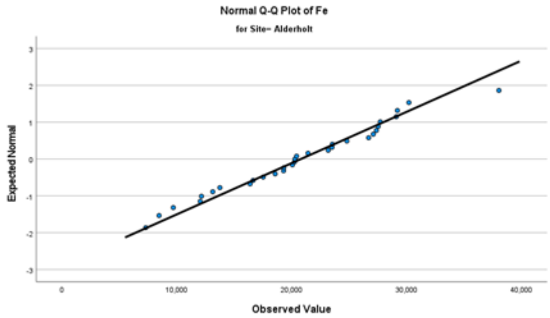
Cu: Laverstock (below Left), Verwood (below right)



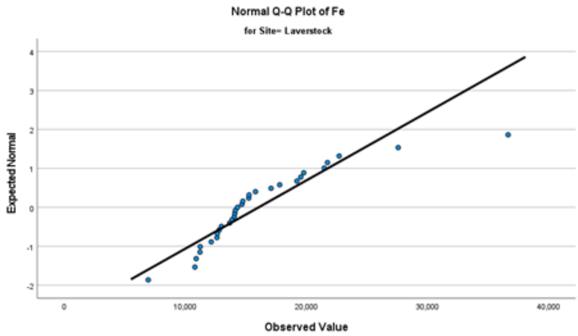


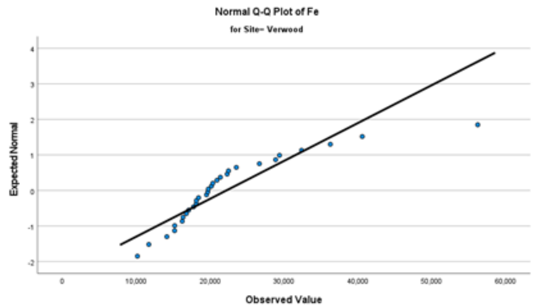
Fe: Horton (below left), Alderholt (below right)





Fe: Laverstock (below Left), Verwood (below right)





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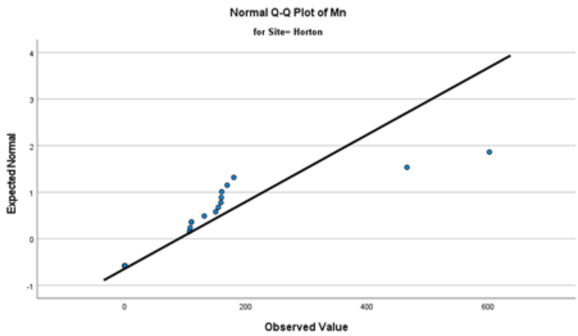

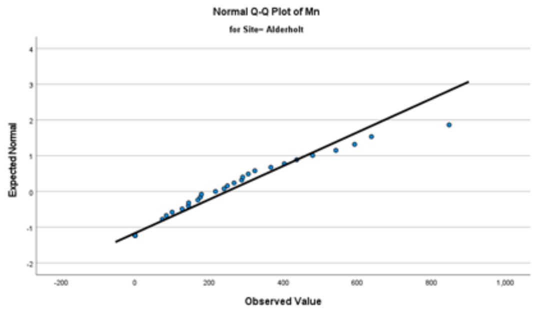

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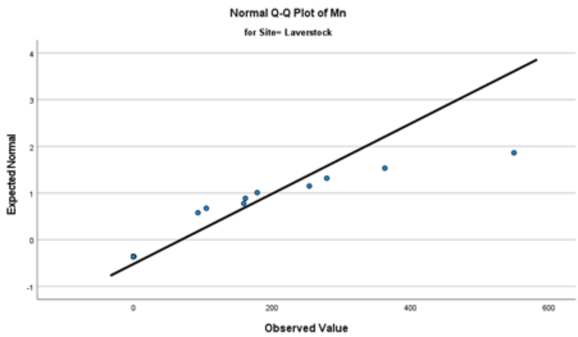

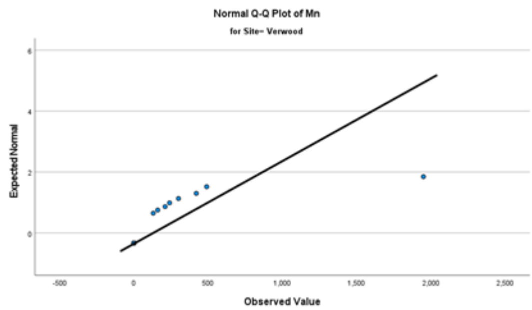

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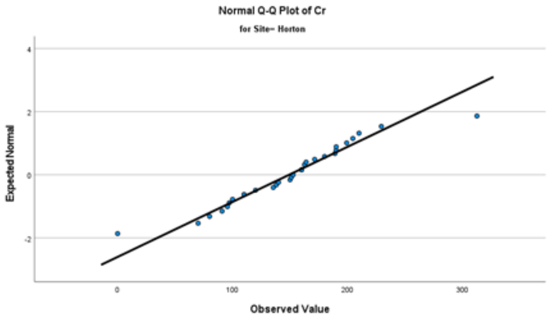

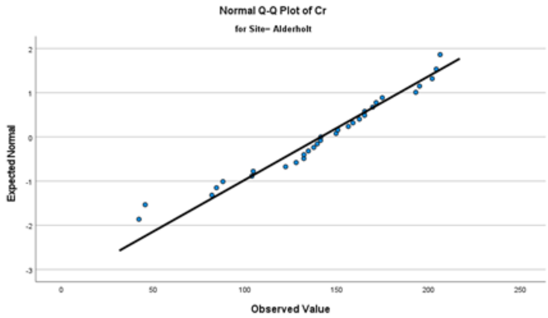

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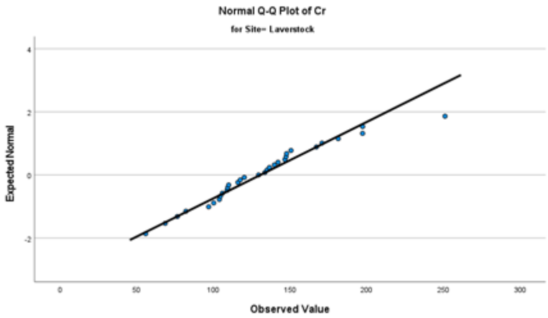

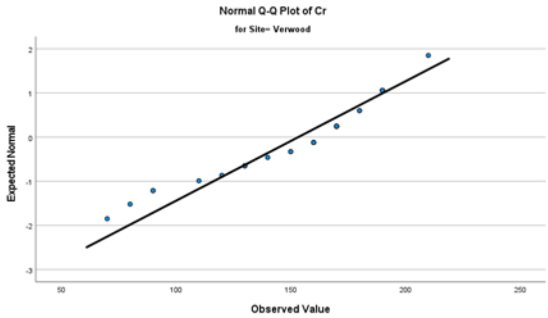

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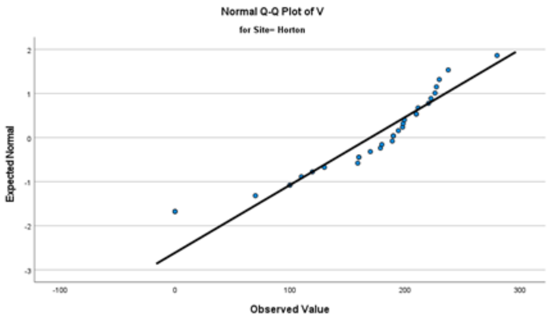

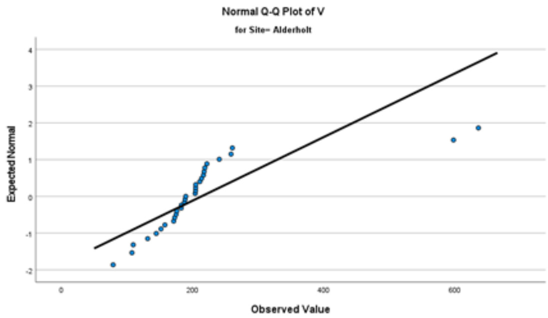

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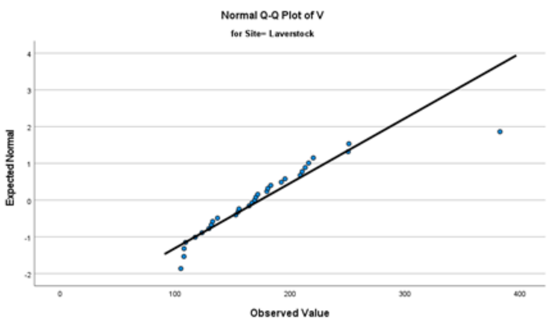

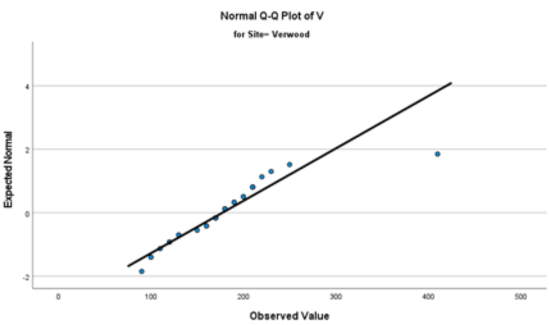

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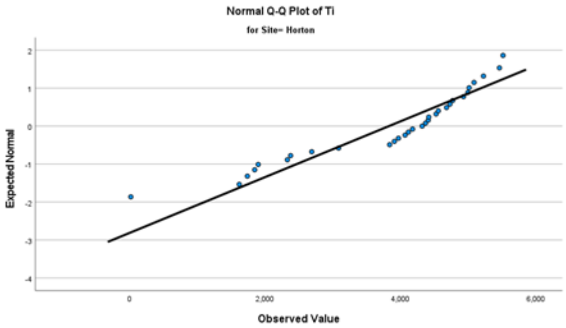

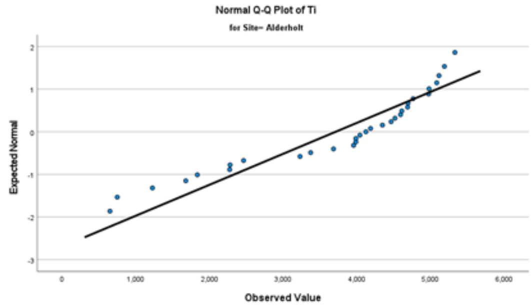

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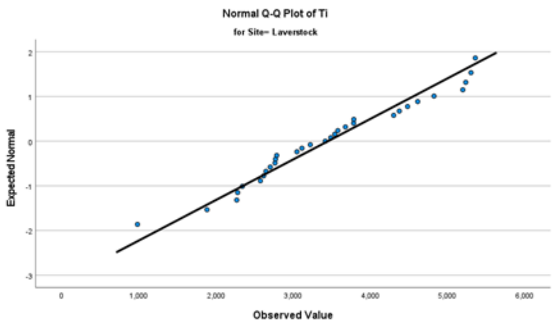

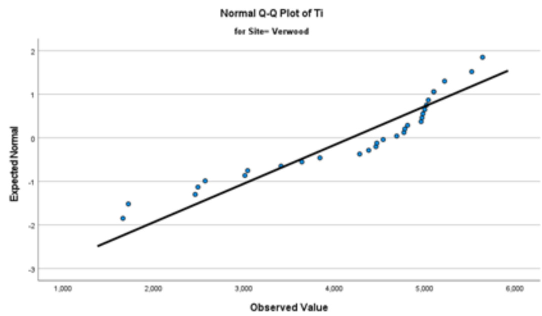

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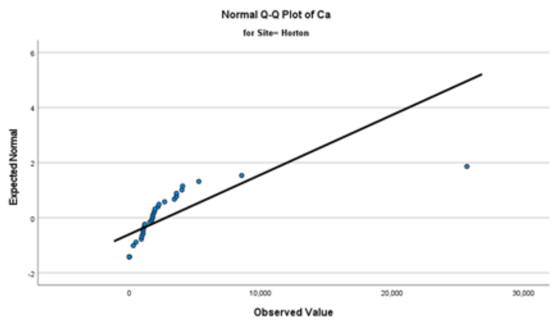

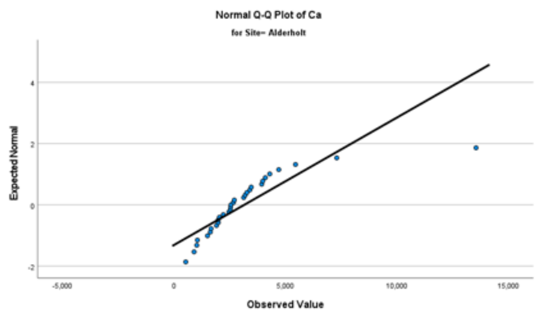

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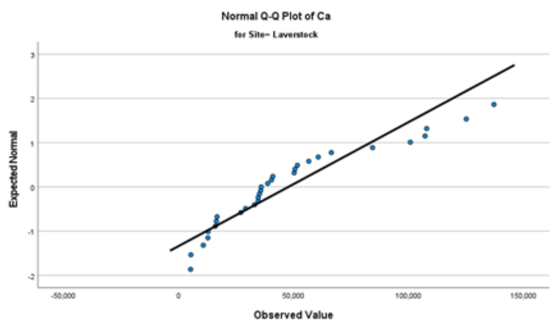

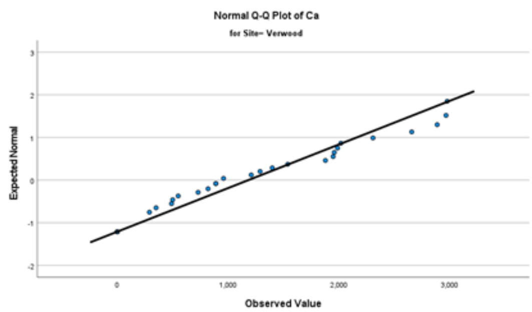

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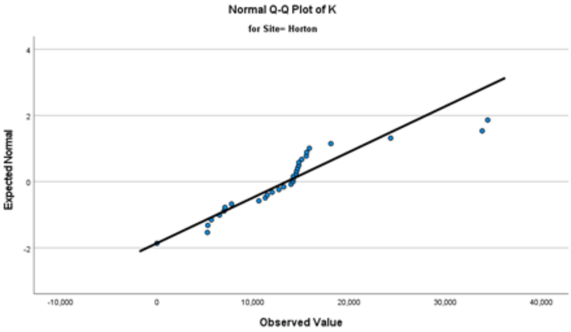

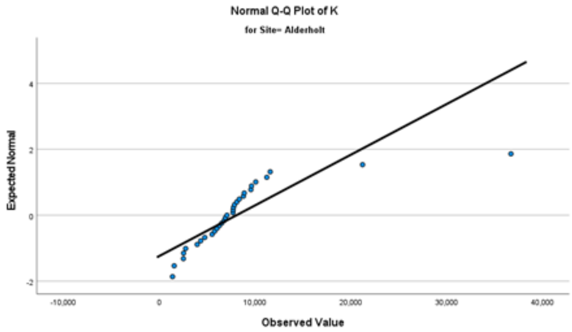

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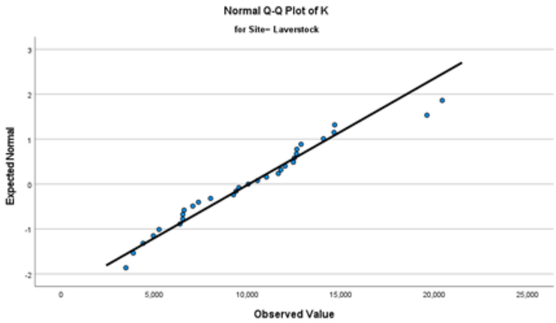

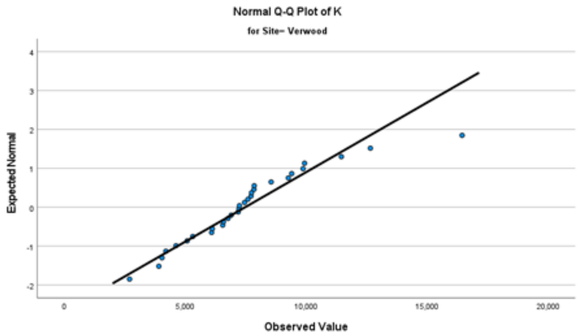

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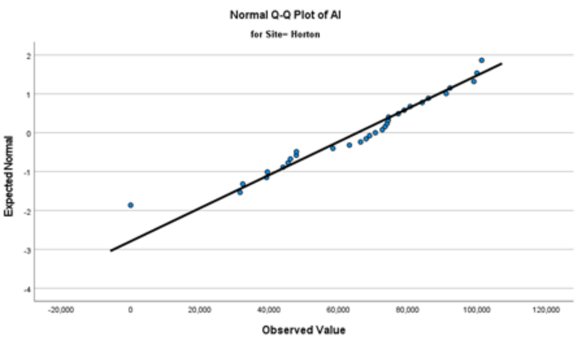

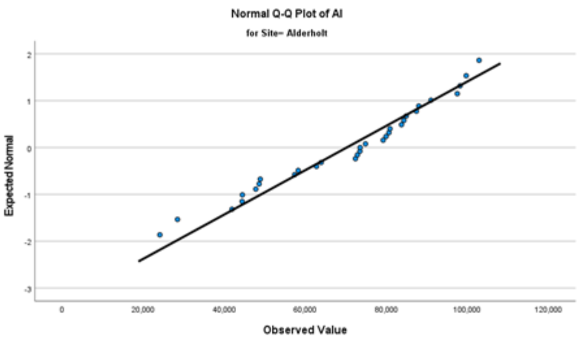

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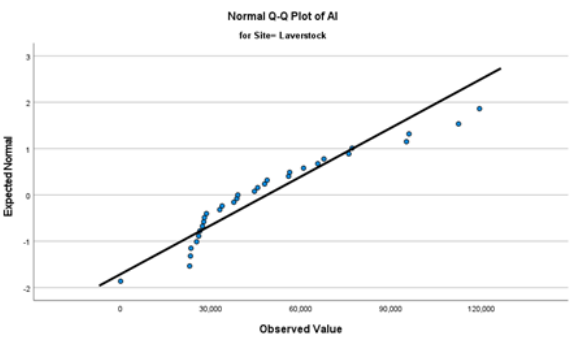

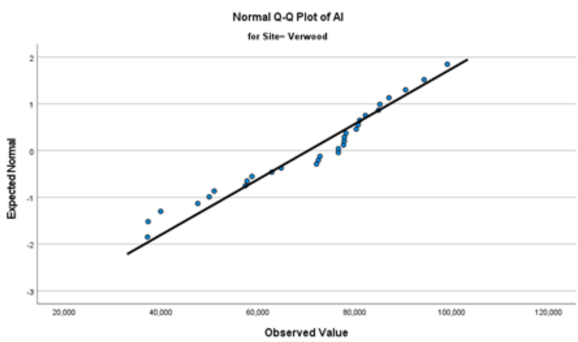

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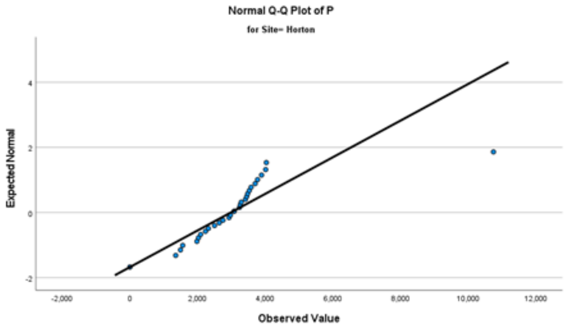

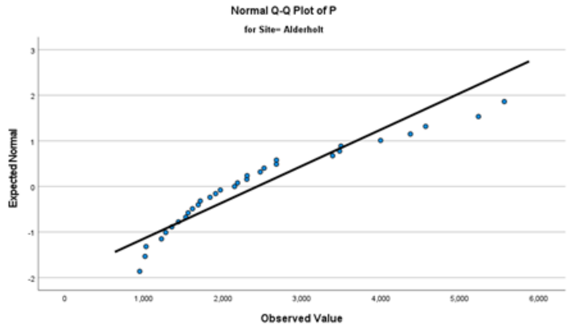

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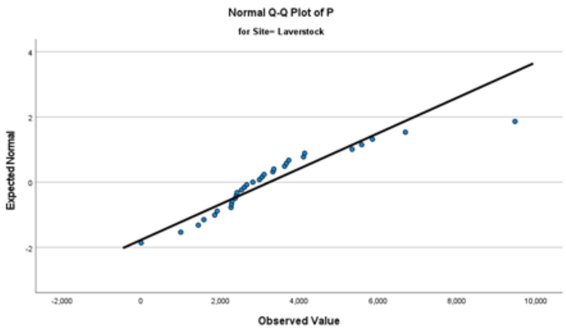

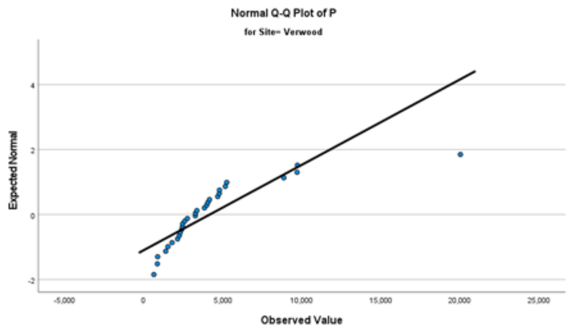

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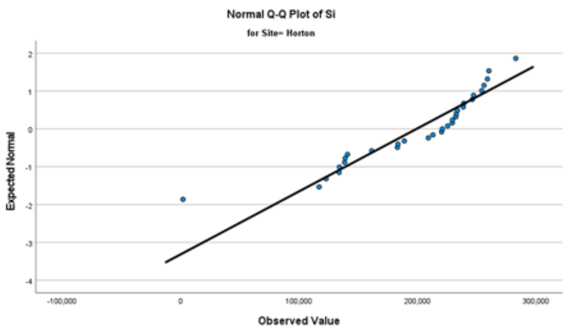

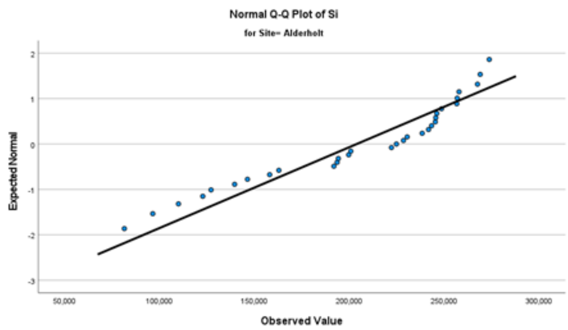

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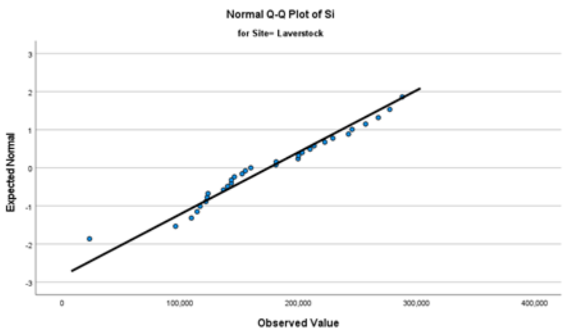

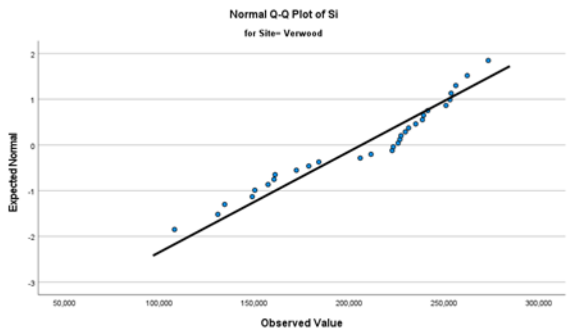

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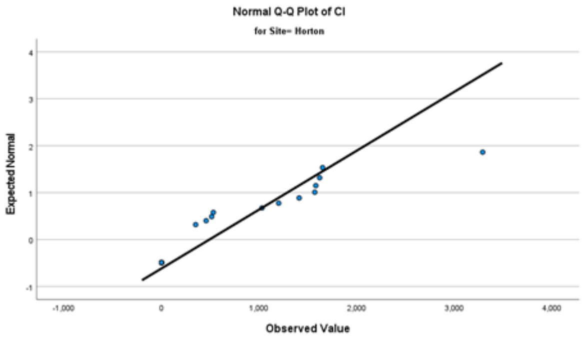

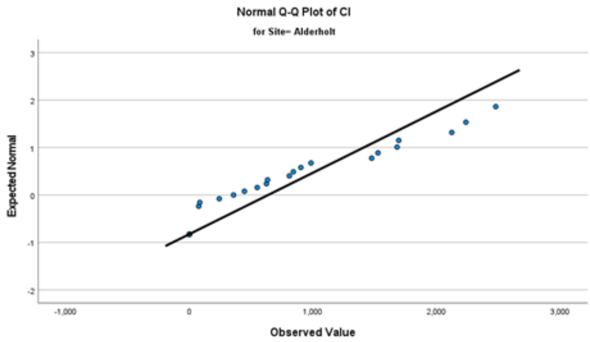

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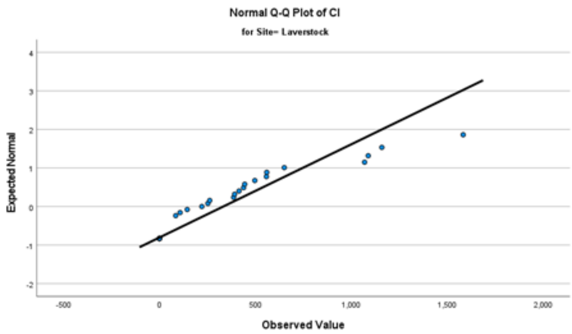

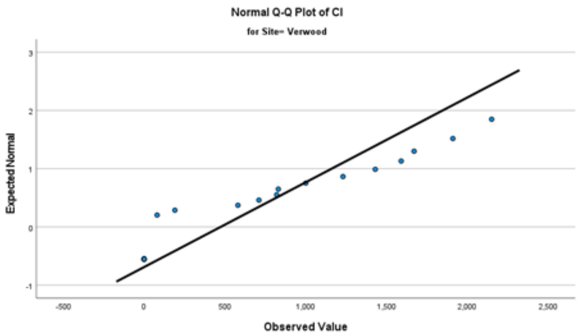

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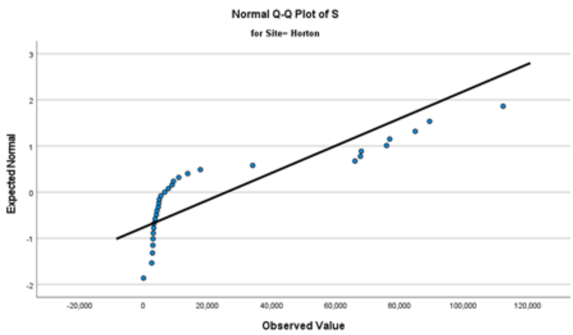

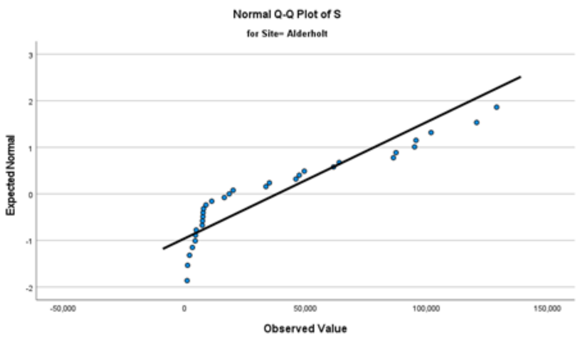

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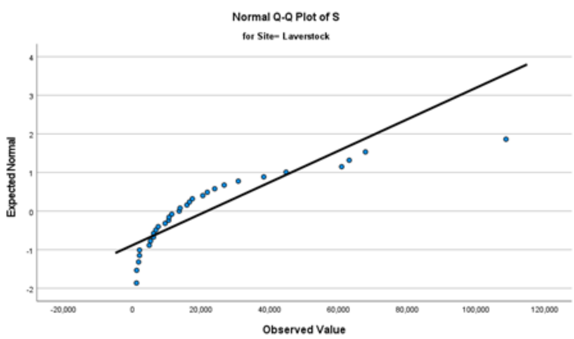

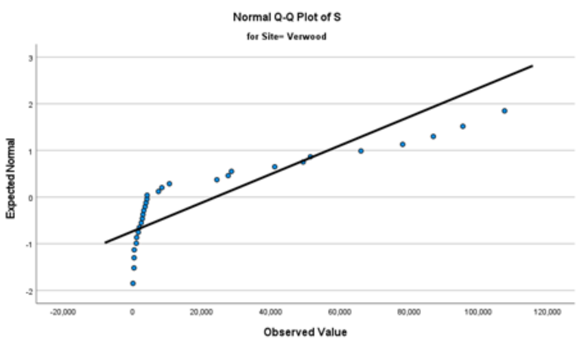

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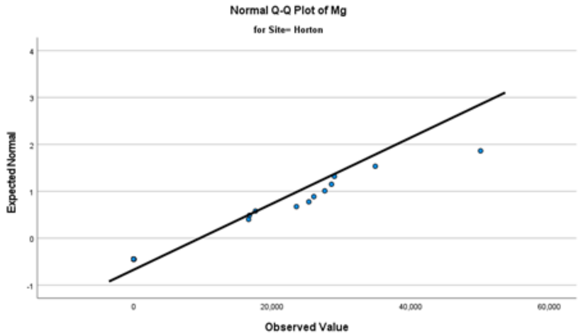

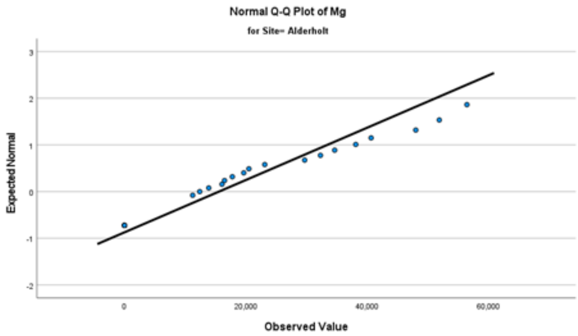

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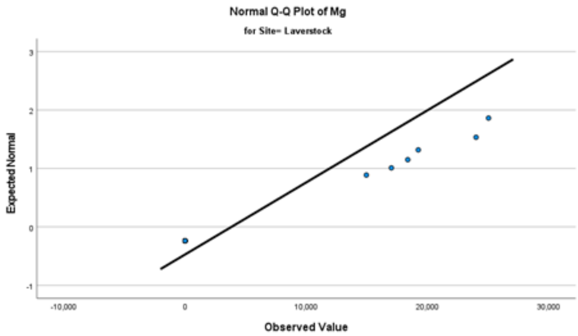

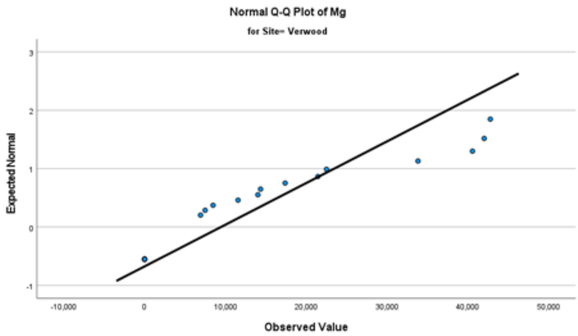

Appendix V:

Land at Pond Farm, Crendell, Dorset

SU085131

Results of a series of geophysical surveys undertaken towards a PhD at Bournemouth University

By D. Carter

May 2018

Non-technical summary

A series of geophysical surveys were conducted over land adjacent to Pond Farm, Crendell, Alderholt, Dorset. The project was undertaken as part of a postgraduate study at Bournemouth University, examining the nature of past pottery production in east Dorset. The aim of the investigation was to establish the presence, absence, and nature of detectable archaeological features on the site, and to ascertain whether any of potential features may relate to past pottery production within the bounds of the site.

The site comprises two pasture fields (an eastern and western field) with a combined area of approximately 0.5 hectares. Both fields lie parallel to an open drainage ditch immediately to the south of Crendell Common, with Pond Farm lying to the north east of the survey area. The ground was wet and boggy at the time of survey, but otherwise clear of obstructions, however heavy rain later flooded areas of the site.

The investigation comprised a magnetic survey by gradiometer, earth resistance, and topsoil magnetic susceptibility. These demonstrated discrete areas of potential archaeological activity. Two potential structures were identified during the survey, the first lies in the western field, the second lying relatively central within the eastern field - within what appears to be a potential ditched enclosure. To the northwest of this area lie several anomalies that have provided relatively high levels of magnetism. The possibility that these relate to high temperature industry is relatively high, although no above ground evidence exists to reflect this, apart from the presence of an extensive pond that not only gives Pond Farm its name, but also may have been used historically as a clay pit. A possible hearth feature lies in the north western portion of the field, and may lie within a partial enclosed area. The geophysical survey was undertaken in February 2018.

Acknowledgements

The investigations were undertaken by D. Carter with the help of A. Dedden and R. Carter. The data was processed and interpreted by D. Carter who produced this report. Advice on interpretation was sought from P.Cheetham. The permission and aid of the Chiverton family for granting access to this important area of east Dorset is gratefully acknowledged.

1. Introduction

1.1. Project Background

1.1.1. This report outlines the details of the site location, the methodology used, the survey results and the interpretation of the geophysical data collected.

1.1.2. Multiple geophysical surveys were undertaken on land near Pond Farm, Crendell, Dorset; the site is centred on SU085131 (Fig. V.1). Crendell lies west of Alderholt and north of the dispersed settlement of Cripplestyle.

1.1.3. The surveys form part of a series of investigations on sites across east Dorset considered to have potential for archeological evidence for medieval and post-medieval ceramics production. The work was carried out as part of the data collection towards a Doctorate of Philosophy within the Faculty of Science and Technology, at Bournemouth University.

1.1.4. The aims of the survey comprise:

- To conduct a series of geophysical surveys covering as much as the area the area in question as possible;
- To determine the presence or absence of archaeological features and to map the locations of these articles;
- To identify and clarify the potential significance of any archaeological features highlighted.

1.2. Site Location

1.2.1. The site is located within the middle of the village of Crendell, which lies 4.5km north of Verwood and 10km northwest of Ringwood, within the county of Dorset.

1.2.2. The site lies at the base of a north facing slope in the bottom of valley. The area is dominated by pasture fields covered in grass.

1.3. Geology and Soils

1.3.1. The underlying geology for the site is recorded as Reading clay – comprising undifferentiated sands, clays and gravels; yet the northern part of the site is lies on head deposits of clays and silts (BGS).

1.3.2. It is considered likely that any overlying soils comprise rich loamy or clayey soils deriving from the buried geology and surrounding slopes. These soils are known to be acidic but are considered suitable for a range of archaeological features to be detected by a range of geophysical techniques.

1.4. Archaeological and Historical Background

1.4.1. Crendell lies within the northwest portion of the Parish of Alderholt, and is first mentioned in the early 1600s as ‘Crundole’ on Norden’s map of Cranborne, dated 1605. Crendell is a relatively fossilised landscape that displays a wealth of raw material extraction for pottery production. Mills (2008, p.35) tells us that in 1620 it can be seen to be named as ‘Crendall’, he goes on to state that the place name itself is important as it may originate from the old English word ‘crundell’ referring to a pit or quarry. It is unclear if this is a reference to clay or chalk, as both lie within the vicinity.

1.4.2. The Norden Map (1605) shows numerous ‘pitts of potters clay’ on the common adjacent to ‘Goldoake’, and occupying the northern extent of the survey area. While a wealth of evidence for raw material extraction can be attributed to Crendell, Norden’s map does not exhibit any visible kilns for ceramic production.

1.4.3. In terms of early modern and post-medieval pottery production, the village exhibits four kiln sites (Alderholt Kilns 1-4 in Algar *et al.* 1987), all attributed to the Verwood-type pottery industry, only one has been excavated. Alderholt kiln 3 was excavated by volunteers of the Salisbury Museum Archaeological Research Group in 1975, but the results were never published; Algar *et al.* 1987 suggest an active date range 1750-1810. This site lies adjacent to the north of the survey area, on the opposite side of the road.

1.4.4. Pond Farm was previously the site of a Verwood-type pottery, Alderholt kiln 4. The location lies immediately to the west of the survey area, with the pond at Pond Farm being a probable former clay pit. The site here is considered to have been active between the 1700s going out of business before the creation of the tithe map in 1840. The kiln was likely demolished in the 1950s to make room for an agricultural barn.

2. Methodology

2.1. Introduction

2.1.1. Three techniques were considered appropriate to meet the aims of the investigation. The first being magnetic susceptibility; secondly, magnetometry; and thirdly, earth resistance. The first to plot areas of magnetic enhancement – likely to derive from human interaction evidenced through heating as part of ceramics production, and the second to aid in defining any potential structural elements or features of low-magnetism.

2.1.2. Field conditions at the start of the survey were acceptable; however, data collection was not possible over some areas due to the presence of large areas of surface water following heavy rain and thawing of frost. Several of bails of hay were located towards the northern boundary. It is felt that these obstructions had a limited impact on the overall survey; in total 0.44 hectares was surveyed.

2.1.3. Survey grid points were established across the site using a Leica Viva GNSS with an accuracy of 0.03m, at 30x30m intervals.

2.2. Topsoil Magnetic Susceptibility Survey

2.2.1. Due to the large scale of the survey area, data were collected by taking five readings within a 5m x 5m square (one near each corner and a rough centre point), the median average of these values was ascertained and selected to represent the entire 5mx5m square. The 5m x 5m grid for this survey was super imposed over that of the existing 30mx30m grid used for both the earth resistance and the gradiometer survey.

2.3. Gradiometer Survey

2.3.1. The survey was conducted in accordance with English Heritage guidelines (2008), using a Bartington Grad601-2 fluxgate gradiometer instrument, which has a vertical separation of 1m between sensors. Data were collected at 0.25m intervals along transects spaced 1m apart with an effective sensitivity of 0.03nT. Data were collected in the zigzag method to speed up data collection.

2.3.2. Data from the survey was subject to minimal data correction processes, using Terrasurveyor. These processes comprise a zero-mean traverse function (±5nT thresholds) applied to correct for any variation between the two Bartington sensors used, and a de-step function to account for variations in traverse position due to varying ground cover and topography. These two steps were applied to all survey areas, with no interpolation applied. In places, further data processing was undertaken to reduce the effect of periodic errors within the data resulting largely from ground conditions.

2.4. Earth Resistance Survey

2.4.1. The earth resistance survey was conducted using a Geoscan RM15 resistance meter, mounted to a frame with a probe spacing of 0.5m. Data were collected at 1m intervals along transects spaced 1m apart with an effective sensitivity of 0.1 ohms. Data were collected in the zigzag method, and the same 30m grid system as that outlined above was utilized.

2.4.2. The processing of the data set was undertaken using Terrasurveyor. Basic data processing was carried out using the ‘despike’ process in order to remove any high resistance data spikes. Then a standard ‘high pass’ filter was applied to the data in order to reduce the effects of the background geology (reducing any large variations present in the data set) and to enhance the visibility of any archaeological features against the surrounding recorded values. Finally, the data were interpolated or smoothed to make it more readily comprehensible.

3. Results

3.1. *Introduction*

3.1.1. The geophysical surveys were successful in identifying anomalies of possible archaeological interest across the site, These comprise at least two possible structures, one of which appears to be partially bounded within probable enclosure ditches. In addition, an area of enhanced magnetism, containing numerous discrete magnetic anomalies was identified. Finally, a hearth, or highly magnetic discrete feature, that may be partially enclosed by linear features. The size and scale of this feature makes it unlikely to be associated with pottery production, especially as this lies separate from any visible ‘building-like’ anomaly. In addition to all of the aforementioned, regions of increased magnetic response relating to ferrous anomalies and a number of additional linear trends have also been detected.

3.2. Interpretation

Topsoil Magnetic Susceptibility Survey (Fig. V.2)

3.3. Areas of high values reinforce what is present within gradiometer dataset, in that magnetically enhanced material appears to lie within the northern extremes of the survey area in the eastern field. The results from the western field reinforce that of the earth resistance survey.

Gradiometer Survey (Figs. V.3, V.4a and Fig. V.4b)

3.3.1. The most obvious anomalies are a series of linear trends, all of which lie towards the eastern site boundary; these have been labelled as **1**, **2**, **3** and **4** in Fig. V.39b. These are almost certainly of archaeological origin. Anomaly **1** appears to correlate with an enclosure. Anomaly **5** lies within this enclosure, and anomaly **3** and **4** possibly form a western boundary. Anomaly **5** comprises an area of enhanced magnetism, possibly from a building or buried platform for a structure. Anomaly **6** represents an area of less enhanced magnetism, but is still probably of archaeological origin. These anomalies comprise areas of variable values of positive and negative magnetic readings. These may relate to the location of remains of buildings, but this would need to corroborated with other sources of information. The anomaly is thought to represent a building as this location correlates with a building shown on Norden's 1605 estate map.

3.3.2. Anomaly **8** is likely to represent a similar structural arrangement to that previously mentioned, forming a separate tenement style plot with platform and/or building.

3.3.3. Anomaly **7** comprises a circular arrangement of relatively low magnetism. The anomaly is potentially of archaeological origin, but the shape in plan is unusual. The anomaly is of low magnetism.

3.3.4. The northern extent of the survey area, to the northeast, is occupied by an extensive zone of *increased* magnetic responses. Within this lies discrete concentrations, including anomalies **9**,**10** and **11**. It is probable that these represent clay extraction pits – as shown on Norden's map as '*pitts of potters clay'*. If these are backfilled with large amounts of ceramic waste then this may explain the high magnetism witnessed from these anomalies.

Earth Resistance Survey (Figs. V.5-V.6)

3.3.5. The earth resistance survey displays some of the same anomalies that are presented in the gradiometer survey. A number of the same linear trends are present such as anomaly **1**, **2**, **3** and **5.** All of these anomalies, bar no. **5** occur as relatively high resistance anomalies, with **5**, demonstrating less resistance.

3.3.6. Anomaly **4** does not appear on the magnetometery data, yet appears on the earth resistance as high resistance anomalies. This is considered to be of probable archaeological origin.

3.3.7. Anomaly **4** does not appear on the magnetometery data, yet appears on the earth resistance as high resistance anomalies. This is considered to be of probable archaeological origin.

3.3.8. Large sections of the survey area were not able to be examined due to the amount of standing water across the area. This has undoubtedly caused a lack of contrast across the survey area within the data – this can be seen, to a degree, in the low resistance results on the eastern side of the survey area.

4. Conclusion

4.1.1. The surveys have successfully identified suspected archaeological features, such as past enclosures, boundary ditches, potential buildings and probable former clay extraction pits; most of these features were shown on historic mapping. The survey has also identified potential buildings that were not shown on any of the historic mapping.

4.1.2. The survey highlights the likelihood that the entire former frontage onto the common land in Crendell was occupied by buildings. Furthermore, the data suggests that an extensive area of common land here was heavily quarried for clay, and probably backfilled with ceramic waste. This ceramic waste may be pivotal in understanding the early history of the Verwood-type pottery industry.

5. References

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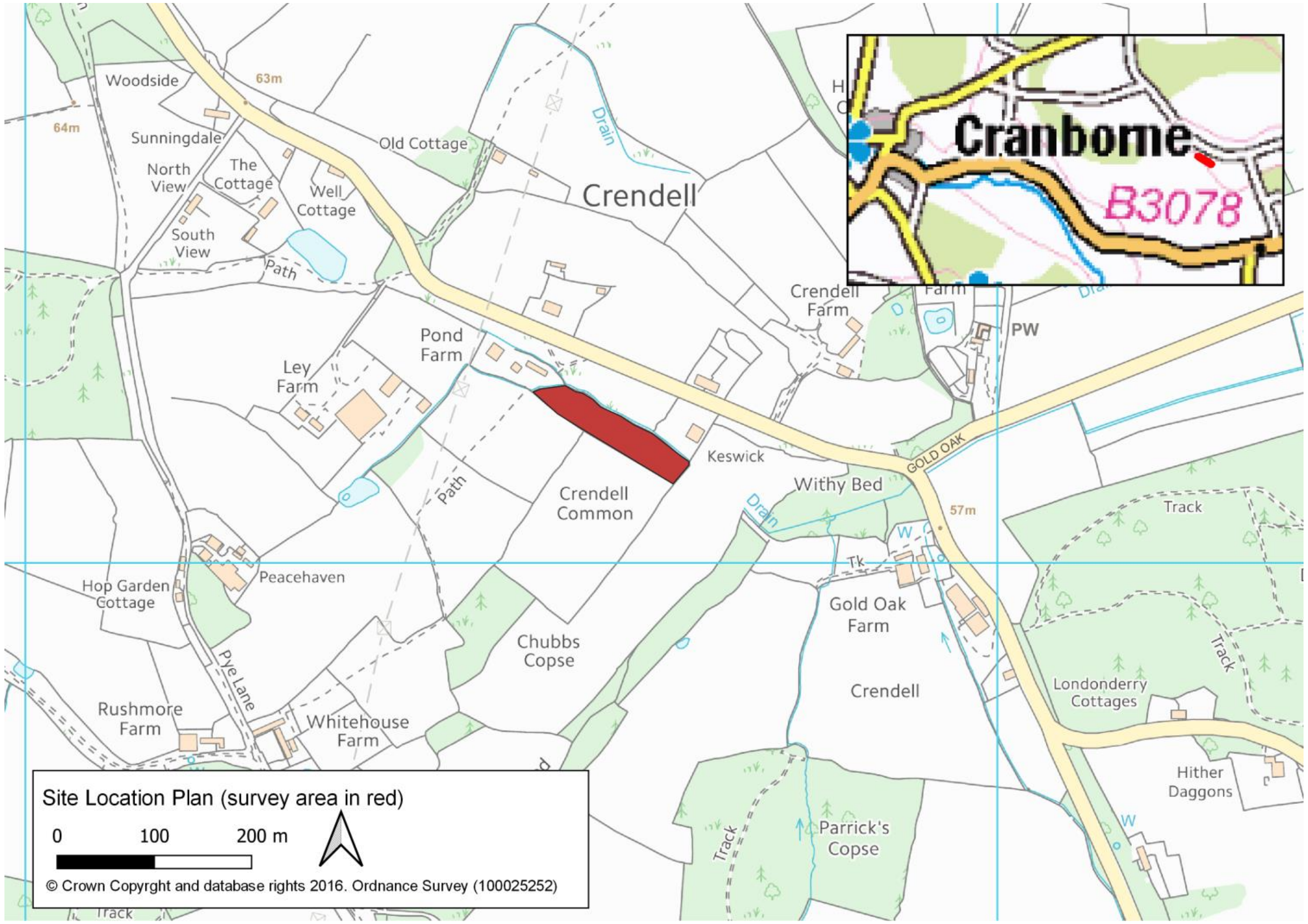

Fig. V.1: Location of survey area

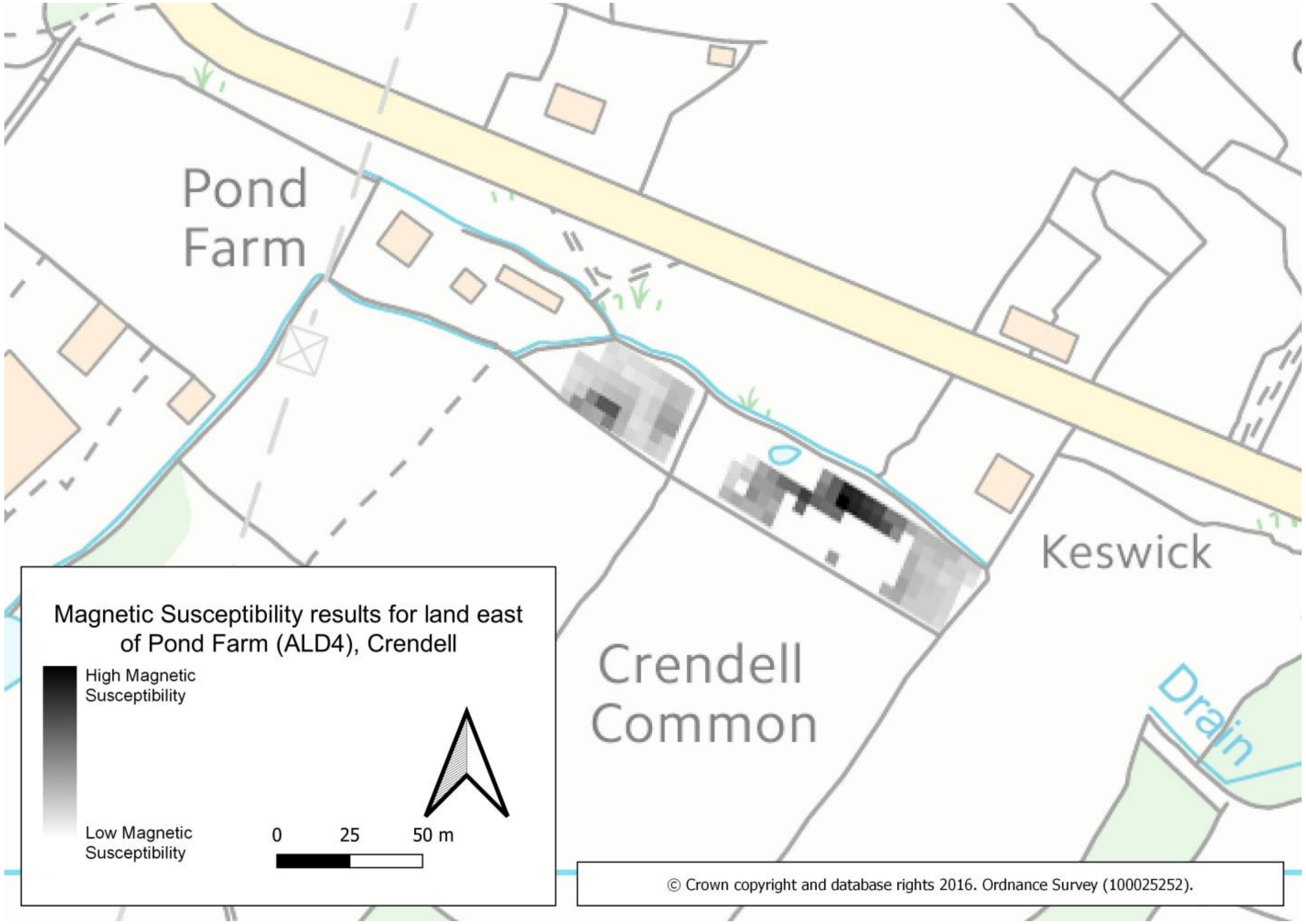

Fig. V.2: Results of Magnetic Susceptibility Survey

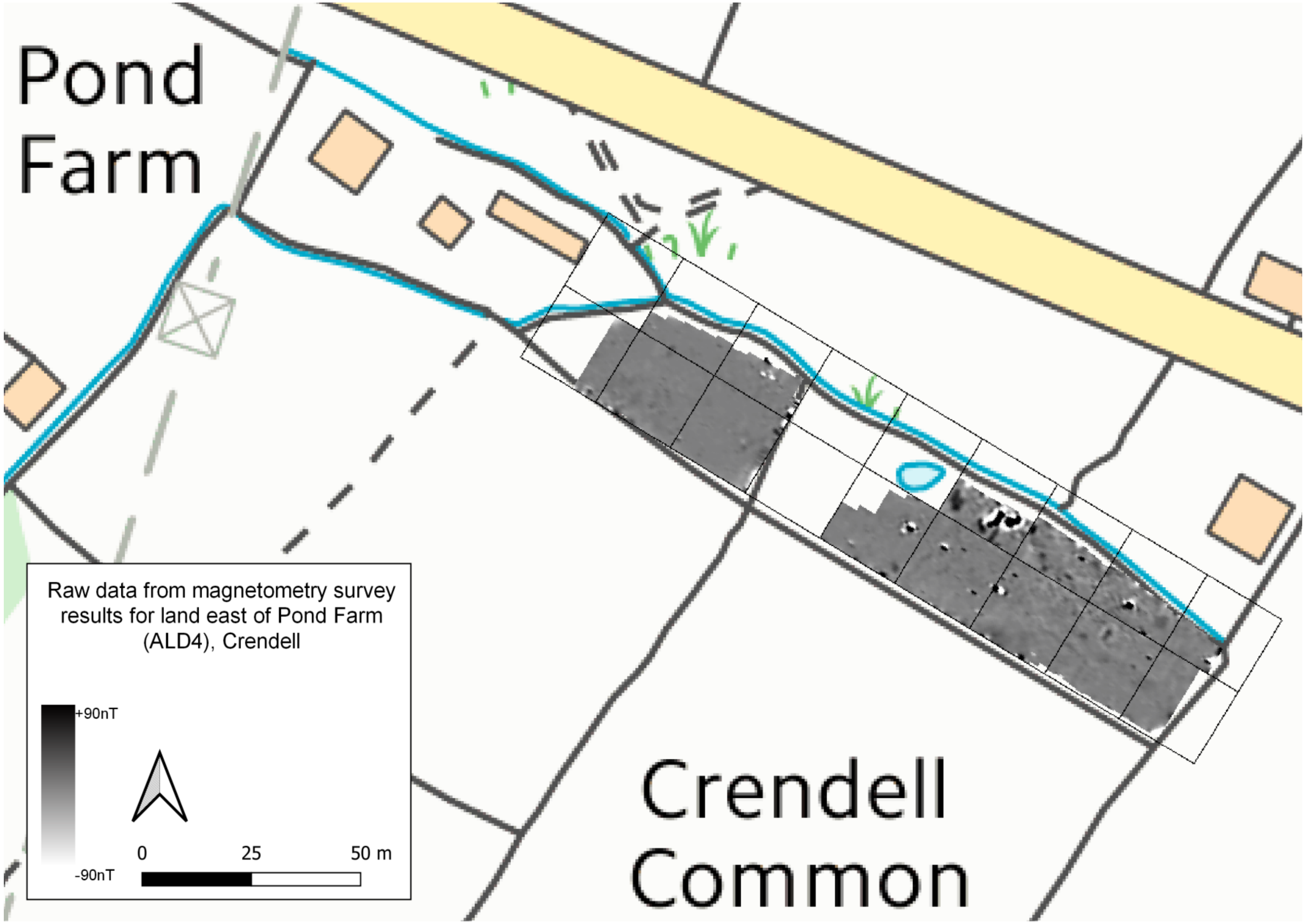

Fig. V.3: Raw data from magnetometry survey

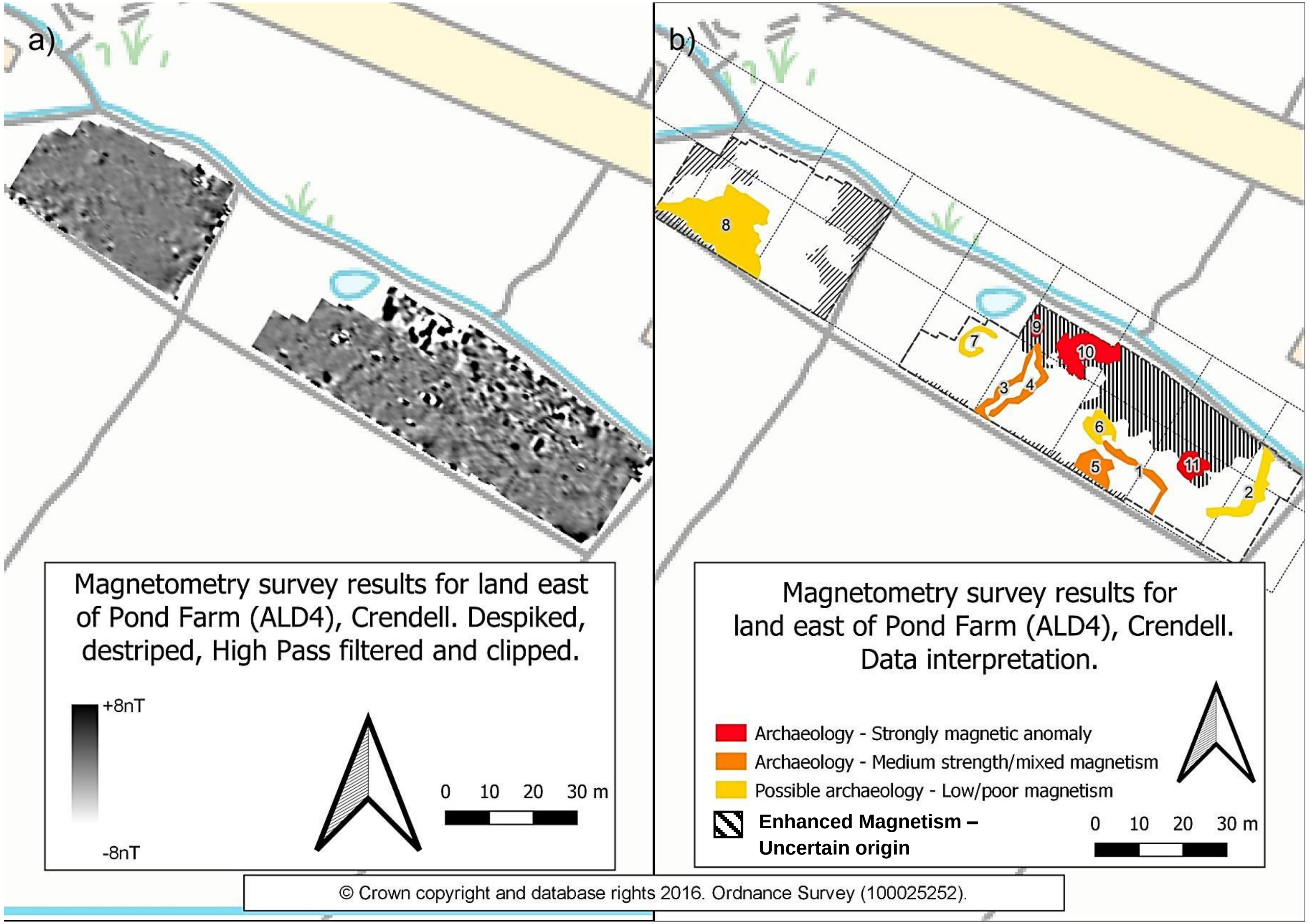

Fig. V.4a(left): Processed magnetometry data; Fig. V.4b(right): Interpretation of magnetometry data

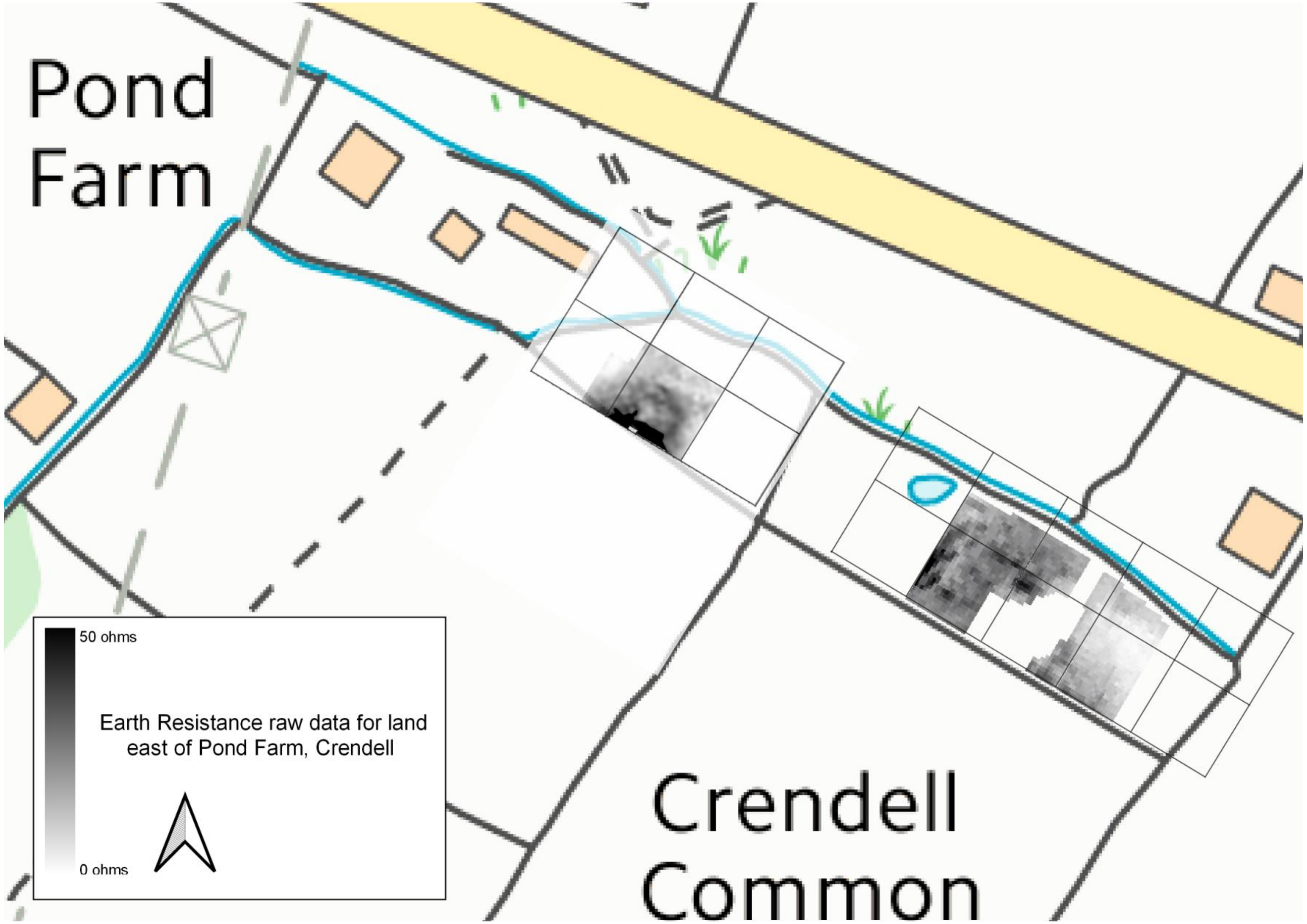

Fig. V.5: Raw Data from Earth Resistance survey on land east of Pond Farm

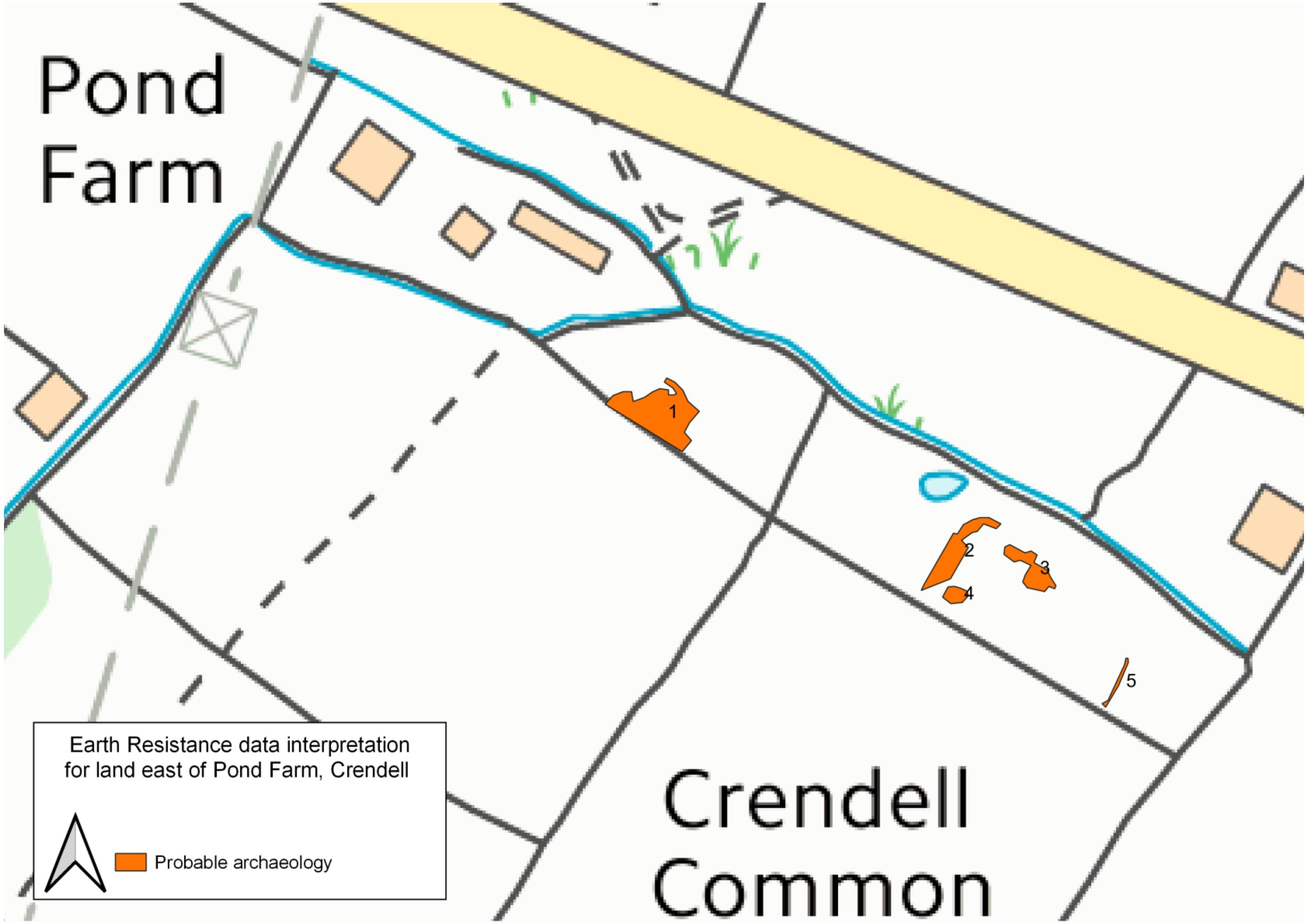

Fig. V.6: Interpretation of Earth Resistance survey on land east of Pond Farm

Appendix VI:
Land to the north of Fordingbridge Road, Alderholt, Dorset (Site ALD10)

SU12321323

Results of a series of geophysical surveys undertaken towards a PhD at Bournemouth University

By D. Carter

September 2018

Non-technical summary

A series of geophysical surveys was conducted over land to the north of Fordingbridge Road, Alderholt, Dorset. The project was undertaken as part of a postgraduate study at Bournemouth University, examining the nature of past pottery production in east Dorset. The aim of the investigation was to establish the presence, absence, and/or nature of detectable archaeological features on the site, and to ascertain whether any of potential features may relate to past pottery production within the bounds of the site. The site has been hypothesised as a Verwood-type pottery production site, known as Alderholt no. 10 (ALD10; Algar *et al.* 1987).

The site comprises two land parcels. The larger western field was under grass for hay. This comprised 0.9 hectares of survey, with the smaller eastern one comprising back garden in a property under construction, comprising 0.1 hectares. Agricultural and construction related obstructions were present within both survey areas, these are plotted as dummy log/missing data.

The investigation comprised a magnetic survey by gradiometer, earth resistance, and topsoil magnetic susceptibility. These demonstrated a small number of anomalies concentrated within a linear trend representing a former enclosure. A number of anomalies imply pottery production has been undertaken in vicinity to the site; however, no direct and obvious anomalies relating to pottery production (*e.g.* a kiln) were identified within the bounds of the survey. However, a series of linear trends, perhaps relating to former boundaries and enclosures, along with a rectangular anomaly possibly representing a building with a potential associated hearth. The geophysical survey was undertaken in July 2017.

Acknowledgements

The investigations were undertaken by D. Carter with the help of R. Carter and F. Leech. The data was processed and interpreted by D. Carter who produced this report. Advice on interpretation was sought from P.Cheetham. The permission and aid of both the Gould and Palmer families for granting access to this important area of east Dorset is gratefully acknowledged.

1. Introduction

1.1. Project Background

1.1.1. This report outlines the details of the site location, the methodology used, the survey results and the interpretation of the geophysical data collected.

1.1.2. Multiple geophysical surveys were undertaken on land to the north of Fordingbridge Road, Alderholt Dorset; the site is centred on SU12321323 (Fig. VI.1). Alderholt lies west of Fordingbridge and north of Ringwood.

1.1.3. The surveys form part of a series of investigations on sites across east Dorset considered to have potential for archeological evidence for medieval and post-medieval ceramics production. The work was carried out as part of the data collection towards a Doctorate of Philosophy within the Faculty of Science and Technology, at Bournemouth University.

1.1.4. The aims of the survey comprise:

- To conduct a series of geophysical surveys covering as much as the area the area in question as possible;
- To determine the presence or absence of archaeological features and to map the locations of these articles;
- To identify and clarify the potential significance of any archaeological features highlighted.

1.2. Site Location

1.2.1. The site is located within the northern extent of Alderholt, which lies 3.5km southwest of Fordingbridge and 8km northwest of Ringwood, within the county of Dorset.

1.2.2. The site lies on relatively flat ground, with the area being dominated by arable fields covered in grass, and dispersed housing.

1.2.3. The site is divided into two plots of land; the larger lies to the west comprising arable land. The smaller to the east forms a garden to the rear of a residential garden. The western field was covered in low grass at the time of the survey. The eastern land parcel contained areas of construction materials and debris – the survey being undertaken during mid-construction of a new house on the plot.

1.3. Geology and Soils

1.3.1. The underlying geology for the site is recorded as Broadstone sand with London clay immediately to the north (BGS).

1.3.2. It is considered likely that any overlying soils comprise rich loamy or sandy soils deriving from the buried geology. These soils are known to be acidic but are considered suitable for a variety of archaeological features to be detected by a range of geophysical techniques.

1.4. Archaeological and Historical Background

1.4.1. The site lies within 500m of four known post-medieval pottery kiln sites, forming part of the Verwood-type pottery industry; these kilns have been recorded by Algar *et al.* (1987) as Alderholt Kilns 8 - 11.

1.4.2. Alderholt Kiln 10 is the hypothesised production site that lies within the bounds of the investigation area. The date of recovered sherds from this area, suggests a date of 1600 - 1750. However, due to the location being so close to the former common lands, it is proposed that kiln 10 may be of an earlier date (Anthony Light pers comm). Both this site and that of site 8 are thought to be of particular interest as these plots are thought to be enclosed from the common lands of Alderholt at a relatively early date. The plot containing kiln 9 is enclosed from the common in 1602 (Alger *et al.* 1987). It is worthy of note however, that the aforementioned enclosure does not appear on an estate map by Norden of the area dated 1605. Due to the presence of site 10, this site has been proposed for archaeological investigation, to greater understand this potential pottery production site.

1.4.3. Kiln 9 lies to the immediate east south east of the site and is known to be of a similar date, possibly mid-1600s – 1700s (*ibid*.). A later production site, Alderholt Kiln 11 (*ibid.*), lies to the south on the opposing side of the B3078, this is thought to be of 1700s to mid-1800s in date (*ibid*.); kiln 11 now lies under a bungalow built in the 1960s. Finally, kiln 8 lies immediately to the south west of the site and is thought to be of the same date as that of kiln 10 (*ibid*); although the enclosed land at site 8 is shown on the 1605 Norden map, where none of the others appear.

2. Methodology

2.1. Introduction

2.1.1. Three techniques were considered appropriate to meet the aims of the investigation. The first being magnetic susceptibility; secondly, magnetometry; and thirdly, earth resistance. The first to plot areas of magnetic enhancement – likely to derive from human interaction evidenced through heating as part of ceramics production, and the second to aid in defining any potential structural elements or features of low-magnetism.

2.1.2. Field conditions at the start of the survey were acceptable; however, data collection was not possible over some areas due to the presence of farm machinery in the western field and construction debris in the eastern land parcel. Survey grid points were established across the site using a Leica Viva GNSS with an accuracy of 0.02m, at 30x30m intervals.

2.1.3. The earth resistance survey was the last geophysical survey to be undertaken in the survey area. By this time the ground was incredibly dry and the probes occasionally struggled to create a circuit, thus generating a reading. With this in mind, the results of the earth resistance survey should not be relied upon as comprehensively illustrating all potential archaeological features present in the survey area, and as such should not be relied upon in isolation from the other geophysical survey methods.

2.2. Topsoil Magnetic Susceptibility Survey

2.2.1. Due to the large scale of the survey area, data were collected by taking five readings within a 5m x 5m square (one near each corner and a rough centre point), the median average of these values was ascertained and selected to represent the entire 5mx5m square. The 5m x 5m grid for this survey was super imposed over that of the existing 30mx30m grid used for both the earth resistance and the gradiometer survey.

2.3. Gradiometer Survey

2.3.1. The survey was conducted in accordance with English Heritage guidelines (2008), using a Bartington Grad601-2 fluxgate gradiometer instrument, which has a vertical separation of 1m between sensors. Data were collected at 0.25m intervals along transects spaced 1m apart with an effective sensitivity of 0.03nT. Data were collected in the zigzag method to speed up data collection.

2.3.2. Data from the survey were subject to minimal correction processes, using Terrasurveyor. These processes comprise a de-step/de-stripe function to account for variations in traverse position due to varying ground cover and topography, and finally a de-spike function to reduce the appearance of any small and isolated (threshold 3x3) highly magnetic anomalies within the dataset in order to aid interpretation. These steps were applied to all survey areas, with no interpolation applied. The processed data is presented in Figs. VI.4a, with the interpretation of this dataset presented in Fig. VI.4b.

2.4. Earth Resistance Survey

2.4.1. The earth resistance survey was conducted using a Geoscan RM15 resistance meter, mounted to a frame with a probe spacing of 0.5m. Data were collected at 1m intervals along transects spaced 1m apart with an effective sensitivity of 0.1 ohms. Data were collected in the zigzag method, and the same 30m grid system as that outlined above was used. The raw data is presented in Fig. VI.5 with processed data in Fig. VI.6a and the interpretation shown in Fig. VI.6b.

2.4.2. Smaller areas were surveyed at 0.5m intervals along 0.5m transects (in 10mx10m grids based upon the existing 30m x 30m grid) to improve the resolution of the anomalies identified on the 1m survey. This was only undertaken on a small number of grids as this was the last day of survey and time was very limited.

2.4.3. The processing of the data set was undertaken using Terrasurveyor. Basic data processing was carried out using the despike process in order to remove any high resistance data spikes. The grids were edge matched to ensure similarity of values across the two separate survey parcels. Then a standard ‘high pass’ filter was applied to the data in order to reduce the effects of the background geology (reducing any large variations present in the data set) and to enhance the visibility of any archaeological features against the surrounding recorded values. Finally, the data were clipped to achieve acceptable contrast between values, making certain anomalies clearer.

3. Results

3.1. *Introduction*

3.1.1. The geophysical surveys have been successful in identifying anomalies of possible archaeological interest across the site, these comprise an enclosed area, bounded by two linear ditched boundaries, an area of enhanced magnetism, a potential building, and a hearth or oven illustrating relatively high temperatures. The size and scale of this feature makes it unlikely to be associated with pottery production, especially as this lies outside the potential 'building' response. Regions of increased magnetic response, ferrous anomalies and a number of trends have also been detected.

3.1.2. Results are presented as a series of greyscale plots, and archaeological interpretations, at a scale of 1:1000 (Figs. VI.3 to VI.4b). The gradiometer data are displayed at -3nT (white) to +3nT (black) for the greyscale images. The interpretation of the datasets highlights the presence of potential archaeological anomalies, potential geological variations, ferrous/burnt or fired objects, and magnetic trends (Fig. VI.4b).

3.2. Interpretation

<u>Topsoil Magnetic Susceptibility Survey</u> (Fig. VI.2)

3.2.1. Areas of high values reinforce what is presented within gradiometer dataset, in that magnetically enhanced material appears to lie within the south eastern corner of the survey area in the larger western land parcel. A linear magnetic trend is noted in the eastern land parcel. The linear has a northeast – southwest alignment.

<u>Gradiometer Survey</u> (Figs. VI.3-4b)

3.2.2. The raw data in Fig. VI.3, show the aforementioned northeast – southwest linear trend is strongly magnetic, with two ferrous responses present in the larger western land parcel; these comprise manholes for a sewer present within the field. Archaeological features are visible within the processed data (Fig. VI.4a).

3.2.3. The most obvious anomalies are two linear trends, initially extending from the southern boundary, extending north, with a change in direction to the east-northeast to form a rectilinear enclosed area (labelled in Fig. VI.4b as anomaly **1** and **12**). This alignment and position is not reflected on any ordnance survey map, but is present on Norden's map, dated 1605. The boundary shares an alignment with the existing rear (northern most) boundaries of the residences that lie to the east south east of the investigation area. These are present on historic OS mapping from the 1880s onwards.

3.2.4. There are spreads of increased magnetic response in the south east corner that are considered to represent concentrations of ceramic and/or metallic debris. The majority of this appears to be confined to within the potential enclosure, and is more concentrated towards the south and eastern edges of the survey area. The vast amount of post-medieval 'Verwood-type' pottery fragments, and other highly magnetic ceramic objects, lying on the surface of the survey area are thought to be the likely cause of such a magnetic response.

3.2.5. Additionally, a relatively strong magnetic anomaly (labelled as **2** on Fig. VI.4b) with values of -50 to +50nT was identified, possibly representing a hearth, rather than a kiln or oven-like structure.

3.2.6. Anomalies **3** and **4** comprise mid-strength magnetic anomalies and are possibly associated. Together, they form a small rectilinear shape, which could be indicative of a building. Structural elements in this heathland area can often be difficult to identify as they are often built from cob, a mixture of clay, sand and gravel – a similar deposit to the underlying natural subsoils.

3.2.7. Anomalies **5** and **7** represent low strength magnetic linear trends, possibly forming the remnants of former field systems – one such filed system is highlighted by anomaly **6** – a feature with medium to low magnetic values.

3.2.8. Anomalies **8-10** represent low strength magnetic linear trends; these features are considered to represent potential geological variations, being of natural origin.

3.2.9. Anomaly **11** represents a buried brick surface, comprising a former block paved area/garden feature, remnant from the previous building as identified by the developer.

<u>Earth Resistance Survey</u> (Figs. VI.5-6b)

3.2.10. The earth resistance survey highlights the presence of the similar suite of potential archaeological features as that put forward in the gradiometer survey. The same linear trends are present (anomalies **1**, **7** and **10** in Fig. VI.6b) as that, reflected in the gradiometer dataset, these present as two linear arrangements of relatively low resistance (*c.*100 ohms) anomalies against that of the surrounding values. This fits the hypothesis of a ditched enclosure. Higher resistance values occurring to the north of this feature are likely to reflect geological variations.

3.2.11. An additional low resistance anomaly (**3** in Fig. VI.6b) is present within the enclosed area. This sits just on the fringe and partially within the area of enhanced magnetism illustrated in the gradiometer dataset. Within the earth resistance data, this anomaly is relatively amorphous, with a small (<3m) area of higher resistance within it. It is unclear what this feature might represent, but it is very likely to be archaeological.

3.2.12. Anomaly **5** (Fig. VI.6b) represents a medium to high resistance rectilinear, that is partially present in the gradiometer data. It is probable that this feature correlates with the location of a former building.

3.2.13. Anomaly **2** (Fig. VI.6b) lies to the east of anomaly **5**, representing an area of low resistance with a relatively squared shape in plan. The anomaly is likely to be archaeological in nature, but little comment as to function can be made. Anomaly **6** is a high resistance anomaly that extends outside the area of the survey, and little comment can be made regarding what this article might be. Anomalies **8** and **9** appear to relate to buried garden features that were noted by the developer prior to be ing buried as part of the construction process and the establishment of a larger grassed over rea garden.

3.2.14. Anomaly **4** (Fig. VI.6b) represents a low to medium resistance linear anomaly, which corresponds with the location of a modern buried sewer main.

3.2.15. Anomaly **8** (Fig. VI.6b) represents a mixed resistance rectilinear anomaly, which corresponds with the location of buried block paved surface; this surface was buried prior to starting re-development of the plot by the developer. Anomaly **9** appears similar to that of no. **8**, but does not correlate with the known position of any feature on the magnetometry, nor any feature recognised by the developer prior to demolition of the previous structure. This anomaly is a high resistance anomaly, suggesting that the article is something dense and/or compacted; this feature cannot be readily explained and must therefore be considered as possible archaeology.

4. Conclusion

4.1.1. The surveys have successfully identified known and suspected features, including a modern service, suspected to be present from a visual inspection of the manholes on the ground surface. The presence of a ditched enclosure, a possible building and a potential hearth/oven feature are of interest. The hearth feature is not considered large enough in size, nor illustrating a high enough magnetic response to relate to intensive pottery production, although the area should be investigated in the future if possible. The spread of magnetic material is of interest and again confirms what was noted on the ground surface – covered in ceramic waste. Further investigations towards the road frontage may yield further information and a possible source for the ceramic material. The presence of a potential building within the bounds of the survey area is of interest, but again will need to be confirmed by further investigation prior to being relied upon.

4.1.2. In summary, there is no clear evidence for pottery production within the bounds of the survey area. Several anomalies require further investigation, either by more enhanced surveys with greater sampling intervals (*i.e.* 0.5m x 0 .5m earth resistance) and a series of earth resistance profiles over certain anomalies may prove beneficial. Should this not be feasible then archaeological trial trenching may provide a suitable, yet destructive alternative.

4.1.3. The evidence for pottery production, illustrated by the presence of the heavy sherd scatter as outlined by Algar *et al.* (1987) as site 10 remains somewhat a conundrum.

4.2. Further Note

4.2.1. A small number of sherds illustrating a brown ‘manganese’ glaze were recovered from the surface here, alongside those of the ‘standard’ or utilitarian lead glazed Verwood ware. The manganese glazed sherds were certainly in the minority here; no pottery earlier than post-medieval period was visible on ground surface, although no detailed field walking was undertaken. This may prove beneficial to further studies of the Verwood pottery industry or more local studies in general.

5. References

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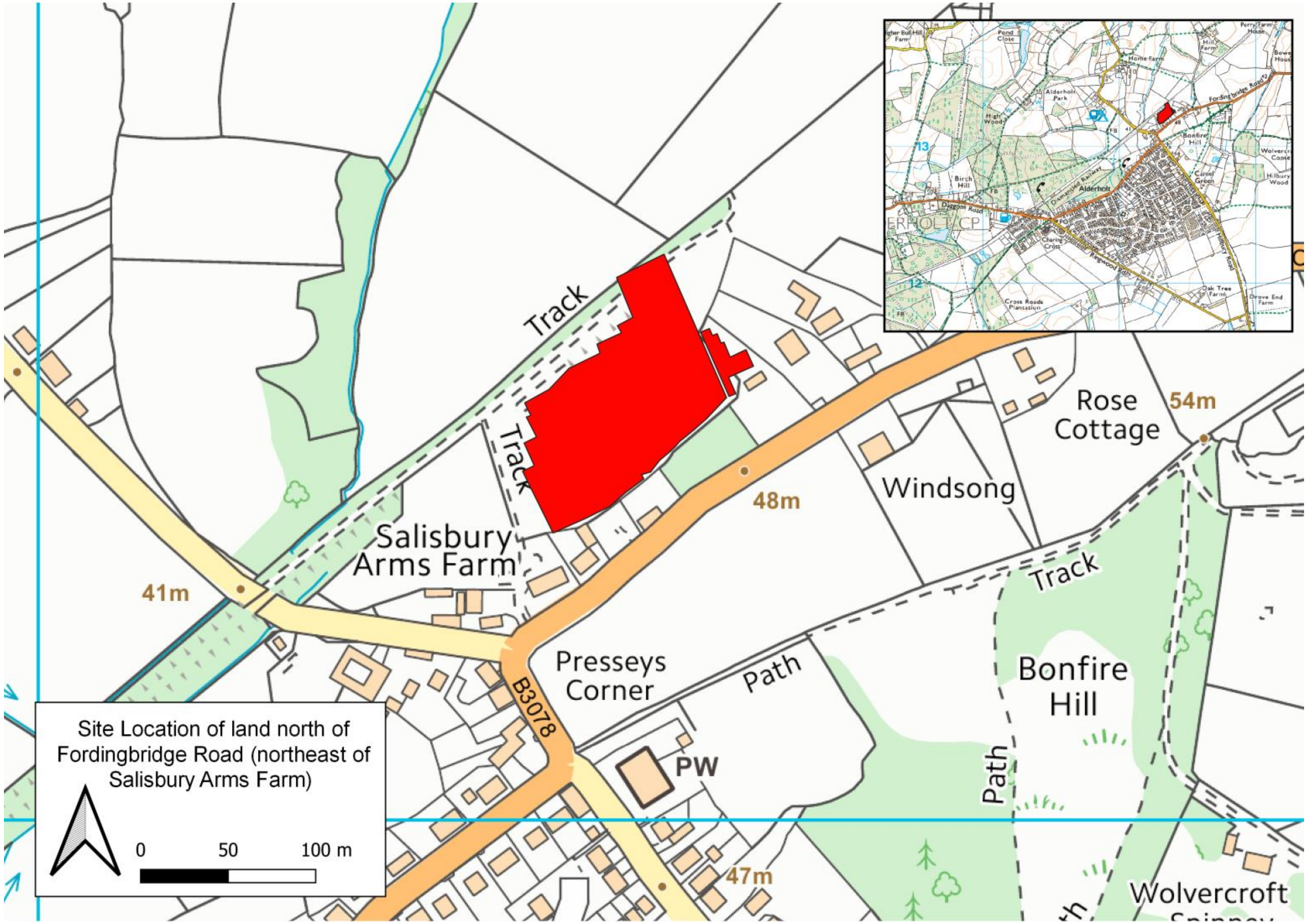

Fig. VI.1: Location od survey area on land north of Fordingbridge Road, Crendell, Dorset (ALD10)

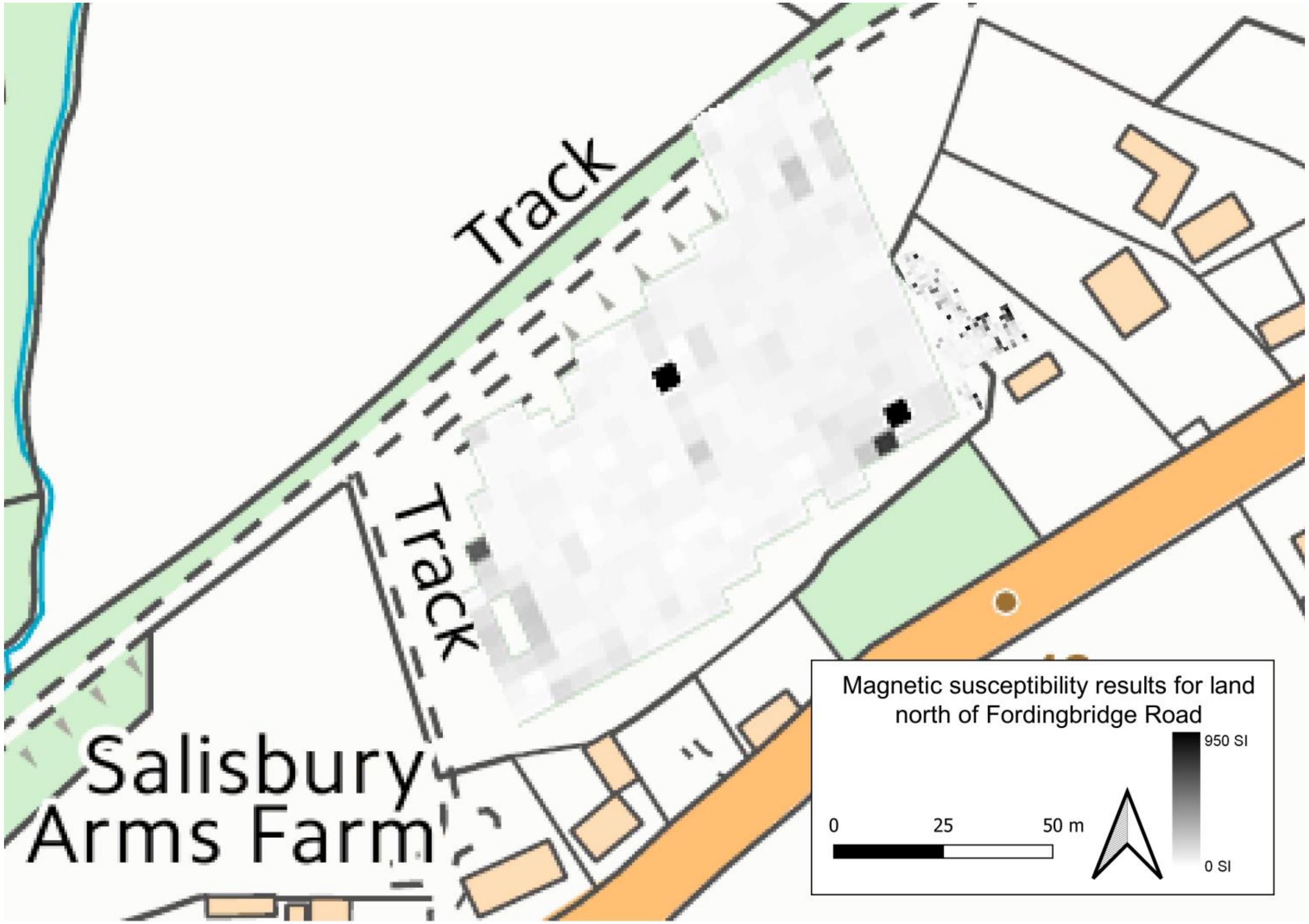

Fig. VI.2: Magnetic susceptibility survey results for land north of Fordingbridge Road (ALD10)

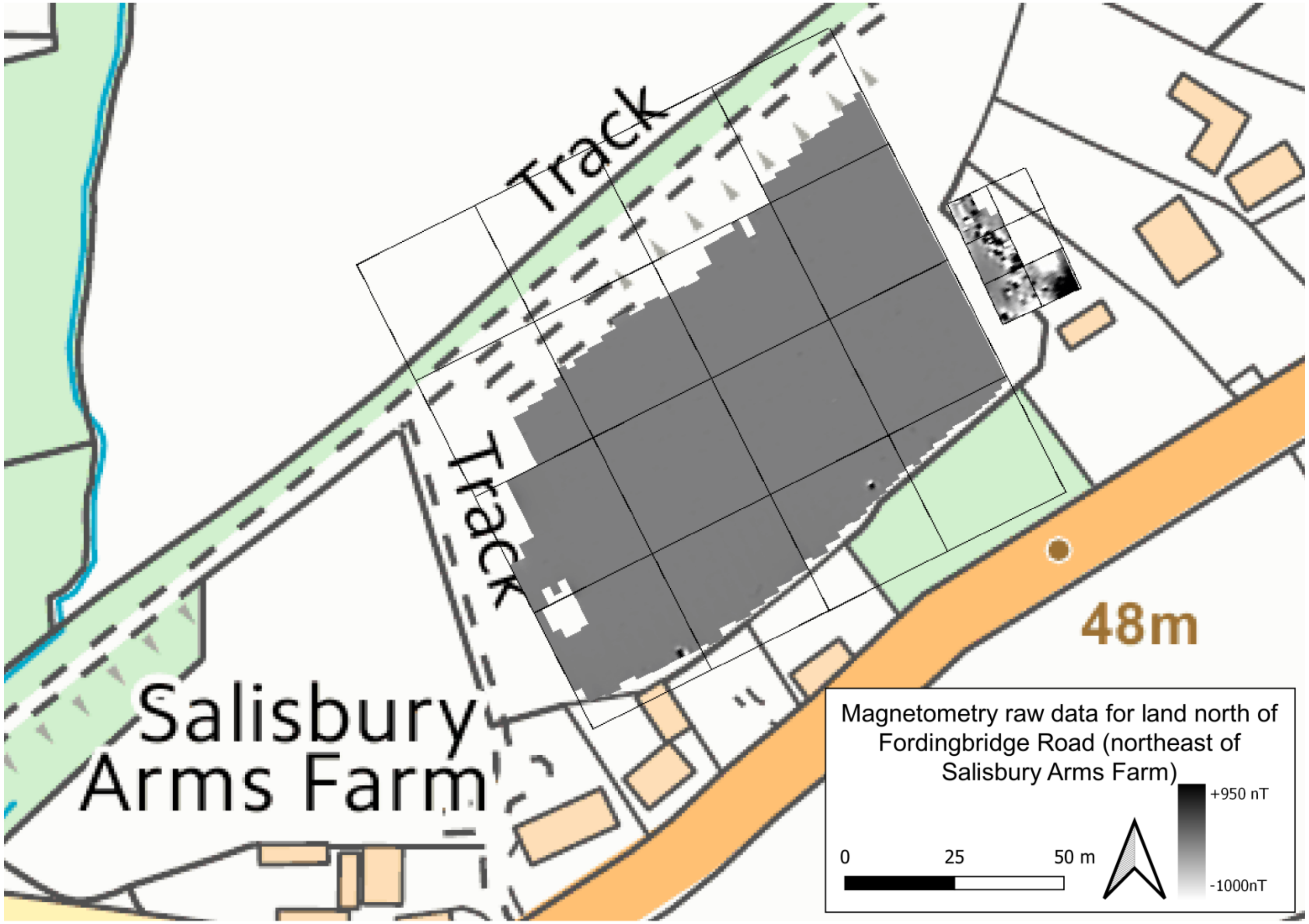

Fig. VI.3: Raw magnetometery data for land north of Fordingbridge Road (ALD10)

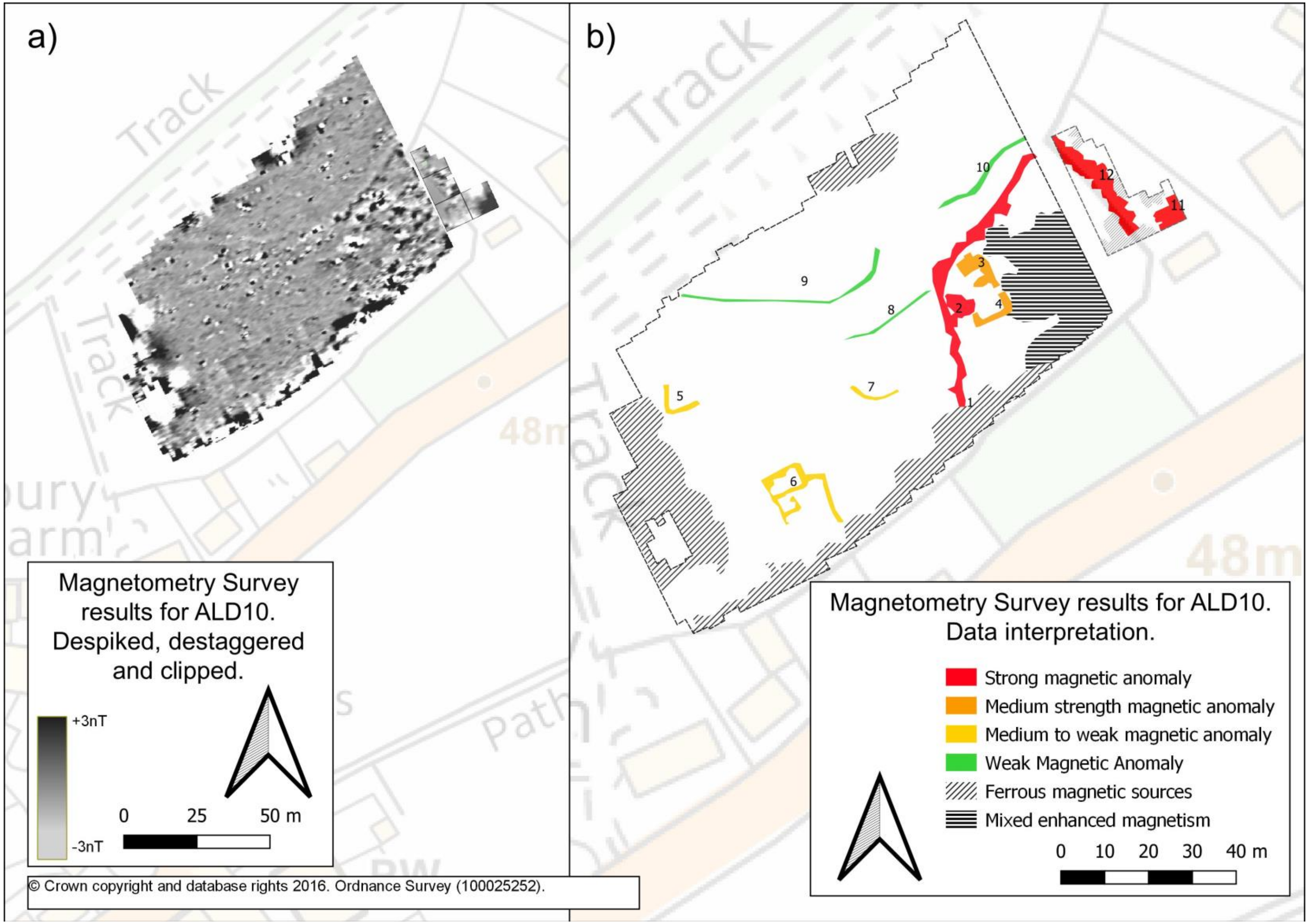

Fig. VI.4a: Processed magnetometry data for site ALD10; Fig. VI.4b: Interpretation of magnetometry data for site ALD10

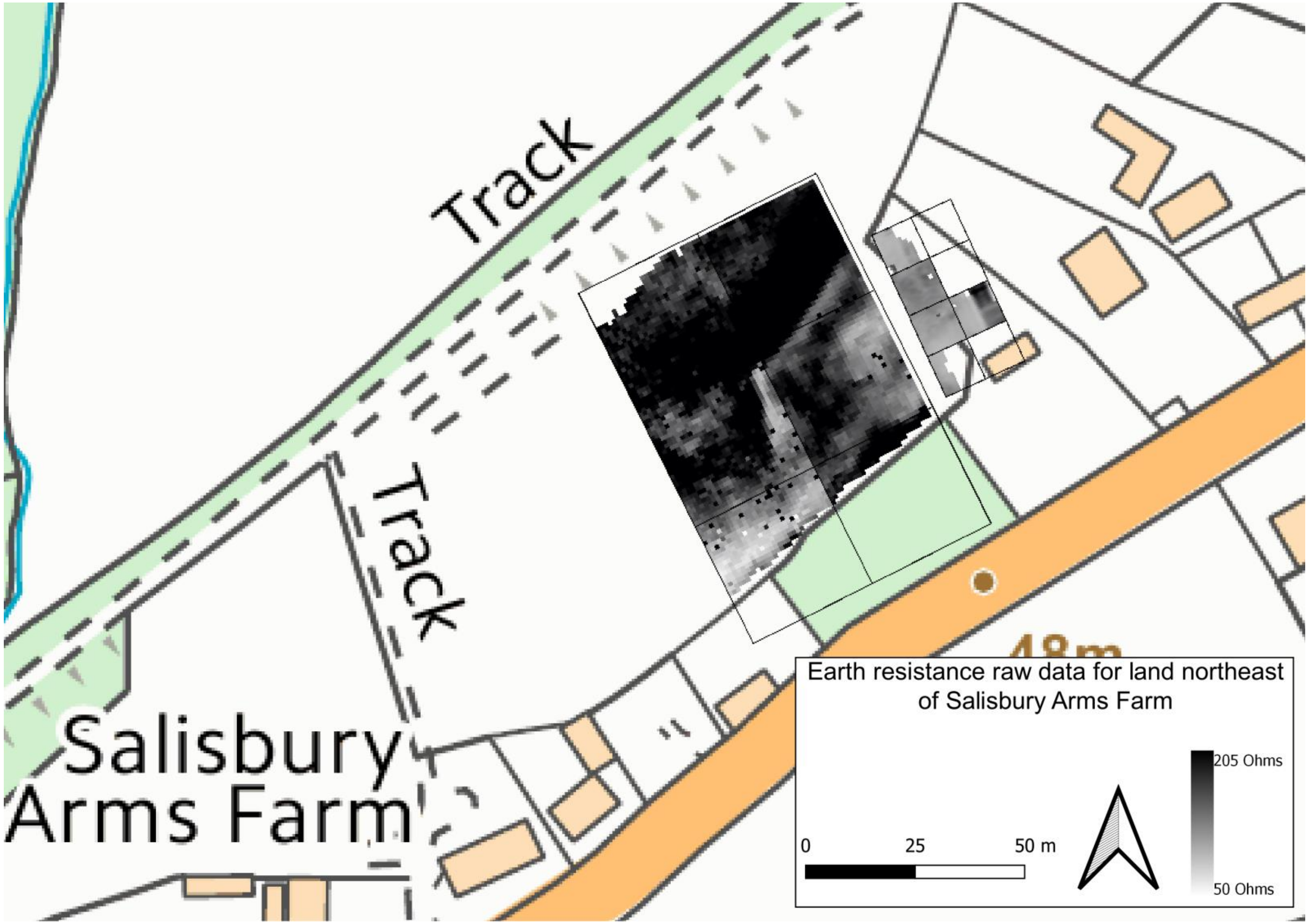

Fig. VI.5: Raw earth resistance data for land north of Fordingbridge Road (ALD10)

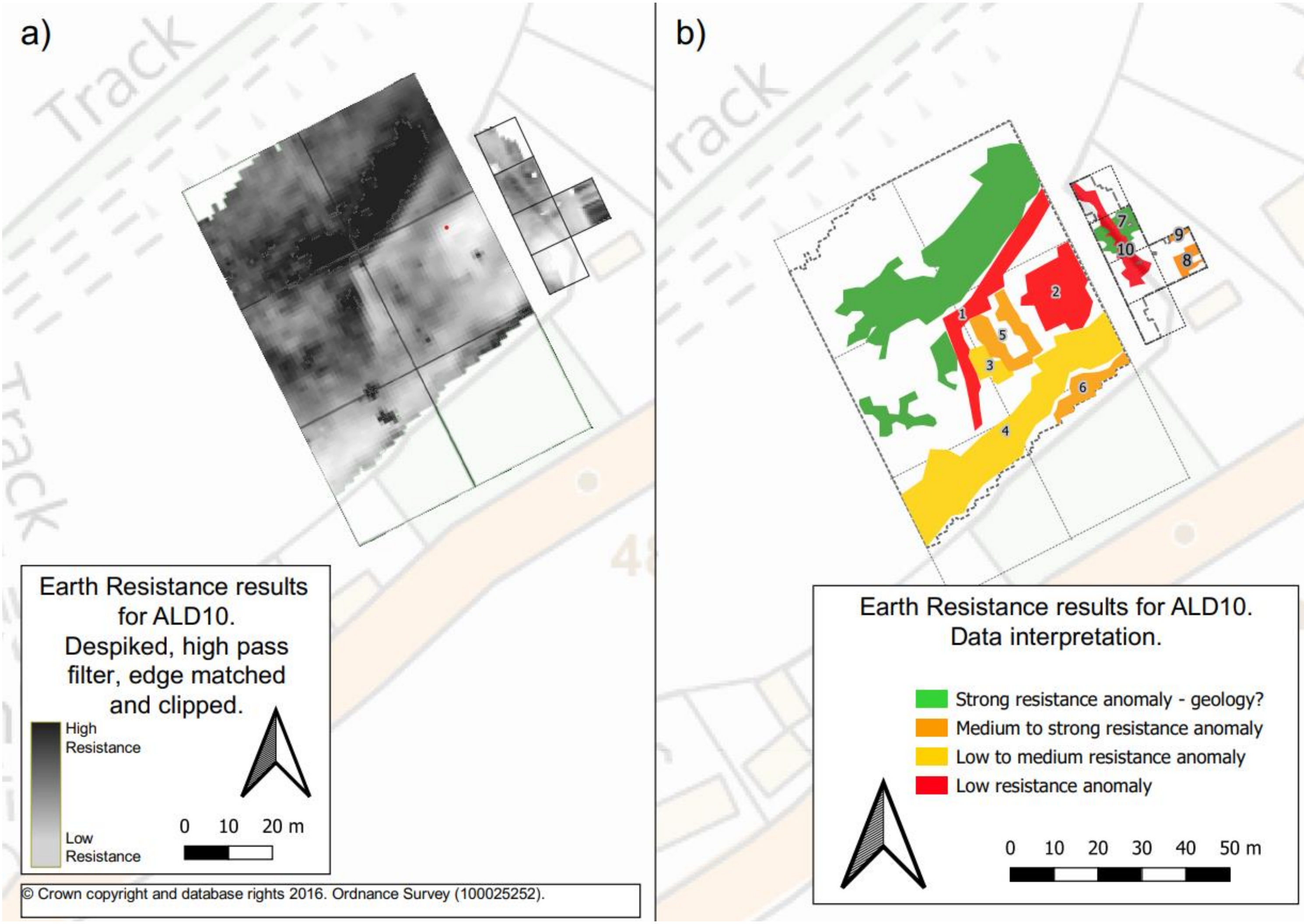

Fig. VI.6a: Processed earth resistance data for site ALD10; Fig. VI.6b: Interpretation of magnetometry data for site ALD10

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Appendix VII:
Detailed Fabric Descriptions of Petrographic Thin Sections

December 2021

D.Carter

Section I: Clays

Site: Trigon – SAMPLE: TRIG_0

Clay Type: Broadstone Clay

Inclusions: 15-20%, eq. and el. sa-sr. Double to open spaced. Randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 30-40%, 0.75-0.125mm
Dominant - frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority.
Few - rare orthoclase feldspar; eq, sa, <0.125mm.
Rare ferruginous inclusions; eq and el, sr to rnd, <0.125mm.

Fine Fraction: 60-70%, >0.125mm
Frequent -Dominant: Quartz.
Common - Frequent: Muscovite.
Few - Rare: Undifferentiated feldspar.
Very few: Ferruginous inclusions.
Very few: Glauconite.

Matrix: 60-70%, Calcareous and partially micaceous.
Matrix colour in PPL: Off-white to pale grey. *Colour in XP:* Pale yellow to off-white.
Strongly optically active.
Some concentration and depletion features present across the sample.

Voids: 15-20%, Elongated vugh-shaped meso- to micro-sized voids.

Section I: Clays

Site: Horton – SAMPLE: H_RC

Clay Type: Reading Clay

Inclusions: 40-50%, eq. and el. sa-sr. close to single spaced. Randomly aligned. Clear bi-modal grain size distribution.

Coarse Fraction: 50-60%, 0.75-0.05mm
Predominant quartz; eq and el, sa-sr, <0.75mm. Monocrystalline quartz. Polycrystalline quartz in the minority.
Frequent - common ferruginous inclusions; eq and el, sa-sr, <0.75mm.
Rare orthoclase feldspar; eq, sa, <0.125mm.

Fine Fraction: 40-50%, >0.05mm
Frequent -Dominant: Quartz.
Common - Frequent: Ferruginous inclusions.
Rare undifferentiated feldspar.
Very few: Muscovite.

Matrix: 20-30%, Non-calcareous.
Matrix colour in PPL: Mid yellow to dark red. *Colour in XP:* Mid yellow to mid red.
Moderately optically active.
Several concentration and depletion features throughout sample. Some dark and pale linear striations typical of a well-stratified sedimentary deposit.

Voids: 20-30%, mixture of vesicular, irregular and vugh-shaped voids. Macro- to micro-sized voids.

Section I: Clays

Site: Horton – SAMPLE: H_LC

Clay Type: London Clay

Inclusions: 50-60%, eq. and el. sa-sr. close to single spaced. Randomly aligned. Clear bi-modal grain size distribution.

Coarse Fraction: 70-80%, 2-0.1mm
Predominant quartz; eq and el, sa-sr, <2mm. Monocrystalline quartz. Polycrystalline quartz in the minority.
Frequent - common ferruginous inclusions; eq and el, sa-sr, <1mm.
Very rare orthoclase feldspar; eq, sa, <0.25mm.

Fine Fraction: 20-30%, <0.1mm
Frequent: Quartz.
Common - Frequent: Ferruginous inclusions.
Rare: Undifferentiated feldspar.

Matrix: 10-20%, Non-calcareous.
Matrix colour in PPL: Dark brownish red. *Colour in XP:* Dark reddish brown.
Optically inactive
No visible features throughout sample.

Voids: 20-30%, mixture of vesicular, irregular and vugh-shaped voids. Macro- to micro-sized voids.

Section I: Clays

Site: Old Claygrounds, Crendell – SAMPLE: OC_LC

Clay Type: London Clay

Inclusions: 50-60%, eq. and el. sa-sr. close to double spaced. Randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 75-85%, 2-0.1mm
Predominant quartz; eq and el, ang-sr, <2mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Common ferruginous inclusions; eq and el, sa-sr, <1mm.
Rare flint; eq and el, ang-sa, <0.75mm.
Very rare orthoclase feldspar; eq, sa, <0.75mm.

Fine Fraction: 15-25%, <0.1mm
Frequent - Dominant Quartz.
Common - Frequent: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare amphibole.

Matrix: 20-30%, Non-calcareous.
Matrix colour in PPL: Dark brownish red. *Colour in XP:* Dark reddish brown.
Optically inactive
Some iron rich striations, suggests relatively stratified deposit.

Voids: 10-20%, mixture of vesicular, irregular and vugh-shaped voids. Macro- to micro-sized voids.

Section I: Clays

Site: Farley, Wiltshire – SAMPLE: F_LC

Clay Type: London Clay

Inclusions: 50-60%, eq. and el. sa-sr. close to double spaced. Randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.2mm
Predominant - dominant quartz; eq and el, ang-sr, <1mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Common ferruginous inclusions; eq and el, sa-sr, <0.5mm.Rare flint; eq and el, ang-sa, <0.75mm.
Few flint; eq and el, ang-sa, <0.75mm.

Fine Fraction: 30-40%, <0.2mm
Frequent - Dominant Quartz.
Common: Ferruginous inclusions.
Few: Flint.
Rare: Undifferentiated feldspar.
Very rare: Muscovite.

Matrix: 20-30%, Non-calcareous.
Matrix colour in PPL: Dark brownish red. *Colour in XP:* Dark reddish brown.
Slightly optically active.
Some iron rich striations, suggests relatively stratified deposit.

Voids: 10-20%, mostly vesicular, irregular and vugh-shaped voids. Mega- to micro-sized voids.

Section I: Clays

Site: Farley, Wiltshire – SAMPLE: F_RC

Clay Type: Reading Clay

Inclusions: 20-30%, eq. and el. sa-rnd, single to open spaced. Randomly aligned. Clear bimodal grain size distribution.

Coarse Fraction: 50-60%, 0.75-0.125mm
Predominant – dominant quartz; eq and el, ang-sr, <1mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Common flint; eq and el, ang-sa, <0.5mm.
Few - rare ferruginous inclusions; eq and el, sr-rnd, <0.5mm.

Fine Fraction: 40-50%, <0.125mm
Frequent – Dominant: Quartz.
Common: Flint.
Few: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare: Muscovite.

Matrix: 20-30%, Non-calcareous.
Matrix colour in PPL: Mid red to black. *Colour in XP:* Light yellowish red to black.
Optically inactive.
Some iron poor striations. Extensive iron rich areas (black in both XP and PPL).

Voids: 10-20%, mostly vesicular, irregular and vugh-shaped voids. Macro- to micro-sized voids.

Section I: Clays

Site: Near Pond Farm, Crendell – SAMPLE :C_LC

Clay Type: London Clay

Inclusions: 50-60%, eq. and el., sa-sr, close spaced. Randomly aligned. Clear bimodal grain size distribution.

Coarse Fraction: 70-80%, 2-0.2mm
Predominant quartz; eq and el, ang-sr, <1mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Common flint; eq and el, ang-sa, <0.75mm.
Few - rare ferruginous inclusions; eq and el, sa-sr, <2mm.
Few - rare orthoclase feldspar; eq, sa, <0.75mm.

Fine Fraction: 30-20%, <0.2mm
Dominant: Quartz.
Common: Flint.
Few: Ferruginous inclusions.
Few: Flint.
Rare: Undifferentiated feldspar.
Very rare: Muscovite.

Matrix: 10-25%, Non-calcareous.
Matrix colour in PPL: Mid reddish brown. *Colour in XP:* Mid brown.
Optically inactive.
None visible.

Voids: 10-20%, mostly vesicular, plus vugh-shaped voids. Macro- to micro-sized voids.

Section I: Clays

Site: Pond Farm, Crendell – SAMPLE :C_RC

Clay Type: Reading Clay

Inclusions: 40-50%, eq. and el., sa-sr, close to single spaced. Randomly aligned. Clear bi-modal grain size distribution.

Coarse Fraction: 50-60%, 1-0.05mm
Dominant quartz; eq and el, sa-sr, <1mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Common flint; eq and el, ang-sa, <0.5mm.
Few - rare ferruginous inclusions; eq and el, sa-sr, <1mm.
Rare orthoclase feldspar; eq, sa, <0.5mm.

Fine Fraction: 40-50%, <0.05mm
Dominant: Quartz.
Common: Flint.
Few: Ferruginous inclusions.
Rare: Undifferentiated feldspar.

Matrix: 10-20%, Non-calcareous.
Matrix colour in PPL: Mid reddish brown. *Colour in XP:* Mid brown.
Optically inactive.
None visible.

Voids: 10-20%, mostly vesicular, plus vugh-shaped voids. Macro- to micro-sized voids.

Section I: Clays

Site: Verwood Recreation Ground – SAMPLES: VER_A, VER_B, VER_C

Clay Type: Broadstone Clay

Inclusions: 50-60%, eq. and el., sa-sr, close to single spaced. Randomly aligned. Clear bi-modal grain size distribution.

Coarse Fraction: 20-30%, 0.75-0.1mm
Predominant quartz; eq and el, sa-sr, <0.75mm. Monocrystalline quartz. Polycrystalline quartz in the minority.
Few - rare ferruginous inclusions; eq and el, sa-sr, <2mm.
Few - rare orthoclase feldspar; eq, sa, <0.75mm.

Fine Fraction: 70-80%, <0.1mm
Dominant: Quartz.
Common: Flint.
Few: Ferruginous inclusions.
Few: Glauconite.
Rare: Undifferentiated feldspar.
Very rare: Muscovite.

Matrix: 20-30%, Non-calcareous.
Matrix colour in PPL: Light grey to mid brown. *Colour in XP:* Light greyish yellow to light reddish brown.
Optically inactive.
Several concentration and depletion features throughout. Some pale linear striations typical of a well stratified sedimentary deposit.

Voids: 10-20%, mostly vesicular, plus vugh-shaped voids. Macro- to micro-sized voids.

Section I: Clays

Site: East Worth – SAMPLE: EWC

Clay Type: Broadstone Sand

Inclusions: 20-30%, eq. and el., sa-sr, single to open spaced. Randomly aligned. Single mode grain size distribution.

Coarse Fraction: None

Fine Fraction: 100%, <0.125mm
Predominant: Quartz.
Common: Ferruginous inclusions.
Few: Glauconite
Rare: Undifferentiated feldspar.
Very rare: Muscovite.

Matrix: 60-70%, Partially calcareous, iron poor.
Matrix colour in PPL: Light yellow to mid reddish brown. *Colour in XP:* Light greyish yellow to mid reddish brown.
Poorly optically active.
Several concentration and depletion features throughout. Some iron rich striations typical of a well stratified sedimentary deposit.

Voids: 10-20%, mostly vesicular, plus vugh-shaped voids. Macro- to micro-sized voids.

Section I: Clays

Site: Petersfinger, Wiltshire – SAMPLE: PTR

Clay Type: Alluvium/Head Deposits

Inclusions: 50-60%, eq. and el., sa-sr, close to single spaced. Randomly aligned. Clear bi-modal grain size distribution.

Coarse Fraction: 20-30%, 1-0.1mm
Dominant quartz; eq and el, sa-sr, <1mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Few flints; eq and el, ang-sr, <1mm.
Few - rare ferruginous inclusions; eq and el, sa-sr, <0.75mm.
Rare orthoclase feldspar; eq, sa, <0.5mm.
Rare glauconite; eq, sr-rnd, <0.125mm.

Fine Fraction: 70-80%, <0.1mm
Dominant: Quartz.
Common: Flint.
Few: Ferruginous inclusions.
Few: Glauconite
Rare: Undifferentiated feldspar.
Rare: Muscovite.

Matrix: 10-20%, Non-calcareous.
Matrix colour in PPL: Mid reddish brown. *Colour in XP:* Light reddish yellow to mid red. Modertately optically active.
Several concentration and depletion features throughout. Some pale linear striations typical of a stratified sedimentary deposit –supports the alluvial nature of the sample.

Voids: 10-20%, mostly vesicular, plus vugh-shaped voids. Macro- to micro-sized voids.

Section I: Clays

Site: Wimborne Minster – SAMPLE: WIM

Clay Type: West Park Farm Clay

Inclusions: 60-70%, eq. and el., sa-sr, close to single spaced. Randomly aligned. Clear bi-modal grain size distribution.

Coarse Fraction: 20-30%, 1-0.1mm
Dominant quartz; eq and el, sa-sr, <1mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Rare flint; eq and el, ang - sa, <1mm.
Rare ferruginous inclusions; eq and el, sa-sr, <0.75mm.
Rare orthoclase feldspar; eq, sr, <0.5mm.
Very rare glauconite; eq, sr-rnd, <0.1mm.

Fine Fraction: 70-80%, <0.1mm
Dominant: Quartz.
Common: Flint.
Few: Ferruginous inclusions.
Few: Glauconite
Rare: Undifferentiated feldspar.
Rare: Muscovite.

Matrix: 10-20%, Non-calcareous.
Matrix colour in PPL: Mid reddish brown. *Colour in XP:* Light reddish brown to mid red. Modertately optically active.
Several concentration and depletion features throughout.

Voids: 10-20%, mostly vesicular, plus vugh-shaped voids. Macro- to micro-sized voids.

Section II: Control Group

Site: Crendell (ALD3) – SAMPLES: ALD3-4, -8, -34, -42, -45

Visual Fabric Assignment: Verwood-type
Broad Date/Period: Post-medieval

Inclusions: 20-30%, eq. and el, sa-sr. Close to double spaced. Inclusions randomly aligned. Clear bimodal grain size distribution.

Coarse Fraction: 60-70%, 2-0.2mm
Frequent quartz; eq and el, sa - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common - few ferruginous inclusions; eq and el, sr-rnd, <2mm.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare glauconite; sr-rnd, <0.15mm - heat affected mid reddish yellow.
Very rare flint; eq, sa, <1.25mm.
Very rare grog; el, sa-sr, <0.5mm; with quartz inclusions, eq and el, sr, <0.1mm.
Very rare argillaceous features, eq and el, sr-rnd, <1.5mm - often iron poor with no zoning.

Fine Fraction: 30-40%, <0.2mm
Frequent - Dominant: Quartz.
Common: Ferruginous inclusions.
Few: Glauconite.
Rare: Flint.
Very Rare: Undifferentiated feldspar.
Very rare: Muscovite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish brown. *Colour in XP:* Dark yellow to light yellow. Strongly optically active.
Very rare textural features, eq and el, sr-rnd, <1mm - often iron poor with no zoning.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids. Wheelthrown, some vugh-shaped voids aligned to long axis of artefact

Comment: Harbridge – Alderholt variant of Verwood-type fabric displaying less iron –rich elements than Horton and fewer argillaceous inclusions than Edmondsham. Certainly wheelthrown. The clay source for these wares is considered likely to be Crendell Common and there are similarities with the reading clay sample taken.

Petrographic Thin Section Grouping Assignment: Verwood-type Sub-group 2b – Harbridge and Alderholt

Section II: Control Group

Site: Salisbury Arms Farm, Alderholt (ALD8) – SAMPLES: ALD8-3, -11, -18, -19, -33

Visual Fabric Assignment: Verwood-type
Broad Date/Period: Post-medieval

Inclusions: 15-25%, eq. and el, sa-sr. Close to double spaced. Inclusions randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 2-0.2mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common – few ferruginous inclusions; eq and el, sr-rnd, <1mm.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite; sr-rnd, <0.15mm - heat affected mid reddish yellow.
Very rare flint; eq, sa, <0.25mm.
Very rare grog; el, sa-sr, <1.25mm. Quartz inclusions, eq and el, sr, <0.125mm.
Very rare argillaceous features; eq and el, sr-rnd, <2mm - often iron poor with no zoning.

Fine Fraction: 30-40%, <0.2mm
Frequent -Dominant: Quartz.
Common: Ferruginous inclusions.
Rare: Flint.
Rare: Glauconite.
Very Rare: Undifferentiated feldspar.
Very rare: Muscovite.

Matrix: 50-60%, Calcareous.
Matrix colour in PPL: Light yellowish brown. *Colour in XP:* Dark yellow to light yellow. Strongly optically active.
Very rare textural features, eq and el, sr-rnd, <1mm - often iron poor with no zoning.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids. Wheelthrown, some vugh-shaped voids aligned to long axis of artefact

Comment: Alderholt and Harbridge variant of Verwood-type pottery fabric. This variant displays less iron –rich elements than Horton and fewer argillaceous inclusions than Edmondsham. The fabric during polishing for most examples is darker than Edmonsham, which when polished appears pale pastel in all examples. Certainly wheelthorwn.

Petrographic Thin Section Grouping Assignment: Verwood-type Sub-group 2b – Alderholt and Harbridge

Section II: Control Group

Site: Gotham Farm, Edmondsham (EDM1) – SAMPLES: EDM1-1, -2, -5, -8, -13

Visual Fabric Assignment: Verwood-type
Broad Date/Period: Post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Single to double spaced. Inclusions randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 3.5-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common – few ferruginous inclusions; eq and el, sr-rnd, <1mm.
Common - few argillaceous features; eq and el, sr-rnd, <3.5mm - often iron rich with poor zoning. EDM1-5 has common iron poor textural features (<1mm).
Few flint; eq, sa, <0.25mm.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite; sr-rnd, <0.15mm - heat affected mid reddish yellow.
Very rare muscovite; ang, <0.125mm.

Fine Fraction: 20-30%, <0.1mm
Frequent - Dominant: Quartz.
Common: Ferruginous inclusions.
Few: Glauconite - for EDM1-5 this is more common than Few.
Few - Rare: Undifferentiated feldspar.
Rare: Glauconite.
Rare: Undifferentiated feldspar.
Very rare: Muscovite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellow. *Colour in XP:* Light yellowish brown to light yellowish white.
Moderately optically active, but EDM1-5 is strongly optically active.
Commonly textural features throughout, eq and el, sr-rnd, <3.5mm - often iron rich with poor zoning. EDM1-5 has common iron poor textural features (<1mm).

Voids: 10-20%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids. Wheelthrown, some vugh-shaped voids aligned to long axis of artefact

Comment: Edmondsham variant of Verwood-type fabric can be defined by more argillaceous features than Horton, Verwood, Alderholt and Harbridge, but less iron-rich inclusions than the aforementioned, bar Horton, which has more. Colour during polishing of all Edmonsham examples was pale pastel shades, more so than other examples. Certainly wheelthrown.

Petrographic Thin Section Grouping Assignment: Verwood-type Sub-group 3 – Edmondsham

Section II: Control Group

Site: Harbridge, Hampshire (HAR1) – SAMPLES: HAR1-8, -9, -22, -30, -37

Visual Fabric Assignment: Verwood-type
Broad Date/Period: Post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1.25-0.2mm
Frequent quartz; eq and el, sa - rnd, <0.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common – few ferruginous inclusions; eq and el, sr-rnd, <1mm.
For HAR1-37 only - Few argillaceous features, eq and el, sr-rnd, <0.75mm - iron poor with no zoning.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare glauconite; sr-rnd, <0.15mm - heat affected mid reddish yellow.
Very rare flint; eq, sa, <0.5mm.

Fine Fraction: 30-40%, <0.2mm
Frequent - Dominant: Quartz.
Common: Ferruginous inclusions.
Rare: Glauconite.
Rare: Flint.
Very Rare: Undifferentiated feldspar.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish brown. *Colour in XP:* Dark yellow to light yellow. Strongly optically active.
Some iron rich striations towards the centre of the artefacts. For HAR1-37 only there are few textural feautres, eq and el, sr-rnd, <0.75mm - iron poor with no zoning.

Voids: 10-20%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids. Wheelthrown, some vugh-shaped voids aligned to long axis of artefact

Comment: Alderholt and Harbridge variant of Verwood-type pottery fabric. This variant displays less iron–rich elements than Horton and fewer argillaceous inclusions than Edmondsham. Certainly wheelthrown.

Petrographic Thin Section Grouping Assignment: Verwood-type Sub-group 2b – Harbridge and Alderholt

Section II: Control Group

Site: Horton village (HOR1) – SAMPLES: HOR1-2, -10, -11, -13, -19

Visual Fabric Assignment: Verwood-type (Horton Variant)
Broad Date/Period: Post-medieval

Inclusions: 40-50%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned to nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 50-60%, 2-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <2mm. Completely black when hard fired (*e.g.* HOR1-10).
Rare flint; eq, sa, <0.125mm.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Few - rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 40-50%, <0.1mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Rare: Glauconite.
Rare: Undifferentiated feldspar.
Very rare: Muscovite. None seen in HOR1-10 and -11

Matrix: 20-30%, Calcareous, generally iron poor matrix.
Matrix colour in PPL: Light yellowish brown to light yellowish grey. *Colour in XP:* Mid yellow to light greyish yellow.
Ranging from strongly optically active to not optically active (*e.g.* HOR1-10).
No textural features visible within matrix.

Voids: 20-30%, meso- to micro- sized vesicular voids. Mega- to micro-sized vugh-shaped voids. Wheelthrown, some vugh-shaped voids aligned to long axis of artefact

Comment: Horton variant Verwood-type fabrics can be defined by via dominant iron-rich inclusions and iron-rich argillaceous features, with rare glauconite, and only little muscovite. Certainly Wheelthrown.

Petrographic Thin Section Grouping Assignment: Verwood-type Sub-group 1 – Horton

Section II: Control Group

Site: Brickplace Copse, Horton (HOR2) – SAMPLES: HOR2-1, -2, -6, -18, -45

Visual Fabric Assignment: Verwood-type (Horton Variant)
Broad Date/Period: Post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned to nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sr-rnd, <1mm.
Few flint; eq, sa, <0.25mm.
Few - rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite; sr-rnd, <0.15mm - heat affected mid reddish yellow.
Very rare muscovite; ang, <0.125mm.
Very rare chlorite; sa, <0.125mm.

Fine Fraction: 30-40%, <0.1mm
Frequent - Dominant: Quartz.
Common - Frequent: Ferruginous inclusions.
Few: Flint.
Few - Rare: Undifferentiated feldspar.
Rare: Glauconite.
Rare: Undifferentiated feldspar.
Very rare: Muscovite.

Matrix: 30-40%, Calcareous, generally iron poor matrix.
Matrix colour in PPL: Light yellowish brown. *Colour in XP:* Mid yellow to light yellowish white. Strongly optically active.
No textural features visible within matrix.

Voids: 10-20%, meso- to micro- sized vesicular voids. Mega- to micro-sized vugh-shaped voids. Wheelthrown, some vugh-shaped voids aligned to long axis of artefact

Comment: Horton variant Verwood-type fabrics can be defined by via dominant iron-rich inclusions and iron-rich argillaceous features, with rare glauconite, and only little muscovite. Certainly Wheelthrown.

Petrographic Thin Section Grouping Assignment: Verwood-type Sub-group 1 - Horton

Section II: Control Group

Site: East Worth, Verwood (VER2) – SAMPLES: EWR2, -6, -7, -9, -12

Visual Fabric Assignment: Verwood-type
Broad Date/Period: Post-medieval

Inclusions: 30-40%, eq and el, ang-sr. Close to single spaced. Inclusions generally aligned to long axis. Moderate bimodal grain size distribution.

Coarse Fraction: 60-70%, 0.75-0.05mm
Frequent - dominant quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common - few ferruginous inclusions; eq and el, sr-rnd, <0.75mm. Appears to infill some voids in EWR-9.
Few - rare argillaceous features, eq and el, sr-rnd, <0.75mm - iron poor with rare quartz inclusions (<0.125mm), occasionally iron-rich areas within - no apparent zoning.
Rare muscovite; el, ang, <0.125mm.
Very rare glauconite; sr-rnd, <0.1mm - heat affected mid reddish yellow.
Very rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare flint; eq and el, sa, <0.25mm.
Very rare sandstone; sa, eq, <1.25mm - only seen in EWR-12

Fine Fraction: 30-40%, <0.05mm
Dominant: Quartz.
Common: Ferruginous inclusions.
Few: Muscovite.
Rare: Glauconite.
Very rare: Undifferentiated feldspar.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellow brown to light yellowish grey. *Colour in XP:* Light greyish yellow to mid yellowish red.
Moderate to poorly optically active
Few textural concentration and depletion features, eq and el, sr-rnd, <0.5mm.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- and micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact. Very similar to VER3 samples, but with greater proportion of quartz in both coarse and fine fractions, plus mica appears to be more common in the East Worth samples, but both EWR and VER3 samples exhibit muscovite.

Petrographic Thin Section Grouping Assignment: Verwood-type Sub-group 2a - Verwood and East Worth

Section II: Control Group

Site: Crossroads (VER3) – SAMPLES: VER3-4, -16, -21, -32, -37

Visual Fabric Assignment: Verwood-type
Broad Date/Period: Post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to double spaced. Inclusions randomly aligned. Moderate bimodal grain size distribution.

Coarse Fraction: 50-60%, 2-0.05mm
Frequent quartz; eq and el, ang - sr, <0.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common - few ferruginous inclusions; eq and el, sr-rnd, <0.75mm.
Very rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare glauconite; sr-rnd, <0.1mm - heat affected mid reddish yellow.
Very rare flint; eq, sa, <2mm.
Very rare argillaceous features; eq and el, sr-rnd, <0.75mm - often iron poor with no zoning. This was judged as common in VER3-37, eq and el, sr, <2mm.

Fine Fraction: 40-50%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Few: Glauconite.
Very rare: Flint.
Very Rare: Undifferentiated feldspar.
Very rare: Muscovite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Mid yellowish red to light yellow brown. *Colour in XP:* Mid yellow brown to mid yellow.
Moderately optically active.
Very rare textural features, eq and el, sr-rnd, <0.75mm - often iron poor with no zoning.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids. Wheelthrown, some vugh-shaped voids aligned to long axis of artefact

Comment: Matches: Verwood variant of Verwood-type fabric. The Verwood, Harbridge and Alderholt sites appear to collectively be very similar. Generally these display fewer iron-rich inclusions, less argillaceous features. Verwood and East Worth area samples appear to have large flint inclusions (where seen), with East Worth has displaying the most muscovite in the fabric group. Certainly Wheelthrown.

Petrographic Thin Section Grouping Assignment: Verwood-type Sub-group 2a – Verwood and East Worth

Section II: Control Group

Site: East Holme - Whiteware (EHW) – SAMPLES: EHW4, -9, -13, -20, -50

Visual Fabric Assignment: Dorset Whiteware - Post-medieval (DWWPM)
Broad Date/Period: Post-medieval

Inclusions: 30-40%, eq. and el, sa-rnd. Close to single spaced. Randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.1mm
Dominant quartz; eq and el, sa - rnd, <1mm. Monocrystalline quartz, most with undulose extinction. Few polycrystalline examples throughout sample. Some of both types are iron stained.
Few ferruginous inclusions; eq and el, sr-rnd, <0.25mm.
Few argillaceous features; eq and el, sr-rnd, <0.5mm - iron poor with no zoning.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare garnet; eq and el, sa, <0.25mm - most prominent in EHW4.
Very rare sandstone; el, sr - rnd, <1mm.

Fine Fraction: 30-40%, <0.1mm
Frequent: Quartz.
Common - Few: Ferruginous inclusions.
Few: Glauconite.
Very Rare: Undifferentiated feldspar.

Matrix: 30-40%, Strongly Calcareous.
Matrix colour in PPL: White - light yellowish white. *Colour in XP:* Off white to light yellowish white.
Moderately optically active.
No textural features visible within matrix.

Voids: 10-20%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids. Wheelthrown, some vugh-shaped voids aligned to long axis of artefact.

Comment: Matches: Dorset Whiteware is easily identifiable in thin section in relation to all Verwood-types sampled. There is significantly less iron in both ferruginous inclusions and displayed in colour of the clay matrix. Furthermore, polycrystalline quartz appears more common than in VER. No identifiable muscovite or flint witnessed in any samples. Certainly Wheelthrown.

Petrographic Thin Section Grouping Assignment: DWWPM

Section II: Control Group

Site: Laverstock Coarseware (LAVC) – SAMPLES: LAVC1, -11, -22, -24, -30

Visual Fabric Assignment: Laverstock Coarseware – Visually identical to Developed Wessex Coarseware

Broad Date/Period: Medieval

Inclusions: 40-50%, eq. and el, ang-rnd. Close to single spaced. Randomly aligned. Clear bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.1mm
Dominant quartz; eq and el, sa - rnd, <1mm. Monocrystalline quartz most with undulose extinction, with very few polycrystalline examples.
Few ferruginous inclusions; eq and el, sr-rnd, <0.5mm.
Rare argillaceous features, eq and el, sr-rnd, <0.5mm - iron poor with no zoning.
Rare flint; el and eq, sa, <0.75mm.
Rare glauconite; sa-sr, <0.5mm
Rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare sandstone; el, sr - rnd, <0.5mm.
Very rare chlorite; sa, <0.125mm (*e.g.* LAVC24)

Fine Fraction: 30-40%, <0.1mm
Frequent: Quartz.
Common - Few: Ferruginous inclusions.
Few: Glauconite.
Very Rare: Undifferentiated feldspar.
Very Rare: Flint.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Light yellowish brown. *Colour in XP:* Mid yellowish red to light yellow. Poorly optically active.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 10-20%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids.

Comment: Elements are wheelturned, with some hand-building. This is shown in some vugh-shaped voids aligned to long axis of artefact but little alignment of inclusions – or this could be elements of rapid drying - not certain. There is secondary calcification within certain voids showing that these sherds have been within a calcareous burial environment - implies leaching in this geology is extensive.

LAVC can be classed as part of the Wessex Coarseware fabric group. For the most part the LAVC samples appear to correlate best with the Developed variant (DWCW). In comparison to WARC they exhibit less flint, and generally smaller inclusion size, but both WARC and LAVC appear to have sand added as temper (rounded quartz).

Petrographic Thin Section Grouping Assignment: DWCW

Section II: Control Group

Site: Laverstock Fineware (LAVF) – SAMPLES: LAVF5, -9, -13, -18, -20

Visual Fabric Assignment: Laverstock Fineware
Broad Date/Period: Medieval

Inclusions: 30-40%, eq. and el, ang-rnd. Close to single spaced. Most inclusions are aligned to long axis of artefact. Clear bimodal grain size distribution.

Coarse Fraction: 40-50%, 2-0.08mm
Dominant quartz; eq and el, sa - rnd, <1mm. Monocrystalline quartz most with undulose extinction, with very few polycrystalline quartz. Some examples are iron stained.
Common - few ferruginous inclusions; eq and el, sa-rnd, <1mm.
Few flint; el and eq, sa, <0.5mm.
Few- rare muscovite; ang, <0.125mm.
Few - rare argillaceous features; eq and el, sa-sr, <2mm - some are iron poor with no zoning, other are iron rich with moderate to poor zoning.
Rare orthoclase feldspar; eq, sa, <0.125mm.

Fine Fraction: 40-50%, <0.08mm
Frequent: Quartz.
Common - Few: Muscovite
Common - Few: Ferruginous inclusions.
Rare: Glauconite.
Very rare: Flint.
Very rare: Undifferentiated feldspar.

Matrix: 30-40%, Calcareous and partially micaceous.
Matrix colour in PPL: Light yellowish brown to light yellowish white. *Colour in XP:* Mid yellowish red to light yellowish white.
Strongly optically active.
Few textural features visible within matrix - mostly discrete pockets of concentration features (*e.g.* LAVF9).

Voids: 10-20%, macro- to micro- sized vesicular voids. Mega- to micro-sized vugh-shaped voids.

Comment: LAVF is a distinctive fabric, appearing similar to Verwood-type examples in thin section. The muscovite content shows similarity with later Verwood-type wares, especially those from group 2a (Verwood and East Worth). This could be problematic in discerning EVER, VER and LAVF examples. LAVF share very little similarity with DWW (PLF samples) and the two are readily distinguishable, sometimes via matrix alone. Wheelthrown, some vugh-shaped voids and most inclusions appear aligned to long axis of artefact. This is a well-sorted clay mix, possibly with signs of limited levigation as concentration features are discrete but still present.

Petrographic Thin Section Grouping Assignment: LAVF

Section II: Control Group

Site: Pound Lane, Wareham - Coarseware (WARC) – SAMPLES: PLC5, -25, -26, -30, -33

Visual Fabric Assignment: Wareham Coarseware
Broad Date/Period: Medieval

Inclusions: 40-50%, eq. and el, ang-rnd. Close to single spaced. Most inclusions are generally aligned to the long axis of the artefact. Clear bimodal grain size distribution.

Coarse Fraction: 70-80%, 1.5-0.125mm
Frequent - dominant quartz; eq and el, sa - rnd, <1.5mm. Monocrystalline quartz most with undulose extinction, with very few polycrystalline quartz. Some examples are iron stained.
Few flint; el and eq, ang - sa, <1.5mm.
Few argillaceous features; eq and el, sr-rnd, <0.5mm - generally iron poor with no zoning.
Rare orthoclase feldspar; eq, sa-sr, <1mm.

Fine Fraction: 20-30%, <0.125mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Very rare: Flint.
Common - Few: Ferruginous inclusions.
Very rare: Undifferentiated feldspar.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Light to mid yellowish brown. *Colour in XP:* Dark yellowish brown to light yellowish brown.
Strong to moderately optically active.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids.

Comment: Elements are probably wheelturned, with some hand-building. This is shown in some vugh-shaped voids being aligned to the long axis of artefact. This is less reflected in the alignment of inclusions, with few being aligned in this way. Collectively, this could be due to of rapid drying but is not certain.

WARC is coarser than LAVC samples, thus it has been classed as part of the Wessex Coarseware group. WARC exhibits slightly more flint, and generally larger quartz grain size – which is hardly a reliable discriminator, despite this there is little to tell the two apart as variance in degrees of roundness are not overtly obvious. It can be said with certainty, however, that both WARC and LAVC appear to have sand added as temper (both contain rounded quartz) – unsurprising as they from two parts of the same ceramic tradition. While coarser than Laverstock, the basic fabric analysis suggests these are still refined enough to be classed as Developed Wessex Coarseware (DWCW), which has been retained here.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group (moved from Control Group)

Site: East Holme redware (EHR) – SAMPLE: EHR14

Visual Fabric Assignment: Uncertain redware
Broad Date/Period: Post-medieval

Inclusions: 20-30%, eq. and el, ang-rnd. Close to single spaced. Randomly aligned. Clear bimodal grain size distribution.

Coarse Fraction: 70-80%, 1.5-0.125mm
Frequent - dominant quartz; eq and el, sa - rnd, <1.5mm. Monocrystalline quartz most with undulose extinction, with very few polycrystalline quartz. Some examples are iron stained.
Few ferruginous inclusions; eq and el, sa-sr, <1mm.
Few argillaceous features; eq and el, sr-rnd, <0.5mm - generally iron poor with no zoning.
Rare orthoclase feldspar; eq, sa-sr, <1mm.

Fine Fraction: 20-30%, <0.125mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Very rare: Flint.
Very rare: Undifferentiated feldspar.

Matrix: 40-50%, Calcareous.
Matrix colour in PPL: Light to mid yellowish brown. *Colour in XP:* Dark yellowish brown to light yellowish brown.
Strong to moderately optically active.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids.

Comment: A provenance for this ware is difficult to discern. There are remarkable similarities with the East Holme Whiteware samples, suggesting that this fabric may be a more iron-rich variant. The presence of flint and lack of garnet within this sample certainly suggests that this is a different clay despite having some similarities. Probably wheelthrown - some vugh-shaped voids aligned to long axis of artefact.

Petrographic Thin Section Grouping Assignment: Uncertain redware, but possibly linked to a south Dorset source.

Section III: Unprovenanced Group (moved from Control Group)

Site: East Holme redware (EHR) – SAMPLE: EHR17

Visual Fabric Assignment: Uncertain redware
Broad Date/Period: Post-medieval

Inclusions: 20-30%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned to nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 50-60%, 0.75-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority.
Frequent ferruginous inclusions; eq and el, sr-rnd, <0.75mm.
Few muscovite; ang, <0.125mm.
Few - rare argillaceous featres; eq and el, sr-rnd, <0.75mm - iron rich with quartz inclusions - no zoning.
Few - rare orthoclase feldspar; eq, sa, <0.125mm.

Fine Fraction: 40-50%, <0.1mm
Frequent - Dominant: Quartz.
Common - Few Muscovite, ang, <0.125mm.
Few - Rare: Undifferentiated feldspar.

Matrix: 50-60%, Non-calcareous, micaceous and iron rich
Matrix colour in PPL: Dark yellowish brown. *Colour in XP:* Mid reddish brown.
Moderate to poorly optically active.
Some concentration and depletion features - more prominent towards centre of artefact.

Voids: 5-10%, meso- to micro- sized vesicular voids. Mega- to micro-sized vugh-shaped voids.

Comment: Well sorted fabric. Some inclusions and voids aligned to long axis of artefact, suggesting wheelthrown construction, but few voids. This uncertain redware has some similarities to South Hampshire Redwares, but no known source of post-medieval pottery production are known in that area, therefore it cannot be assigned with certainty.

Petrographic Thin Section Grouping Assignment: Uncertain redware, possibly South Hampshire.

Section III: Unprovenanced Group (moved from Control Group)

Site: East Holme redware (EHR) – SAMPLE: EHR20

Visual Fabric Assignment: Possibly Verwood-type?
Broad Date/Period: Post-medieval

Inclusions: 30-40%, eq. and el, ang-sr. Close to double spaced. Inclusions randomly aligned. Moderate bimodal grain size distribution.

Coarse Fraction: 50-60%, 0.75-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Few ferruginous inclusions; eq and el, sr-rnd, <0.5mm.
Very rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare glauconite; sr-rnd, <0.1mm - heat affected mid reddish yellow.
Very rare flint; eq, sa, <0.5mm.
Very rare argillaceous features; eq and el, sr-rnd, <0.75mm - often iron poor with no zoning.

Fine Fraction: 40- 50%, <0.1mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Few-Rare: Glauconite.
Rare: Muscovite.
Very rare: Flint.
Very rare: Undifferentiated feldspar.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Mid yellowish red to light yellow brown.
Colour in XP: Mid yellow brown to mid yellow.
Moderately optically active.
Some iron-rich and iron-poor striations showing limited alteration from clay source - potentially used as dug.

Voids: 10-20%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids.

Comment: This sample is wheelthrown, evidenced by some vugh-shaped voids aligned to long axis of artefact. EHR-20 is most likely a Verwood-type product matching best with Sub-group 2b Harbridge and Alderholt.

Petrographic Thin Section Grouping Assignment: Verwood-type; Sub-group 2b - Harbridge and Alderholt.

Section III: Unprovenanced Group (moved from Control Group)

Site: East Holme redware (EHR) – SAMPLE: EHR21

Visual Fabric Assignment: Possibly Verwood-type?
Broad Date/Period: Post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned to nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sr-rnd, <1mm.
Few flint; eq, sa, <0.25mm.
Few - rare argillaceous features; eq and el, sr-rnd, <1mm - some iron poor with no inclusions, others iron rich with quartz inclusions - no zoning.
Few - rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite; sr-rnd, <0.15mm - heat affected mid reddish yellow.
Very rare muscovite; ang, <0.125mm.

Fine Fraction: 30-40%, <0.1mm
Frequent - Dominant: Quartz.
Common - Frequent: Ferruginous inclusions.
Few: Flint.
Few - Rare: Undifferentiated feldspar.
Very rare: Glauconite.
Very rare: Muscovite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish brown. *Colour in XP:* Mid yellow to light yellowish white. Moderate to poorly optically active.
Some concentration and depletion features - more prominent towards centre of artefact.

Voids: 10-20%, meso- to micro- sized vesicular voids. Mega- to micro-sized vugh-shaped voids.

Comment: This sample is wheelthrown, evidenced by some vugh-shaped voids aligned to long axis of artefact. EHR-21 is most likely a Verwood-type product matching best with Sub-group 1 – Horton.

Petrographic Thin Section Grouping Assignment: Verwood-type; Sub-group 1 – Horton

Section III: Unprovenanced Group (moved from Control Group)

Site: East Holme redware (EHR) – SAMPLE: EHR49

Visual Fabric Assignment: Uncertain Redware
Broad Date/Period: Post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned to nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 1.25-0.1mm
Frequent quartz; eq and el, sa - sr, <1.25mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sr-rnd, <1mm.
Few - rare argillaceous features; eq and el, sr-rnd, <1mm - some iron poor with no inclusions, others iron rich with quartz inclusions - no zoning.
Few - rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare flint; eq, sa, <0.25mm.
Very rare glauconite; sr-rnd, <0.15mm - heat affected mid reddish yellow.

Fine Fraction: 20-30%, <0.1mm
Dominant: Quartz.
Common: Ferruginous inclusions.
Few - Rare: Undifferentiated feldspar.
Rare: Flint.
Very Rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Mid reddish brown. *Colour in XP:* Mid reddish brown to mid reddish yellow.
Moderate to poorly optically active.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 10-20%, meso- to micro- sized vesicular voids. Mega- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact.
Well sorted fabric; uncertain provenance.

Petrographic Thin Section Grouping Assignment: Uncertain redware

Section III: Unprovenanced Group

Site: Lymington ACW1012 – SAMPLE: LYM1

Visual Fabric Assignment: Possibly EVER?
Broad Date/Period: Late medieval/ Early post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 50-60%, 1-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority.
Common - few muscovite; ang, <0.25mm
Few - rare ferruginous inclusions; eq and el, sr-rnd, <1mm.
Rare glauconite; sr-rnd, <0.1mm - heat affected mid reddish yellow.
Rare argillaceous inclusions; sr-rnd, <1mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Very rare flint; sa, <0.125mm.

Fine Fraction: 40-50%, <0.1mm
Frequent - Dominant: Quartz.
Common - Frequent: Ferruginous inclusions.
Common: Muscovite.
Few - Rare: Undifferentiated feldspar.
Rare: Glauconite.
Very rare: Flint.

Matrix: 30-40%, Iron rich and micaceous.
Matrix colour in PPL: Light yellowish brown to mid grey. *Colour in XP:* Mid yellowish red to light yellowish grey.
Moderately optically active.
Limited concentration and depletion features across artefact.

Voids: 20-30%, meso- to micro- sized vesicular voids. Mesoa- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact; uncertain provenance. Similar to VER but with the fine fraction seen in SHRW samples.

Petrographic Thin Section Grouping Assignment: Uncertain EVER or a coarse variant of SHRW (Similar to Verwood-type sub-group 2a – but with increased fine fraction).

Section III: Unprovenanced Group

Site: Lymington ACW1012 – SAMPLE: LYM2

Visual Fabric Assignment: South Hampshire Redware (SHRW)
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to double spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 20-30%, 0.5-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Common - few muscovite; ang, <0.125mm.
Rare ferruginous inclusions; eq and el, sr-rnd, <0.125mm.
Rare argillaceous inclusions; sr-rnd, <1mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Very rare flint; sa, <0.125mm.
Very rare glauconite; sr-rnd, <0.1mm - heat affected mid reddish yellow.

Fine Fraction: 70-80%, <0.1mm
Frequent - Dominant: Quartz.
Common: Muscovite.
Rare: Ferruginous inclusions.
Few - Rare: Undifferentiated feldspar.
Rare: Glauconite.
Very rare: Flint.

Matrix: 30-40%, Non-calcareous, micaceous and iron-rich.
Matrix colour in PPL: Mid red. *Colour in XP:* Mid yellowish red to light yellowish grey.
Optically inactive.
Some concentration features – mostly towards the centre of artefact.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some voids and inclusions and voids aligned to long axis of artefact. The iron-rich nature and high fine fraction suggest that this ware type is a product of the south Hampshire sandy clays.

Petrographic Thin Section Grouping Assignment: SHRW

Section III: Unprovenanced Group

Site: Lymington ACW1012 – SAMPLE: LYM3

Visual Fabric Assignment: Late Medeival Well Fired Sandy Ware (LMWFSW)
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 30-40%, 1-0.1mm
Frequent quartz; eq and el, ang - sr, <1mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Common - few muscovite; ang, <0.125mm
Rare ferruginous inclusions; eq and el, sr-rnd, <0.25mm.
Rare argillaceous inclusions; sr-rnd, <1mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Very rare flint; sa-ang, <0.5mm

Fine Fraction: 60-70%, <0.1mm
Frequent - Dominant: Quartz.
Common: Muscovite.
Rare: Ferruginous inclusions.
Few - Rare: Undifferentiated feldspar.
Very rare: Glauconite.
Very rare: Flint.

Matrix: 20-30%, Non-calcareous, micaceous and iron rich.
Matrix colour in PPL: Light reddish brown to light yellowish grey. *Colour in XP:* Mid red to mid grey.
Highly optically active.
Some concentration features towards centre of artefact.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some voids and inclusions and voids aligned to long axis of artefact. The iron-rich nature and high fine fraction suggest that this ware type is a product of the south Hampshire sandy clays.

Petrographic Thin Section Grouping Assignment: SHRW

Section III: Unprovenanced Group

Site: Wilton, Wiltshire – SAMPLE: WIL1

Visual Fabric Assignment: WCW
Broad Date/Period: Medieval

Inclusions: 30-40%, eq. and el, sa-rnd. Close to double spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1.125-0.1m
Frequent quartz; eq and el, sa - rnd, <1.125mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; sa - ang, <1mm.
Common - few orthoclase feldspar; sr - sa, <0.75mm.
Few plagioclase feldspar; sr - sa, <0.75mm.
Rare glauconite; sr-rnd; <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 30-40%, <0.1mm
Frequent - Dominant: Quartz.
Few - Rare: Undifferentiated feldspar.
Rare: Ferruginous inclusions.
Rare: Glauconite.
Rare: Flint.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish grey. *Colour in XP:* Light yellow.
Optically active.
Some concentration features towards centre of artefact.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, all aligned along long axis of artefact.

Comment: Possibly wheelthrown, most voids aligned to long axis of artefact with some inclusions at the margins aligned similarly. Inclusions at centre of artefact are randomly aligned. Most similar to LAVC, but assigned WCW.

Petrographic Thin Section Grouping Assignment: WCW, possibly LAVC

Section III: Unprovenanced Group

Site: Wilton, Wiltshire – SAMPLE: WIL2

Visual Fabric Assignment: WCW
Broad Date/Period: Medieval

Inclusions: 40-50%, eq. and el, sa-sr. Close to double spaced. Inclusions aligned to nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.1m
Frequent quartz; eq and el, sa - rnd, <1mm. Monocrystalline and Polycrystalline quartz, most with undulose extinction.
Common flint; sa - ang, <1mm.
Common orthoclase feldspar; sr - sa, <0.75mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 30-40%, <0.1mm
Frequent - Dominant: Quartz.
Few - Rare: Undifferentiated feldspar.
Rare: Ferruginous inclusions.
Rare: Glauconite.
Very rare: Flint.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish grey. *Colour in XP:* Light yellow.
Optically active.
Some concentration features towards centre of artefact.

Voids: 10-20%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, all aligned along long axis of artefact.

Comment: Possibly wheelthrown, most voids and inclusions aligned to long axis of artefact. Similar to LAVC and WARC – assigned as WCW.

Petrographic Thin Section Grouping Assignment: WCW

Section III: Unprovenanced Group

Site: Wilton, Wiltshire – SAMPLE: WIL3

Visual Fabric Assignment: DWCW
Broad Date/Period: Medieval

Inclusions: 30-40%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned to nearest margin - central inclusions are more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1.5-0.1m
Frequent quartz; eq and el, ang - rnd, <1mm. Monocrystalline and Polycrystalline quartz, most with undulose extinction. Some Iron stained.
Common flint; sa - ang, <0.25mm.
Common orthoclase feldspar; sr - sa, <0.25mm.
Rare plagioclase feldspar; sr - sa, <0.125mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Rare argillaceous inclusions, sr-rnd, <1.5mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.

Fine Fraction: 30-40%, <0.1mm
Frequent - Dominant: Quartz.
Few - Rare: Undifferentiated feldspar.
Rare: Ferruginous inclusions.
Rare: Glauconite.
Rare: Flint.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish grey. *Colour in XP:* Light yellow.
Optically active.
Some concentration features towards centre of artefact.

Voids: 10-20%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, all aligned along long axis of artefact.

Comment: Possibly wheelthrown, most voids and inclusions aligned to long axis of artefact. Similar to LAVC and WARC – assigned as WCW.

Petrographic Thin Section Grouping Assignment: DWCW, probably LAVC

Section III: Unprovenanced Group

Site: Wilton, Wiltshire – SAMPLE: WIL4

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/ Early post-medieval

Inclusions: 30-40%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned to nearest margin - central inclusions are more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 50-60%, 1.5-0.1m
Frequent quartz; eq and el, ang - rnd, <1mm. Monocrystalline and Polycrystalline quartz, most with undulose extinction. Some iron stained.
Few ferruginous inclusions; eq and el, sr-rnd, <0.25mm.
Rare flint; sa - ang, <0.25mm.
Few - rare orthoclase feldspar; sr - sa, <0.25mm.
Rare plagioclase feldspar; sr - sa, <0.125mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Rare argillaceous inclusions; sr-rnd, <1.5mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Rare muscovite; ang, <0.125mm.

Fine Fraction: 40-50%, <0.1mm
Frequent - Dominant: Quartz.
Common: Muscovite.
Few - Rare: Undifferentiated feldspar.
Rare: Ferruginous inclusions.
Rare: Glauconite.
Rare: Flint.

Matrix: 30-40%, Calcareous and Micaceous.
Matrix colour in PPL: Light yellowish grey. *Colour in XP:* Light yellow.
Optically active.
Some concentration features towards centre of artefact.

Voids: 10-20%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, all aligned along long axis of artefact.

Comment: Wheelthrown, most voids and inclusions aligned to long axis of artefact with vugh-shaped voids aligned similarly. Basic fabric analysis this appeared to be either an EVER or LAVF, yet under the microscope this is closer to examples of DWCW.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: Wilton, Wiltshire – SAMPLE: WIL5

Visual Fabric Assignment: Uncertain EVER or LAVF
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned to nearest margin - central inclusions are more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1.5-0.1m
Frequent quartz; eq and el, ang - rnd, <1mm. Monocrystalline and Polycrystalline quartz, most with undulose extinction. Some Iron stained.
Few flint; sa-ang, <0.25mm.
Rare orthoclase feldspar; sr-sa, <0.25mm.
Rare plagioclase feldspar; sr-sa, <0.125mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Rare argillaceous inclusions; sr-rnd, <1.5mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Very rare chlorite; sa, <0.125mm.

Fine Fraction: 30-40%, <0.1mm
Frequent - Dominant: Quartz.
Few - Rare: Undifferentiated feldspar.
Rare: Ferruginous inclusions.
Rare: Glauconite.
Rare: Flint.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish grey. *Colour in XP:* Light yellow.
Optically active.
Some concentration features towards centre of artefact.

Voids: 10-20%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, all aligned along long axis of artefact.

Comment: Wheelthrown, most voids and inclusions aligned to long axis of artefact with vugh-shaped voids aligned similarly. Basic fabric analysis this appeared to be either an EVER or LAVF, yet under the microscope this is closer to examples of LAVF.

Petrographic Thin Section Grouping Assignment: LAVF

Section III: Unprovenanced Group

Site: Poole, Dorset – SAMPLE: POO1

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early post-medieval

Inclusions: 40-50%, eq. and el, sa-sr. Close to single spaced. Inclusions poorly aligned to nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 0.75-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <0.75mm.
Rare flint; eq, sa, <0.125mm.
Rare orthoclase feldspar; eq, sa - sr, <0.125mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Rare argillaceous inclusions; sr-rnd, <1.5mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.

Fine Fraction: 30-40%, <0.1mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Rare: Glauconite.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Light yellowish grey. *Colour in XP:* Mid yellow to light greyish yellow.
Strongly optically active to not optically active.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Mega- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, most voids and inclusions aligned to long axis of artefact with vugh-shaped voids aligned similarly. Basic fabric analysis this appeared to be either an EV-ER or LAVF, yet under the microscope this is closer to examples of Verwood-type Horton samples.

Petrographic Thin Section Grouping Assignment: EVER (Similar to Verwood-type Sub-group 1 – Horton)

Section III: Unprovenanced Group

Site: Poole, Dorset – SAMPLE: POO3

Visual Fabric Assignment: DWCW
Broad Date/Period: Late medieval

Inclusions: 40-50%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned to nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.1m
Frequent quartz; eq and el, sa - rnd, <1mm. Monocrystalline and Polycrystalline quartz, most with undulose extinction.
Common flint; sa - ang, <0.75mm.
Common orthoclase feldspar; sr - sa, <0.75mm.

Fine Fraction: 30-40%, <0.1mm
Frequent - Dominant: Quartz.
Few - Rare: Undifferentiated feldspar.
Rare: Ferruginous inclusions.
Rare: Flint.
Very rare: Glauconite.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Light yellowish grey to black. *Colour in XP:* Light whitish yellow to black.
Strongly optically active to not optically active.
Some concentration features towards centre of artefact.

Voids: 20-30%, meso- to micro- sized vesicular voids. Mega- to micro-sized vugh-shaped voids.

Comment: Possibly wheelthrown, most voids and inclusions aligned to long axis of artefact. From basic fabric analysis this appeared to be DWCW, yet under the microscope this is closer to examples of WCW.

Petrographic Thin Section Grouping Assignment: WCW

Section III: Unprovenanced Group

Site: Poole, Dorset – SAMPLE: POO5

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early Post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to double spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 20-30%, 0.5-0.1mm
Common quartz; eq and el, sa - rnd, <0.5mm. Monocrystalline and Polycrystalline quartz, most with undulose extinction.
Common muscovite; el, sa, <0.125mm.
Rare argillaceous inclusions, sa - sr, <0.5mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.

Fine Fraction: 70-80%, <0.1mm
Dominant: Quartz.
Few - Rare: Undifferentiated feldspar.
Rare: Ferruginous inclusions.
Rare: Flint.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish grey. *Colour in XP:* Light yellowish grey.
Strongly optically active to not optically active.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 10-20%, Meso- to Micro-sized voids.

Comment: Very fine grained, with few coarse components. Ware is certainly wheelthrown from well prepared clay with a very uniform matrix. This ware does not match any I nthe control group, nor any known southern English example held by the author for comparison. Instead North French imported examples held by the author were examined for comparisons, but no direct matches were identified. Depsite this, the sample is considered to be a probable North French Import, certainly not south Dorset and has minimal similarities with east Dorset samples.

Petrographic Thin Section Grouping Assignment: Uncertain fineware - North French Import?

Section III: Unprovenanced Group

Site: Poole, Dorset – SAMPLE: POO6

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early Post-medieval

Inclusions: 40-50%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.1mm
Frequent quartz; eq and el, ang - sr, <1mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority.
Common - few muscovite; ang, <0.25mm.
Common - few glauconite; sr-rnd, <0.3mm - heat affected mid reddish yellow to mid yellowish green.
Few - rare ferruginous inclusions; eq and el, sr-rnd, <1mm.
Rare argillaceous inclusions; sr-rnd, <0.75mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Rare flint; sa, <0.25mm.
Rare orthoclase feldspar; sr - sa, <0.25mm.
Very rare chlorite; sa, <0.125mm.

Fine Fraction: 30-40%, <0.1mm
Dominant: Quartz.
Few - Rare: Undifferentiated feldspar.
Rare: Ferruginous inclusions.
Rare: Flint.
Very rare: Glauconite.

Matrix: 30-40%, Non-calcareous and micaeous.
Matrix colour in PPL: Light yellowish grey to dark grey. *Colour in XP:* Mid yellowish red to light yellowish grey.
Optically inactive.
Some concentration and depletion features throughout sample.

Voids: 10-20%, meso- to micro- sized vesicular voids. Mesoa- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact along with inclusions. Similar to Verwood-type sub-group 2a but displays a fine fraction only seen in South Hampshire samples – attribution not certain.

Petrographic Thin Section Grouping Assignment: Uncertain EVER or SHRW (Similar to Verwood-type sub-group 2a – but with increased fine fraction).

Section III: Unprovenanced Group

Site: Poole, Dorset – SAMPLE: POO7

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early Post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to double spaced. Inclusions and voids aligned with nearest margin. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 2-0.05mm
Frequent quartz; eq and el, sa - rnd, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <2mm. Completely black when hard fired.
Rare flint; eq, sa, <0.125mm.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 30-40%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish brown to light yellowish grey. *Colour in XP:* Mid yellow to light greyish yellow.
Strongly optically active.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Comment: Certainly wheelthrown, some vugh-shaped voids and inclusions aligned to long axis of artefact. Sample matches Horton samples.

Petrographic Thin Section Grouping Assignment: EVER – Verwood-type Sub-group 1 Horton

Section III: Unprovenanced Group

Site: Poole, Dorset – SAMPLE: POO12

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early Post-medieval

Inclusions: 40-50%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 0.75-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <0.75mm.
Rare flint; eq, sa, <0.3mm.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite, sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 30-40%, <0.1mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish brown to light yellowish grey. *Colour in XP:* Mid yellow to light greyish yellow.
Strongly optically active.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Mega- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact along with inclusions. Similar to Horton samples.

Petrographic Thin Section Grouping Assignment: EVER: Verwood-type Sub-group 1 - Horton

Section III: Unprovenanced Group

Site: Wimborne Minster, Dorset – SAMPLE WIM1

Visual Fabric Assignment: Developed Wessex Coarseware (DWCW)
Broad Date/Period: Medieval

Inclusions: 40-50%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 1.25-0.05mm
Frequent quartz; eq and el, sa - rnd, <1.25mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common flint; sa - ang, <1mm
Common - few orthoclase feldspar; sr - sa, <0.75mm
Rare plagioclase feldspar; sr - sa, <0.75mm
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish red to light yellowish grey. *Colour in XP:* Mid yellowish red to mid grey.
Optically inactive.
Some concentration features towards centre of artefact.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, all aligned along long axis of artefact.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact along with inclusions. Generally matches with other WCW, unclear if LAVC or WARC.

Petrographic Thin Section Grouping Assignment: WCW

Section III: Unprovenanced Group

Site: Wimborne Minster, Dorset – SAMPLE WIM2

Visual Fabric Assignment: Developed Wessex Coarseware (DWCW)
Broad Date/Period: Medieval

Inclusions: 40-50%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 1.25-0.05mm
Frequent quartz; eq and el, sa - rnd, <1.25mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; sa - ang, <1mm.
Common orthoclase feldspar; sr - sa, <0.75mm.
Few - rare plagioclase feldspar; sr - sa, <0.75mm.
Rare glauconite, sr-rnd, <0.125mm - heat affected mid reddish yellow.
Very rare ferruginous inclusions; eq and el, sr-rnd, <0.125mm.

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish red to light yellowish grey. *Colour in XP:* Mid yellowish red to mid grey.
Partially optically active.
Some concentration features appear to tally with relic coils..

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids – variable alignments.

Comment: Handmade – coil-built; most voids aligned to long axis of artefact with some inclusions at the margins aligned similarly. Several concentrations tally with 'relic coils'. Generally matches with other WCW, unclear if LAVC or WARC.

Petrographic Thin Section Grouping Assignment: WCW

Section III: Unprovenanced Group

Site: Wimborne Minster, Dorset – SAMPLE WIM3

Visual Fabric Assignment: Wessex Coarseware (WCW)
Broad Date/Period: Medieval

Inclusions: 40-50%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 2.25-0.05mm
Frequent quartz; eq and el, sa - rnd, <1.5mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; sa - ang, <2.25mm.
Common orthoclase feldspar; sr - sa, <1mm.
Few - rare plagioclase feldspar; sr - sa, <0.5mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Rare argillaceous inclusions; sr-rnd, <1.5mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.

Fine Fraction: 30-40%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Common - Few: Undifferentiated feldspar.
Rare: Flint.
Very rare: Glauconite.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Dark yellowish brown to light yellowish brown. *Colour in XP:* Mid yellowish red to mid grey.
Partially optically active.
Some concentration features appear to tally with relic coils..

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids – variable alignments. Some secondary calcification within voids.

Comment: Handmade – coil-built; most voids aligned to long axis of artefact with some inclusions at the margins aligned similarly. Several concentrations tally with 'relic coils'. Generally matches the few Southampton area samples taken. Limited secondary calcification within certain voids show this sherd has been subject to a calcareous burial environment.

Petrographic Thin Section Grouping Assignment: Southampton Coarseware or early South Hampshire Redware – probably the latter.

Section III: Unprovenanced Group

Site: Wimborne Minster, Dorset – SAMPLE WIM4

Visual Fabric Assignment: Uncertain LAVF or EVER
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Most inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 20-30%, 0.75-0.1mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Common - few muscovite; ang, <0.25mm.
Very rare ferruginous inclusions; eq and el, sr-rnd, <0.125mm.
Very rare argillaceous inclusions, sr-rnd, <1mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Very rare flint, sa, <0.125mm.
Very rare glauconite, sr-rnd, <0.1mm - heat affected mid reddish yellow.

Fine Fraction: 70-80%, <0.1mm
Frequent - Dominant: Quartz.
Common: Muscovite.
Rare: Ferruginous inclusions.
Few - rare: Undifferentiated feldspar.
Rare: Glauconite.
Very rare: Flint.

Matrix: 30-40%, Non-calcareous, micaceous and iron rich.
Matrix colour in PPL: Mid red. *Colour in XP:* Mid yellowish red to light yellowish grey.
Optically inactive.
Some concentration features towards centre of artefact.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some voids and inclusions aligned to long axis of artefact. Matches best with the other thin section sample of SHRW but a fine variant.

Petrographic Thin Section Grouping Assignment: Southampton Whiteware (SOUWW)

Section III: Unprovenanced Group

Site: Wimborne Minster, Dorset – SAMPLE WIM5

Visual Fabric Assignment: West Dorset Sandy Ware (WDSW)
Broad Date/Period: Late medieval

Inclusions: 40-50%, eq. and el., sa-sr, close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 20-30%, 7.5-0.1mm
Frequent quartz; eq and el, ang - sr, <0.5mm. Monocrystalline quartz, some with undulouse extinction. Very rare polycrystalline quartz.
Few muscovite; ang, <0.125mm.
Very rare ferruginous inclusions; eq and el, sr-rnd, <0.125mm.
Very rare argillaceous inclusions; sr-rnd, <7.5mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.

Fine Fraction: 70-80%, <0.1mm
Frequent - Dominant: Quartz.
Common - Few: Muscovite.
Few - Rare: Ferruginous inclusions.
Few - Rare: Undifferentiated feldspar.
Rare: Glauconite.
Very rare: Sandstone.

Matrix: 30-40%, Non-calcareous, micaceous and iron rich.
Matrix colour in PPL: Mid yellowish red to light yellowish grey. *Colour in XP:* Mid yellowish red to mid brownish grey.
Optically inactive.
Some concentration features towards centre of artefact.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some voids and inclusions aligned to long axis of artefact. Matches samples of Holnest WDSWPM thin section samples held by the author.

Petrographic Thin Section Grouping Assignment: WDSW

Section III: Unprovenanced Group

Site: Wimborne Minster, Dorset – SAMPLE WIM6

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to double spaced. Inclusions aligned with nearest margin. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 0.75-0.1mm
Frequent quartz; eq and el, ang - sr, <0.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <0.75mm.
Rare flint; el, sa, <0.5mm.
Rare orthoclase feldspar; eq, sa, <0.25mm.

Fine Fraction: 30-40%, <0.1mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Rare: Glauconite.
Very rare: Flint.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish brown to light yellowish grey. *Colour in XP:* Mid yellow to light greyish yellow.
Optically inactive.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids.

Comment: Certainly wheelthrown, some vugh-shaped voids and inclusions aligned to long axis of artefact. Sample matches Horton samples.

Petrographic Thin Section Grouping Assignment: EVER – Verwood-type Sub-group 1 Horton

Section III: Unprovenanced Group

Site: Wimborne Minster, Dorset – SAMPLE WIM8

Visual Fabric Assignment: WCW
Broad Date/Period: Medieval

Inclusions: 40-50%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 1.25-0.05mm
Frequent quartz; eq and el, sa - rnd, <1.25mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; sa - ang, eq and el, <1mm.
Common - few orthoclase feldspar; sr - sa, <0.75mm.
Few - rare plagioclase feldspar; sr - sa, <1mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light to dark grey. *Colour in XP:* Mid to dark grey.
Partially optically active.
Some concentration features appear to tally with relic coils.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, all aligned along long axis of artefact.

Comment: Handmade – coil-built; most voids aligned to long axis of artefact with some inclusions at the margins aligned similarly. Several concentrations tally with 'relic coils'. Generally matches with other WCW, unclear if LAVC or WARC.

Petrographic Thin Section Grouping Assignment: WCW

Section III: Unprovenanced Group

Site: Horton, Dorset – SAMPLE H2WC-1, -4

Visual Fabric Assignment: WCW
Broad Date/Period: Medieval

Inclusions: 40-50%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 1.25-0.05mm.
Frequent quartz; eq and el, sa - rnd, <1.25mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; sa - ang, <1.125mm.
Common - few ferruginous inclusions; eq and el, sr-rnd, <0.125mm.
Few - rare orthoclase feldspar; sr - sa, <0.75mm
Rare glauconite, sr-rnd, <0.125mm - heat affected mid reddish yellow.
Very rare plagioclase feldspar; sr - sa, <0.75mm

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish red to light yellowish grey. *Colour in XP:* Mid yellowish red to mid grey.
Partially optically active.
Some concentration and depletion features, most close to centre of artefact. Tallys with relic coils and smoothed/partially burnished margins.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, mostly aligned with long axis of artefact.

Comment: Handmade – coil-built; most inclusions aligned in discrete circular groupings, yet voids are generally curvilinear with an alignment with long axis of artefact with some inclusions at the margins aligned similarly. Prorbably signs of limited burnishing or wiping. – Not clear on surface in basic visual analysis, but partially scratchmarked. Several concentrations tally with 'relic coils'. Generally matches with other WCW, high flint content does not match with either LAVC or WARC.

Petrographic Thin Section Grouping Assignment: WCW

Section III: Unprovenanced Group

Site: Fordingbridge, Hampshire – SAMPLE: FOR-1

Visual Fabric Assignment: EVER
Broad Date/Period: Medieval

Inclusions: 50-60%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 0.4-0.05mm
Dominant quartz; eq and el, ang - sr, <0.4mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <0.4mm.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare Glauconite, sr-rnd, <0.1mm - heat affected mid reddish yellow.

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Light yellowish brown to light yellowish grey. *Colour in XP:* Mid yellow to light greyish yellow.
Optically inactive.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, mostly aligned with long axis of artefact.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact along with inclusions. Similar to Verwood-type sub-group 2a.

Petrographic Thin Section Grouping Assignment: EVER – Similar to Verwood-type Sub-group 2a – Verwood and East Worth.

Section III: Unprovenanced Group

Site: Fordingbridge, Hampshire – SAMPLE: FOR-3

Visual Fabric Assignment: DWCW
Broad Date/Period: Late medieval/Early post-medieval

Inclusions: 40-50%, eq. and el, sa-rnd. Close to single spaced. Inclussions area randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 0.75-0.1m
Frequent quartz; eq and el, sa - rnd, <0.75mm. Monocrystalline and Polycrystalline quartz, most with undulose extinction.
Common flint; sa - ang, <0.5mm.
Few orthoclase feldspar; sr - sa, <0.5mm.

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Light yellowish brown to light yellowish grey. *Colour in XP:* Mid yellow to light greyish yellow.
Optically inactive.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, mostly aligned with long axis of artefact.

Comment: Arrangement of inclusions suggest this is handmade over wheelthrown, but displays few signs to be certain. This fits best with DWCW, sharing some similarity to both LAVC and LAVF.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: Fordingbridge, Hampshire – SAMPLE: FOR-7

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions and voids aligned with nearest margin. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1.5-0.05mm
Frequent quartz; eq and el, sa - rnd, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <1.5mm. Completely black when hard fired.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Very rare flint; eq, sa, <0.125mm.

Fine Fraction: 30-40%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Rare: Glauconite.
Very rare: Flint.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish brown to light yellowish grey.
Colour in XP: Mid yellow to light greyish yellow.
Strongly optically active.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact along with inclusions. Displays much similarity to Horton samples.

Petrographic Thin Section Grouping Assignment: EVER – similar to Verwood-type sub-group 1 - Horton

Section III: Unprovenanced Group

Site: Christchurch, Dorset – SAMPLE: X1

Visual Fabric Assignment: DWCW
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, ang-rnd. Close to single spaced. Inclusions are randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 1.5-0.125mm
Frequent quartz; eq and el, sa - rnd, <1.5mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; sa - ang, <1mm.
Common - few ferruginous inclusions; eq and el, sr-rnd, <0.25mm.
Rare orthoclase feldspar; sr - sa, <0.25mm.
Very rare plagioclase feldspar; sr - sa, <0.25mm.

Fine Fraction: 30-40%, <0.125mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 40-50%, Calcareous.
Matrix colour in PPL: Light yellowish red to light yellowish grey. *Colour in XP:* Mid yellowish red to mid grey.
Partially optically active.
Some concentration and depletion features, most close to centre of artefact. Generally tallys with relic coils.

Voids: 10-20%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, some aligned along long axis of artefact.

Comment: Handmade – coil-built; some inclusions aligned in discrete circular groupings, yet voids are generally curvilinear with an alignment with long axis of artefact with some inclusions at the margins aligned similarly. Probably signs of limited burnishing or wiping. – Not clear on surface in basic visual analysis, but partially scratchmarked. Several concentrations tally with 'relic coils'. Generally matches with other WCW, high flint content does not match with either LAVC or WARC.

Petrographic Thin Section Grouping Assignment: WCW

Section III: Unprovenanced Group

Site: Christchurch, Dorset – SAMPLE: X4

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, ang-rnd. Close to single spaced. Inclusions are randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 50-60%, 0.75-0.05mm
Frequent quartz; eq and el, sa - rnd, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <0.5mm. Completely black where hard fired.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Rare flint; eq, ang - sa, <0.5mm.

Fine Fraction: 40-50%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.
Very rare: Flint.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish grey to light greyish yellow. *Colour in XP:* Mid yellow to light greyish yellow.
Optically inactive.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Possibly wheelturned, most voids and inclusions aligned to long axis of artefact. Displays similarities to LAVC and WARC, but with refined coarse component size (<0.75mm) therefore this has been assigned as DWCW.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: Christchurch, Dorset – SAMPLE: X5

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early post-medieval

Inclusions: 50-60%, eq. and el, sa-sr. Close to single spaced. Inclusions strongly aligned to long axis of artefact. Moderate bimodal grain size distribution.

Coarse Fraction: 60-70%, 0.5-0.05mm
Dominant quartz; eq and el, ang - sr, <0.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common ferruginous inclusions; eq and el, sr-rnd, <0.5mm.
Very rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare flint; eq, sa, <5mm.
Very rare argillaceous features; eq and el, sr-rnd, <0.75mm - often iron poor with no zoning. Few-Common in VER3-37, eq and el, sr, <2mm.
Very rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 30-40%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Very rare: Glauconite.
Very rare: Flint.
Very rare: Undifferentiated feldspar.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Mid yellowish red to light yellow brown. *Colour in XP:* Mid yellow brown to mid yellow.
Moderately optically active.
Very rare textural feautres, eq and el, sr-rnd, <0.75mm - often iron poor with no zoning.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, both inclusions and vugh-shaped voids aligned to long axis of artefact. Similar to Verwood-type sub-group 2a.

Petrographic Thin Section Grouping Assignment: EVER – Similar to Verwood-type sub-group 2a – Verwood and East Worth

Section III: Unprovenanced Group

Site: Christchurch, Dorset – SAMPLE: X7

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early post-medieval

Inclusions: 50-60%, eq. and el, sa-sr. Close to single spaced. Inclusions strongly aligned to long axis of artefact. Moderate bimodal grain size distribution.

Coarse Fraction: 60-70%, 0.5-0.05mm
Dominant quartz; eq and el, ang - sr, <0.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common ferruginous inclusions; eq and el, sr-rnd, <0.5mm.
Very rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare flint; eq, sa, <5mm.
Very rare argillaceous inclusions; sr-rnd, <0.5mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron poor.
Very rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 30-40%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Very rare: Glauconite.
Very rare: Flint.
Very rare: Undifferentiated feldspar.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Mid yellowish red to light yellow brown. *Colour in XP:* Mid yellow brown to mid yellow.
Moderately optically active.
Very rare textural feautres, eq and el, sr-rnd, <0.75mm - often iron poor with no zoning.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, both inclusions and vugh-shaped voids aligned to long axis of artefact. Similar to Verwood-type sub-group 2a.

Petrographic Thin Section Grouping Assignment: EVER – Similar to Verwood-type sub-group 2a – Verwood and East Worth

Section III: Unprovenanced Group

Site: Christchurch, Dorset – SAMPLE: X10

Visual Fabric Assignment: DWCW
Broad Date/Period: Late medieval/Early post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 30-40%, 1-0.1mm
Frequent quartz; eq and el, ang - sr, <1mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained.
Common - few muscovite; ang, <0.125mm.
Rare ferruginous inclusions; eq and el, sr-rnd, <0.25mm.
Rare argillaceous inclusions; sr-rnd, <1mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Rare glauconite, sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 60-70%, <0.1mm
Frequent -Dominant: Quartz.
Common: Muscovite.
Rare: Ferruginous inclusions.
Few - rare: Undifferentiated feldspar.
Very rare: Glauconite.
Very rare: Flint.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Mid yellowish red to light yellow brown. *Colour in XP:* Mid yellow brown to mid yellow.
Moderately optically active.
Very rare textural feautres, eq and el, sr-rnd, <0.75mm - often iron poor with no zoning.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Well sorted fabric. Some inclusions and voids aligned to long axis of artefact, suggesting wheel-turned, or –thrown, construction. This uncertain redware has some similarities to South Hampshire Redwares, but the flint content makes this attribution less than certain.

Petrographic Thin Section Grouping Assignment: SHRW

Section III: Unprovenanced Group

Site: Stratton, Dorset – SAMPLE: STN1

Visual Fabric Assignment: Dorset Red Painted Ware (DRPW)
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to double spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 0.75-0.01mm
Dominant quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <0.3mm.
Common - few flint; eq, sa, <0.5mm.
Rare orthoclase feldspar; eq, sa - sr, <0.125mm.

Fine Fraction: 30-40%, <0.01mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Rare: Glauconite.

Matrix: 40-50%, Calcareous.
Matrix colour in PPL: Light yellowish grey. *Colour in XP:* Light greyish yellow.
Poorly optically active.
Some concentration features towards centre of artefact.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Uncertain manufacture, possibly wheel-turned. Very similar to DWCW samples, but with added slip as surface treatment.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: Stratton, Dorset – SAMPLE: STN2

Visual Fabric Assignment: DWCW
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 50-60%, 1.5-0.05mm
Dominant quartz; eq and el, sa - rnd, <1.5mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; sa - ang, <0.75mm.
Few - rare orthoclase feldspar; sr - sa, <0.25mm
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Rare argillaceous inclusions, sr-rnd, <1.5mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Rare sandstone; sa - sr, <0.5mm,
Rare - very rare plagioclase feldspar sr - sa, <0.25mm.

Fine Fraction: 30-40%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Few - rare: Undifferentiated feldspar.
Rare: Flint.
Very rare: Glauconite.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Dark yellowish brown to light yellowish brown.
Colour in XP: Mid yellowish red to mid grey.
Poorly optically active.
Some concentration features present within the core of the sample appear to tally with relic coils.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids. Some are curvilinear in discrete groupings.

Comment: Probably handmade, voids and some inclusions arranged into discrete groupings, which tally with relic coils. This uncertain redware has some similarities to South Hampshire Redwares, but the flint content makes this attribution less than certain.

Petrographic Thin Section Grouping Assignment: Southampton area coarseware/ SHRW?

Section III: Unprovenanced Group

Site: Stratton, Dorset – SAMPLE: STN9

Visual Fabric Assignment: DWCW
Broad Date/Period: Late medieval

Inclusions: 50-60%, eq. and el, sa-sr. Close to single spaced. Inclusions strongly aligned to long axis of artefact. Moderate bimodal grain size distribution.

Coarse Fraction: 60-70%, 1.5-0.05mm
Dominant quartz; eq and el, ang - sr, <0.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common ferruginous inclusions; eq and el, sr-rnd, <0.25mm.
Common - few flint; eq, sa, <0.75mm.
Rare sandstone; sa, <1.5mm,
Very rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare argillaceous features; eq and el, sr-rnd, <0.75mm - often iron poor with no zoning.
Very rare glauconite, sr-rnd, <0.125mm - some heat affected mid reddish yellow, minority are mid greenish yellow.

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Very rare: Glauconite.
Very rare: Flint.
Very rare: Undifferentiated feldspar.

Matrix: 20-30%, Calcareous.
Matrix colour in PPL: Mid yellowish red to light yellow brown.
Colour in XP: Mid yellow brown to mid yellow.
Moderately optically active.
Very rare textural features, eq and el, sr-rnd, <0.75mm - often iron poor with no zoning.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Uncertain manufacture, possibly wheel-turned. Very similar to other DWCW samples.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: Salisbury, Wiltshire – SAMPLE: SAL1

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early post-medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions and voids aligned with nearest margin. Bimodal grain size distribution.

Coarse Fraction: 50-60%, 1.5-0.05mm
Dominant quartz; eq and el, ang - sr, <1.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <1.5mm; completely black where hard fired.
Few - rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare flint; eq, sa, <0.125mm.

Fine Fraction: 40-50%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Rare: Glauconite.
Very rare: Flint.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish brown to light yellowish grey.
Colour in XP: Mid yellow to light greyish yellow.
Optically active.
Very rare textural features, eq and el, sr-rnd, <0.75mm - often iron poor with no zoning.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact. Displays similarities with Verwood-type sub-group 1 Horton.

Petrographic Thin Section Grouping Assignment: EVER – Similar to Verwood-type sub-group 1 - Horton

Section III: Unprovenanced Group

Site: Salisbury, Wiltshire – SAMPLE: SAL7

Visual Fabric Assignment: Uncertain LAVF/EVER
Broad Date/Period: Late medieval

Inclusions: 40-50%, eq. and el, ang-rnd. Close to single spaced. Most inclusions are aligned to long axis of artefact. Clear bimodal grain size distribution.

Coarse Fraction: 40-50%, 0.75-0.05mm
Dominant quartz; eq and el, sa - rnd, <0.25mm. Monocrystalline quartz most with undulose extinction, with very few polycrystalline quartz. Very rarely examples are iron stained.
Few - common ferruginous inclusions; eq and el, sa-rnd, <0.75mm.
Few flint; el and eq, sa, <0.5mm.
Few - rare argillaceous features; eq and el, sa-sr, <0.75mm - iron rich with moderate to poor zoning. Some contain quartz, sa - sr, 0.125mm.
Very rare orthoclase feldspar; eq, sa, <0.125mm.

Fine Fraction: 50-60%, <0.08mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Few: Muscovite.
Rare: Glauconite.
Very rare: Flint.
Very rare: Undifferentiated feldspar.

Matrix: 30-40%, Calcareous and micaceous.
Matrix colour in PPL: Light yellowish brown to light yellowish white.
Colour in XP: Light yellowish white.
Strongly optically active.
Some discrete pockets of concentration features throughout sample.

Voids: 10-20%, macro- to micro- sized vesicular voids. Mega- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids and most inclusions appear aligned to long axis of artefact. This is a well-sorted clay mix, possibly with signs of limited levigation as concentration features are discrete but still present. This sample correltes with elements of both the LAVF or VER fabric group.

Petrographic Thin Section Grouping Assignment: Uncertain LAVF or EVER

Section III: Unprovenanced Group

Site: Salisbury, Wiltshire – SAMPLE: SAL8

Visual Fabric Assignment: DWCW
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 1-0.05mm
Dominant quartz; eq and el, sa - rnd, <1mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; sa - ang, <0.75mm.
Rare orthoclase feldspar; sr - sa, <0.75mm.
Rare plagioclase feldspar; sr - sa, <0.75mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Few: Muscovite.
Rare: Flint.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: light yellow to mid brown.
Colour in XP: Light brown to mid brown.
Moderately optically active.
Concentration and depletion features throughout.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, all aligned along long axis of artefact.

Comment: Uncertain manufacture, possibly wheel-turned. Very similar to other DWCW samples.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: Salisbury, Wiltshire – SAMPLE: SAL9

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 30-40%, 1-0.1mm
Frequent quartz; eq and el, ang - sr, <1mm. Monocrystalline quartz. Polycrystalline quartz in the minority. Some are iron stained and some quartz has undulouse extinction.
Common - few muscovite; ang, <0.125mm.
Common - few ferruginous inclusions; eq and el, sa-rnd, <1mm.
Rare argillaceous inclusions; sr-rnd, <1mm - quartz inclusions <0.125mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 60-70%, <0.1mm
Frequent - Dominant: Quartz.
Common: Muscovite.
Rare: Ferruginous inclusions.
Few - rare: Undifferentiated feldspar.
Very rare: Glauconite.
Very rare: Flint.

Matrix: 20-30%, Non-calcareous, micaceous and iron rich.
Matrix colour in PPL: Light reddish brown to light yellowish grey.
Colour in XP: Mid red to mid grey.
Highly optically active.
Concentration and depletion features throughout.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.
Comment: Uncertain manufacture, possibly wheel-turned. Reasonably well-sorted fabric. This uncertain redware has some similarities to South Hampshire Redwares, but not enough to be certain.

Petrographic Thin Section Grouping Assignment: Uncertain – possibly SHRW.

Section III: Unprovenanced Group

Site: Salisbury, Wiltshire – SAMPLE: SAL10

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval

Inclusions: 40-50%, eq. and el, sa-sr. Close to single spaced. Inclusions and voids aligned with nearest margin. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 0.75-0.05mm
Frequent quartz; eq and el, sa - rnd, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent - common ferruginous inclusions; eq and el, sa-rnd, <0.5mm. Completely black when hard fired.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Rare flint; eq, ang - sa, <0.5mm.

Fine Fraction: 30-40%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare: Flint.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish grey to light greyish yellow.
Matrix colour in XP: Mid yellow to light greyish yellow.
Optically inactive.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids and most inclusions appear aligned to long axis of artefact. This is a well-sorted clay mix, possibly with signs of limited levigation as concentration features are discrete but still present. Due to the high iron content this sample could be ascribed to the Horton area, but elements are also comparable to Laverstock fin-ewares.

Petrographic Thin Section Grouping Assignment: Uncertain EVER or LAVF

Section III: Unprovenanced Group

Site: Salisbury, Wiltshire – SAMPLE: SAL12

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval

Inclusions: 40-50%, eq. and el, sa-sr. Close to single spaced. Inclusions and voids aligned with nearest margin. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 0.75-0.05mm
Frequent quartz; eq and el, sa - rnd, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent - common ferruginous inclusions; eq and el, sa-rnd, <0.5mm. Completely black when hard fired.
Rare orthoclase feldspar; eq, sa, <0.125mm.
Rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.
Rare flint; eq, ang - sa, <0.5mm.

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Frequent: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare: Flint.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish grey to light greyish yellow.
Matrix colour in XP: Mid yellow to light greyish yellow.
Optically inactive.
No textural features visible within matrix – where seen these can be attributed as inclusions.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids and most inclusions appear aligned to long axis of artefact. This is a well-sorted clay mix, possibly with signs of limited levigation as concentration features are discrete but still present. Due to the high iron content this sample could be ascribed to the Horton area, but elements are comparable

Petrographic Thin Section Grouping Assignment: Uncertain EVER or LAVF

Section III: Unprovenanced Group

Site: Southampton – SAMPLE: SOU7

Visual Fabric Assignment: Late Medieval Well Fired Sandy Ware (LMWFSW)
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 30-40%, 1-0.1mm
Frequent quartz; eq and el, ang - sr, <1mm. Monocrystalline quartz, with polycrystalline quartz in the minority - some have undulouse extinction. Rarely iron stained.
Common - few muscovite: ang, <0.125mm.
Rare argillaceous inclusions; sr-rnd, <0.5mm - quartz inclusions <0.1mm, sa-rnd, and muscovite, sa, <0.125mm. Mostly iron rich.
Very rare flint; sa - ang, <0.5mm
Very rare glauconite; sr-rnd, <0.125mm - heat affected mid reddish yellow.

Fine Fraction: 60-70%, <0.1mm
Frequent - Dominant: Quartz.
Common: Muscovite.
Rare: Ferruginous inclusions.
Few - rare: Undifferentiated feldspar.
Very rare: Glauconite.
Very rare: Flint.

Matrix: 20-30%, Non-calcareous, micaceous and iron rich.
Matrix colour in PPL: Light reddish brown to light yellowish grey.
Matrix colour in XP: Mid yellow to light greyish yellow.
Highly optically active.
Some concentration features towards centre of artefact.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown distinctive ware type with many similarities to SHRW.

Petrographic Thin Section Grouping Assignment: Similar to SHRW

Section III: Unprovenanced Group

Site: Southampton – SAMPLE: SOU8

Visual Fabric Assignment: Southampton Whiteware (SOUWW)
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-rnd. Close to double spaced. Inlcusions generally aligned to long axis of artefact. Clear bimodal grain size distribution.

Coarse Fraction: 50-60%, 0.75-0.01mm
Frequent - dominant quartz; eq and el, sa - rnd, <0.5mm. Monocrystalline quartz, some with undulose extinction. Few polycrystalline examples throughout sample. Some of both types are iron stained.
Few ferruginous inclusions; eq and el, sr-rnd, <0.75mm.
Rare argillaceous features, eq and el, sr-rnd, <0.5mm - iron poor with no zoning.
Rare Glauconite; eq-el, sr-rnd, <0.125mm.
Very rare orthoclase feldspar; eq, sa, <0.125mm.

Fine Fraction: 60-70%, <0.1mm
Frequent: Quartz.
Rare: Ferruginous inclusions.
Very rare: Flint.
Very rare: Undifferentiated feldspar.

Matrix: 30-40%, Strongly Calcareous.
Matrix colour in PPL: White - light yellowish white.
Matrix colour in XP: Off white to light yellowish white.
Poorly optically active.
Frequent concentration and depletion features throughout.

Voids: 5-10%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, strongly aligned vugh-shaped voids plus inclusions generally aligned to long axis of artefact. This is appears very similar to DWW samples from Ware-ham.

Petrographic Thin Section Grouping Assignment: DWW

Section III: Unprovenanced Group

Site: Southampton – SAMPLE: SOU11

Visual Fabric Assignment: Dorset Sandy Ware (DSW) – Equivalent of Developed Wessex Coarseware (DWCW)
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to double spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 60-70%, 0.75-0.01mm
Dominant quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Frequent ferruginous inclusions; eq and el, sa-rnd, <0.3mm.
Few - rare flint; eq, sa, <0.5mm.
Rare orthoclase feldspar; eq, sa - sr, <0.125mm.

Fine Fraction: 30-40%, <0.1mm
Frequent: Quartz.
Frequent - common: ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare: Flint.
Very rare: Glauconite.

Matrix: 50-60%, Calcareous.
Matrix colour in PPL: Light yellowish grey.
Matrix colour in XP: Light whitish yellow.
Strongly to medium optically active.
Concentration and depletion features throughout.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Uncertain manufacture, possibly wheel-turned. Very similar to other DWCW samples.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: Gillingham, Dorset (ACW1250) – SAMPLE: GIL2

Visual Fabric Assignment: DWCW
Broad Date/Period: Late medieval

Inclusions: 20-30%, eq. and el, sa-rnd. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 0.75-0.02mm
Dominant quartz; eq and el, ang - rnd, <0.75mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; sa - ang, <0.75mm.
Common- few ferruginous inclusions; eq and el, sr-rnd, <0.125mm.
Rare orthoclase feldspar sr - sa, <0.5mm.
Very rare glauconite; sr-rnd, <0.125mm.
Very rare argillaceous features, el, sr, <0.75mm - iron poor and iron rich with no apparent zoning. Common quartz, sa-sr, <0.125mm.

Fine Fraction: 20-30%, <0.02mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 50-60%, Calcareous.
Matrix colour in PPL: Light yellowish grey.
Matrix colour in XP: Light whitish yellow.
Strongly to medium optically active.
Concentration and depletion features throughout.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Uncertain manufacture, possibly wheel-turned. Very similar to DRPW samples in thin section, sharing similarity with DWCW samples, with which it has been ascribed. The high ferruginous content is suggestive of a Horton source, plus the less than 0.75mm coarse componenet size is relatively fine for DWCW.

Petrographic Thin Section Grouping Assignment: EVER – Similar to Verwood-type sub-group 1 – Horton.

Section III: Unprovenanced Group

Site: Gillingham, Dorset (ACW1250) – SAMPLE: GIL5

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq and el, sa-sr. Close to single spaced. Inclusions commonly aligned to long axis of artefact. Moderate bimodal grain size distribution.

Coarse Fraction: 50-60%, 0.5-0.05mm
Dominant quartz; eq and el, ang - sr, <0.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common ferruginous inclusions; eq and el, sr-rnd, <0.25mm.
Few flint; eq, sa, <0.25mm.
Very rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare argillaceous features, eq and el, sr-rnd, <0.25mm - often iron poor with no zoning.
Very rare glauconite, rnd, <0.125mm.

Fine Fraction: 20-30%, <0.02mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Very rare: Flint.
Very rare: Undifferentiated feldspar.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish brown to mid grey.
Matrix colour in XP: Mid yellowish grey to black.
Moderately optically active
Concentration and depletion features throughout.

Voids: 20-30%, macro- to micro- sized vesicular voids. Macro- to micro-sized vugh-shaped voids, all aligned along long axis of artefact.

Comment: Wheelthrown, most voids aligned to long axis of artefact with some inclusions at the margins aligned similarly. Sample shares several similarities to both Verwood and Laverstock area samples forming the control group. This is a fine grained Wessex Coarseware, being similar to other DWCW samples.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: Gillingham, Dorset (ACW1250) – SAMPLE: GIL8

Visual Fabric Assignment: Verwood-type – early variant VERE
Broad Date/Period: Early post-medieval

Inclusions: 20-30%, eq. and el, ang-sr. Close to single spaced. Inclusions randomly aligned. Clear bimodal grain size distribution.

Coarse Fraction: 60-70%, 0.75-0.05mm
Frequent quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common - few Ferruginous inclusions; eq and el, sr-rnd, <0.5mm.
Few - rare argillaceous features, eq and el, sr-rnd, <0.5mm - iron poor with rare quartz inclusions (<0.125mm), occasionally iron-rich areas within - no apparent zoning.
Rare muscovite; el, ang, <0.125mm.
Very rare glauconite, sr-rnd, <0.1mm - heat affected mid reddish yellow.
Very rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare flint; eq and el, sa, <0.25mm
Very rare sandstone; sa, eq, <0.25mm.

Fine Fraction: 20-30%, <0.02mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Few: Muscovite.
Rare: Glauconite.
Very rare: Undifferentiated feldspar.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellow brown to light yellowish grey.
Matrix colour in XP: Light greyish yellow to mid yellowish red.
Moderately optically active
Few textural concentration and depletion features, eq and el, sr-rnd, <0.5mm.

Voids: 20-30%, macro- to micro- sized vesicular voids. Macro- and micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact. Displays similarities with Verwood-type sub-group 1 Horton, exemplified by the large extent of iron-rich inclusions. Certainly a Verwood-type product.

Petrographic Thin Section Grouping Assignment: VERE – Similar to Verwood-type sub-group 1 – Horton.

Section III: Unprovenanced Group

Site: Gillingham, Dorset (ACW1250) – SAMPLE: GIL9

Visual Fabric Assignment: Verwood-type – early variant VERE
Broad Date/Period: Early post-medieval

Inclusions: 20-30%, eq and el, ang-sr. Close to single spaced. Inclusions randomly aligned. Clear bimodal grain size distribution.

Coarse Fraction: 50-60%, 0.75-0.05mm
Frequent quartz; eq and el, ang - sr, <0.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common - few ferruginous inclusions; eq and el, sr-rnd, <0.25mm.
Few - rare argillaceous features, eq and el, sr-rnd, <0.25mm - iron poor with rare quartz inclusions (<0.125mm), occasionally iron-rich areas within - no apparent zoning.
Very rare muscovite; el, ang, <0.125mm.
Very rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare flint; eq and el, sa, <0.25mm.
Very rare sandstone; sa, eq, <0.75mm.

Fine Fraction: 40-50%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Few: Muscovite.
Rare: Glauconite.
Very rare: Undifferentiated feldspar.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish brown.
Matrix colour in XP: Mid yellowish red.
Poorly optically active.
Few textural concentration and depletion features, eq and el, sr-rnd, <0.5mm.

Voids: 20-30%, macro- to micro- sized vesicular voids. Macro- and micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact. Displays similarities with Verwood-type sub-group 2a – Verwood and East Worth area, exemplified by the extent of muscovite. Certainly a Verwood-type product.

Petrographic Thin Section Grouping Assignment: VERE – Similar to Verwood-type sub-group 2a Verwood and East Worth.

Section III: Unprovenanced Group

Site: Shaftesbury, Dorset (SAVED19) – SAMPLE: SHA2

Visual Fabric Assignment: DWCW
Broad Date/Period: Late medieval

Inclusions: 40-50%, eq and el, ang-sr. Close to single spaced. Inclusions randomly aligned. Clear bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.05mm
Frequent quartz; eq and el, ang - sr, <1mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common - few ferruginous inclusions; eq and el, sr-rnd, <1mm.
Few flint; eq, sa, <0.75mm.
Very rare epidote, sa, eq, <1mm.

Fine Fraction: 30-40%, <0.05mm
Dominant: Quartz.
Common: Ferruginous inclusions.
Rare: Muscovite.
Very rare: Glauconite.
Very rare: Undifferentiated feldspar.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light grey to mid yellowish red.
Matrix colour in XP: Light to mid yellowish brown.
Strongly optically active.
Several linear textural features - few concentration and depletion features. Probably clay used as dug with little mixing. Few textural concentration and depletion features, eq and el, sr-rnd, <0.5mm.

Voids: 10-20%, macro- to micro- sized vesicular voids. Macro- and micro-sized vugh-shaped voids.

Comment: Uncertain manufacture, probably wheel-turned. Very similar to DWCW samples, with which it has been ascribed. The high ferruginous content is suggestive of a Horton source, but the low frequency of overall inclusions, coupled with small inclusion size in the coarse fraction does not correspond well with the known Horton samples. This makes an attribution to the Horton area difficult to defend, thus the DWCW is retained.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: Shaftesbury, Dorset (SAVED19) – SAMPLE: SHA3

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval/Early post-medieval

Inclusions: 40-50%, eq and el, ang-sr. Close to single spaced. Inclusions randomly aligned. Clear bimodal grain size distribution.

Coarse Fraction: 60-70%, 2-0.05mm
Dominant quartz, eq and el, sa - rnd, <2mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common - few ferruginous inclusions; eq and el, sr-rnd, <0.5mm.
Few flint; eq, sa, <0.5mm.
Few orthoclase feldspar; eq, sr, <0.5mm.
Few - rare argillaceous features; eq and el, sr-rnd, <2mm - often iron rich with no zoning.
Very rare glauconite; rnd, <0.125mm.

Fine Fraction: 30-40%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare: Flint.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light grey to mid yellowish grey.
Matrix colour in XP: Light yellowish grey.
Strongly optically active.
Several linear textural features - few concentration and depletion features. Probably clay used as dug with little mixing.
Voids: 10-20%, macro- to micro- sized vesicular voids. Macro- and micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids aligned to long axis of artefact. Displays similarities with Verwood-type sub-group 1 Horton.

Petrographic Thin Section Grouping Assignment: EVER – Similar to Verwood-type sub-group 1 - Horton

Section III: Unprovenanced Group

Site: Shaftesbury, Dorset (SAVED19) – SAMPLE: SHA5

Visual Fabric Assignment: DRPW
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to double spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 0.75-0.02mm
Dominant quartz; eq and el, ang - sr, <0.75mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common - few ferruginous inclusions; eq and el, sa-rnd, <0.75mm.
Common - few flint; eq, sa, <0.5mm.
Rare orthoclase feldspar; eq, sr, <0.5mm.
Rare sandstone; eq and el, sa-sr, 0.5mm

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Frequent - common: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellowish grey.
Matrix colour in XP: Light greyish yellow.
Moderate to strongly optically active.
Several concentration features towards margins of artefact. Possibly poorly mixed clay.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids. Some with secondary calcification.

Comment: Uncertain manufacture, possibly wheel-turned. Very similar to DWCW samples, but with added slip as surface treatment.

Petrographic Thin Section Grouping Assignment: DRPW

Section III: Unprovenanced Group

Site: Shaftesbury, Dorset (SAVED19) – SAMPLE: SHA14

Visual Fabric Assignment: Uncertain LAVF or EVER
Broad Date/Period: Late medieval/Early post-medieval

Inclusions: 40-50%, eq and el, ang-sr. Close to single spaced. Inclusions randomly aligned. Moderate bimodal grain size distribution.

Coarse Fraction: 60-70%, 1.5-0.05mm
Frequent quartz; eq and el, ang - sr, <1.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common - few argillaceous inclusions, eq and el, sr-rnd, <1.5mm - mixture of iron rich and iron poor, often with rare quartz inclusions (<0.125mm).
Few orthoclase feldspar; eq, sa, <0.8mm.
Few - rare glauconite; sr-rnd, <0.1mm - heat affected mid reddish yellow.
Rare muscovite; el, ang, <0.25mm.
Rare flint; eq and el, sa, <0.5mm
Very rare sandstone; sa, eq, <0.25mm.

Fine Fraction: 30-40%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Rare: Muscovite.
Rare: Glauconite.
Very rare: Undifferentiated feldspar.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellow brown to light yellowish grey.
Matrix colour in XP: Light greyish yellow to mid yellowish red.
Moderately optically active.
Few textural concentration and depletion features, eq and el, sr-rnd, <0.5mm.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- and micro-sized vugh-shaped voids.

Comment: Wheelthrown, some vugh-shaped voids and most inclusions appear aligned to long axis of artefact. This is a well-sorted clay mix, possibly with signs of limited levigation as concentration features are discrete but still present. Due to the high iron content this sample could be ascribed to the Horton area, but elements are also comparable to Laverstock finewares.

Petrographic Thin Section Grouping Assignment: EVER – Similar to Verwood-type subgroup 1 - Horton

Section III: Unprovenanced Group

Site: East Worth, Verwood, Dorset (ACW1295) – SAMPLE: EWO1

Visual Fabric Assignment: WCW
Broad Date/Period: Late medieval

Inclusions: 20-30%, eq and el, ang-sr. Close to single spaced. Inclusions randomly aligned. Moderate bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.02mm
Dominant quartz; eq and el, sa - rnd, <1mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; eq, sa - ang, <0.75mm
Few - rare orthoclase feldspar; eq and el, sr, <0.25mm
Rare argillaceous inclusions, sr-rnd, <0.75mm - quartz inclusions <0.125mm, sa-rnd. Mostly iron rich.
Very rare glauconite; sr-rnd, <0.125mm.
Very rare plagioclase feldspar; eq, sr, <0.25mm

Fine Fraction: 30-40%, <0.02mm
Frequent: Quartz.
Common - Few: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellow brown to light yellowish grey.
Matrix colour in XP: Light greyish yellow to mid yellowish red.
Moderately optically active.
Few textural concentration and depletion features, mostly relating to relic coils.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- and micro-sized vugh-shaped voids. Most voids infilled with secondary calcification.

Comment: Handmade, some relic coils, plus curvature evident in discrete groupings of vugh-shaped voids. Little alignment in inclusions. Very similar to DWCW samples.

Petrographic Thin Section Grouping Assignment: WCW

Section III: Unprovenanced Group

Site: East Worth, Verwood, Dorset (ACW1295) – SAMPLE: EWO3

Visual Fabric Assignment: DWCW
Broad Date/Period: Late medieval

Inclusions: 20-30%, eq and el, ang-sr. Close to single spaced. Inclusions randomly aligned. Moderate bimodal grain size distribution.

Coarse Fraction: 60-70%, 1-0.02mm
Dominant quartz; eq and el, sa - rnd, <1mm. Monocrystalline and Polycrystalline quartz, many with undulose extinction.
Common flint; eq, sa - ang, <0.75mm
Few - rare orthoclase feldspar; eq and el, sr, <0.25mm
Rare argillaceous inclusions, sr-rnd, <0.8mm - quartz inclusions <0.125mm, sa-rnd. Mostly iron rich.
Very rare glauconite; sr-rnd, <0.125mm.
Very rare plagioclase feldspar; eq, sr, <0.25mm

Fine Fraction: 30-40%, <0.02mm
Frequent: Quartz.
Common - Few: Ferruginous inclusions.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Light yellow brown to light yellowish grey.
Matrix colour in XP: Light greyish yellow to mid yellowish red.
Moderately optically active.
Few textural concentration and depletion features, mostly relating to relic coils.

Voids: 20-30%, meso- to micro- sized vesicular voids. Macro- and micro-sized vugh-shaped voids. Most voids infilled with secondary calcification.

Comment: Handmade, some relic coils, plus curvature evident in discrete groupings of vugh-shaped voids. Little alignment in inclusions. Very similar to DWCW samples.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: East Worth, Verwood, Dorset (ACW1295) – SAMPLE: EWO5

Visual Fabric Assignment: Uncertain fineware but like DRPW
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq. and el, sa-sr. Close to double spaced. Inclusions generally aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 70-80%, 1-0.02mm
Dominant quartz; eq and el, ang - rnd, <1mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common - few ferruginous inclusions; eq and el, sa-rnd, <0.8mm. Mixture of iron rich and iron poor areas throughout.
Common - few flint; eq, sa, <1mm.
Rare orthoclase feldspar; eq, sr, <0.5mm.
Very rare glauconite; eq, rnd, <0.1mm.

Fine Fraction: 20-30%, <0.02mm
Frequent: Quartz.
Frequent - common: Ferruginous inclusions.
Rare: Flint.
Rare: Undifferentiated feldspar.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Mid grey.
Matrix colour in XP: Light yellowish brown.
Poorly optically active.
Several concentration features towards margins of artefact. Possibly poorly mixed clay.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids. Some with secondary calcification.

Comment: Wheelturned, some voids and inclusions aligned to long axis of artefact. This is a close match to DRPW, but displays little evidence of extensive surface treatment – slip. The sample has extensive resemblance to DWCW, as DRPW does.

Petrographic Thin Section Grouping Assignment: DRPW

Section III: Unprovenanced Group

Site: East Worth, Verwood, Dorset (ACW1295) – SAMPLE: EWO6

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval

Inclusions: 40-50%, eq. and el, sa-sr. Close to single spaced. Inclusions randomly aligned - as expected from sampling a handle, as is the case here - Clear bimodal grain size distribution.

Coarse Fraction: 60-70%, 1.5-0.05mm
Dominant quartz; eq and el, ang - sr, <1.5mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority. Some are iron stained.
Common ferruginous inclusions; eq and el, sr-rnd, <0.25mm.
Common - few flint; eq, sa, <0.75mm.
Few - rare orthoclase feldspar; eq, sa, <0.125mm.
Very rare argillaceous features; eq and el, sr-rnd, <0.75mm - often iron poor with no zoning.
Very rare glauconite; sr-rnd, <0.15mm - some heat affected mid reddish yellow, minority are mid greenish yellow.
Very rare chlorite; el, sa, <0.125mm.
Very rare muscovite; el, sa, <0.125mm.

Fine Fraction: 20-30%, <0.05mm
Frequent: Quartz.
Common: Ferruginous inclusions.
Few - rare: Undifferentiated feldspar.
Few - rare: Muscovite.
Rare: Flint.
Very rare: Glauconite.

Matrix: 30-40%, Calcareous.
Matrix colour in PPL: Mid yellowish red to light yellow brown.
Matrix colour in XP: Mid yellow brown to mid yellow.
Moderately optically active.
Very rare textural feautres, eq and el, sr-rnd, <0.75mm - often iron poor with no zoning.

Voids: 20-30%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids. Some with secondary calcification.

Comment: Forming comments are not appropriate as this is a sampled handle, not body or rim sherd. The fabric has some resemblance to certain Wareham Coarseware samples, but displays muscovite thus is unlikely to hail from that source, thus assigned DWCW.

Petrographic Thin Section Grouping Assignment: DWCW

Section III: Unprovenanced Group

Site: East Worth, Verwood, Dorset (ACW1295) – SAMPLE: EWO8

Visual Fabric Assignment: EVER
Broad Date/Period: Late medieval

Inclusions: 30-40%, eq and el, sa-sr. Close to single spaced. Inclusions aligned with nearest margin - centre is more randomly aligned. Bimodal grain size distribution.

Coarse Fraction: 50-60%, 3-0.1mm
Frequent quartz; eq and el, ang - sr, <3mm. Monocrystalline quartz, some with undulose extinction. Polycrystalline quartz in the minority.
Common - few muscovite, el, ang, <0.125mm.
Few - rare ferrunginous inclusions; eq and el, sr-rnd, <1mm.
Few - rare orthoclase feldspar, eq, sr, <0.25mm.
Rare glauconite, sr-rnd, <0.1mm - heat affected mid reddish yellow.
Rare argillaeceous inclusions, sr-rnd, <0.5mm - mixture of iron rich and iron poor, with quartz inclusions <0.1mm, eq, sa-rnd, and muscovite, el, sa, <0.1mm.
Rare flint, eq, sa, <0.5mm.
Very rare garnet, eq, sa, <0.75mm.

Fine Fraction: 40-50%, <0.1mm
Frequent - dominant: Quartz.
Common - frequent: Ferruginous inclusions.
Common: Muscovite.
Few - rare: Undifferentiated feldspar.
Rare: Glauconite.
Very rare: Flint.

Matrix: 40-50%, Iron-rich and micaceous.
Matrix colour in PPL: Light yellowish brown to black.
Matrix colour in XP: Light yellowish grey to black.
Poorly optically active
Some concentration and depletion features.

Voids: 10-20%, meso- to micro- sized vesicular voids. Meso- to micro-sized vugh-shaped voids.

Comment: Wheelthrown, some voids and inclusions and voids aligned to long axis of artefact. The iron-rich nature and high fine fraction suggest that this ware type is a product of the south Hampshire sandy clays. Matches other samples of SHRW from Lymington.

Petrographic Thin Section Grouping Assignment: SHRW

Appendix VIII:

Data Summaries, Tests of Normality and Q-Q Plots for Raw Data

Data Summary Table

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Rb	986	141.3	36.1	177.4	135.0	0.5	17.1	291.5	-1.8	0.1	5.5	0.2
Nb	986	26.9	1.5	28.3	14.7	0.1	3.3	11.0	-0.3	0.1	0.9	0.2
Sr	986	493.2	2.7	496.0	98.9	0.9	29.4	865.5	4.3	0.1	41.5	0.2
Zr	986	550.6	3.3	553.9	266.1	1.7	54.5	2968.3	0.3	0.1	1.8	0.2
Fe	986	78194.2	190.4	78384.6	26078.3	354.0	11114.3	123527289.2	0.9	0.1	0.6	0.2
Al	986	147465.0	1926.9	149391.9	90640.7	559.2	17558.2	308288817.8	0.3	0.1	0.8	0.2
Si	986	428482.2	1166.9	429649.1	281198.5	1123.4	35276.1	1244403517.4	-0.5	0.1	5.7	0.2
K	986	35708.1	233.0	35941.1	17759.4	128.6	4037.7	16302880.6	-0.1	0.1	0.5	0.2
Ca	986	121132.9	897.2	122030.0	10957.2	430.4	13516.0	182680927.9	3.8	0.1	16.6	0.2
Ti	986	6432.7	2414.9	8847.7	5270.3	28.2	885.6	784248.0	0.0	0.1	0.9	0.2
V	986	670.6	-17.2	653.5	105.5	1.9	59.6	3556.2	3.6	0.1	23.2	0.2
Cr	986	1084.9	-14.2	1070.7	84.1	1.5	47.1	2219.3	9.5	0.1	194.5	0.2
Zn	986	800.5	-37.2	763.3	85.7	2.1	64.7	4181.1	3.1	0.1	18.7	0.2
Ba	986	715.2	33.4	748.6	359.0	2.7	84.5	7141.4	0.4	0.1	1.1	0.2
Valid N (listwise)	986											

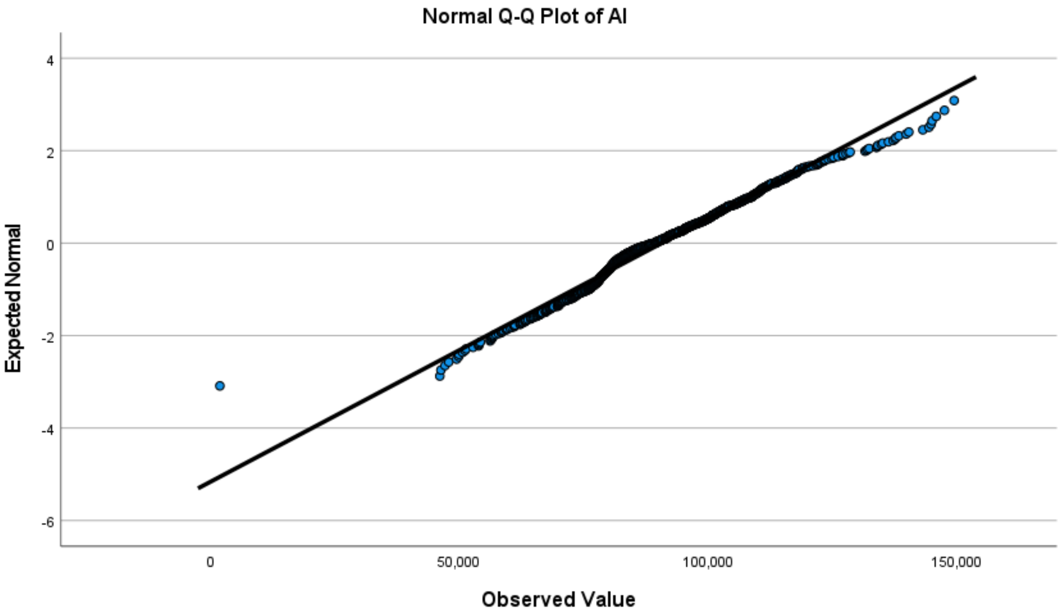
Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Rb	0.147	986	0.000	0.864	986	<0.001
Nb	0.078	986	0.000	0.975	986	<0.001
Sr	0.167	986	0.000	0.719	986	<0.001
Zr	0.032	986	0.019	0.980	986	<0.001
Fe	0.107	986	0.000	0.936	986	<0.001
Al	0.066	986	0.000	0.985	986	<0.001
Si	0.077	986	0.000	0.931	986	<0.001
K	0.061	986	0.000	0.986	986	<0.001
Ca	0.354	986	0.000	0.468	986	<0.001
Ti	0.048	986	0.000	0.986	986	<0.001
V	0.134	986	0.000	0.745	986	<0.001
Cr	0.094	986	0.000	0.654	986	<0.001
Zn	0.174	986	0.000	0.740	986	<0.001
Ba	0.051	986	0.000	0.986	986	<0.001

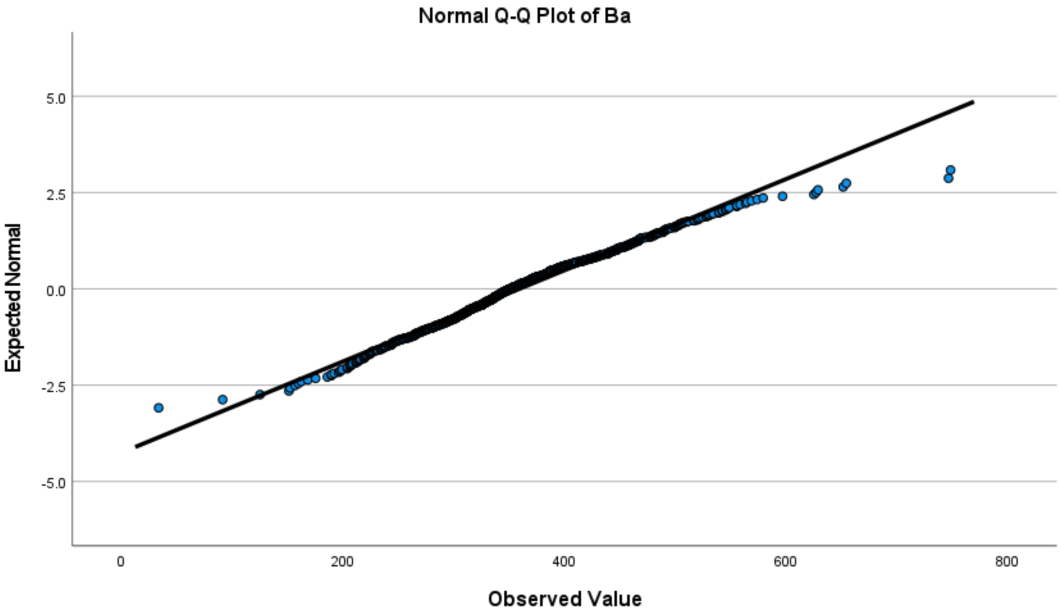
a. Lilliefors Significance Correction

Q-Q Plots by Element (Samples identified by case number)

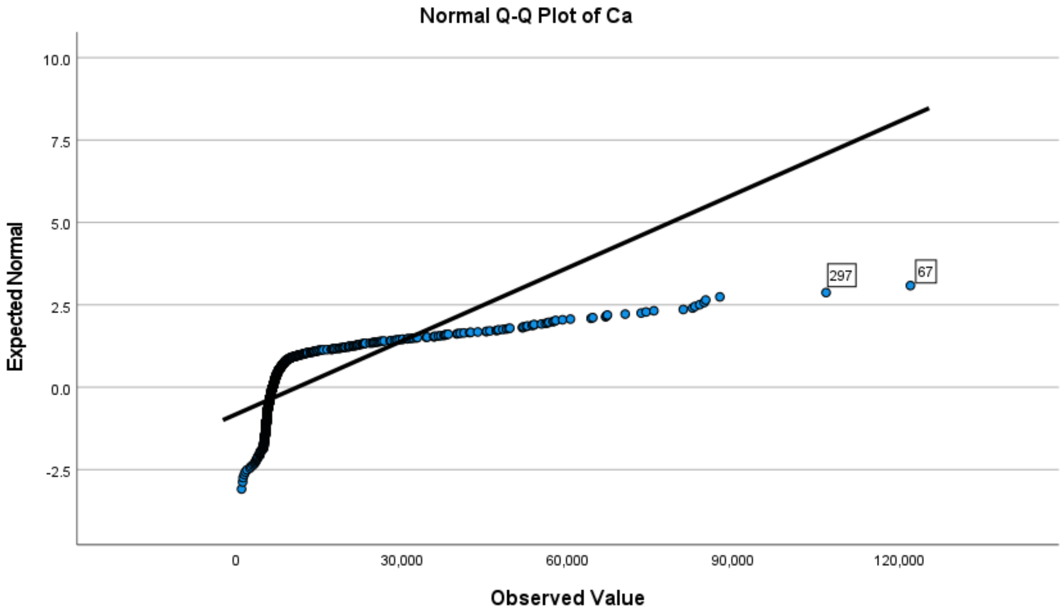
Aluminium (Al)



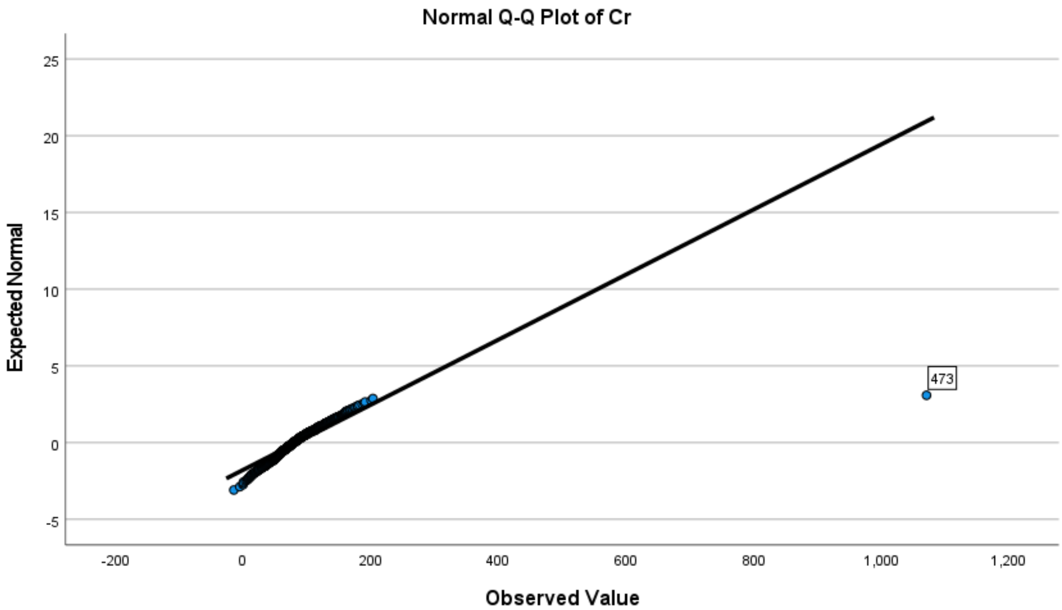
Barium (Ba)



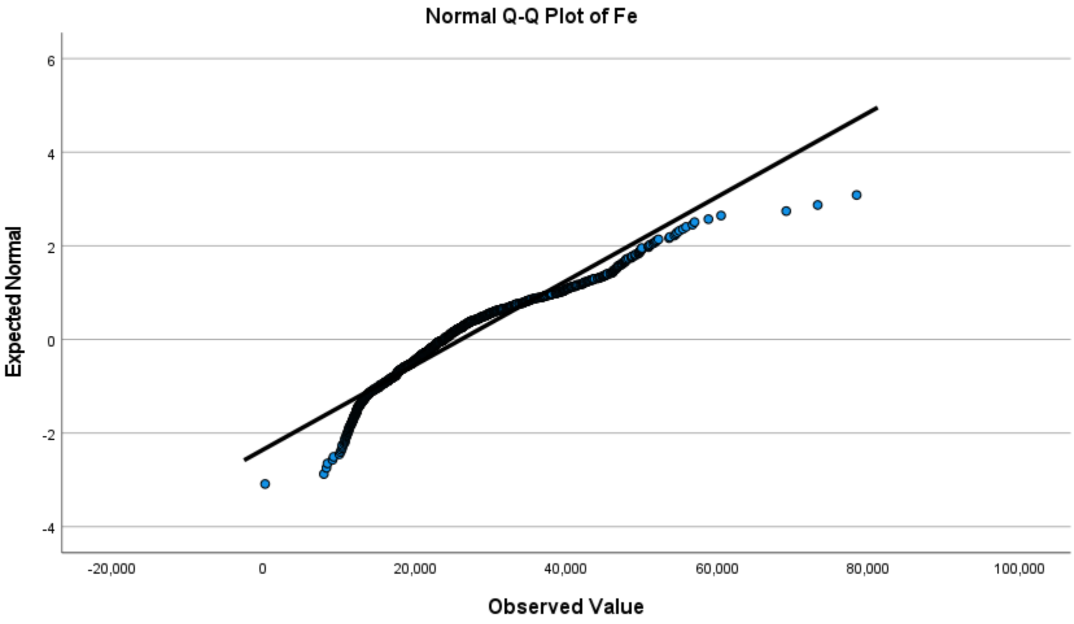
Calcium (Ca)



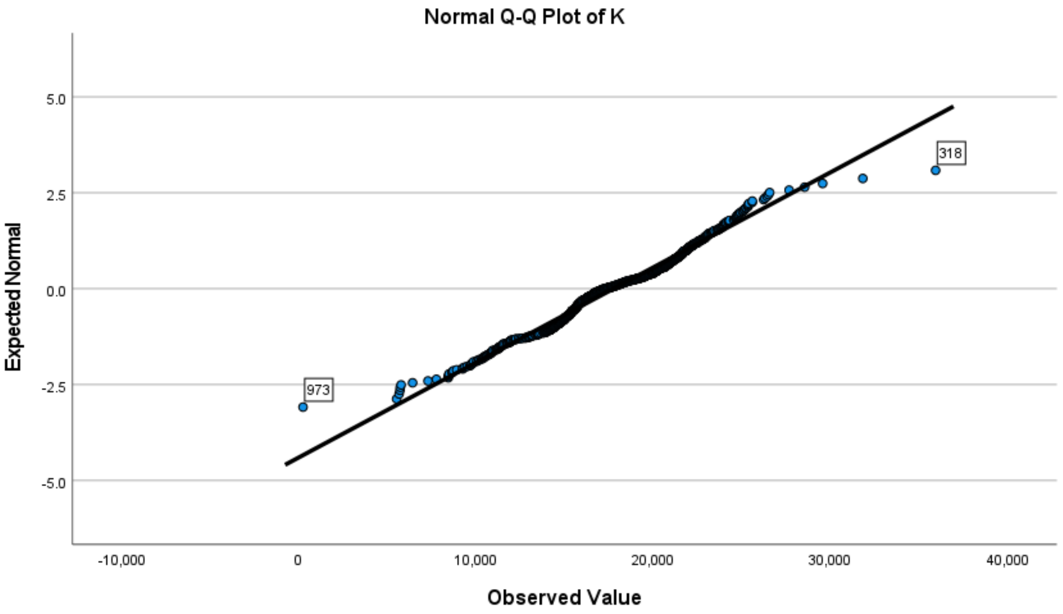
Chromiun (Cr)



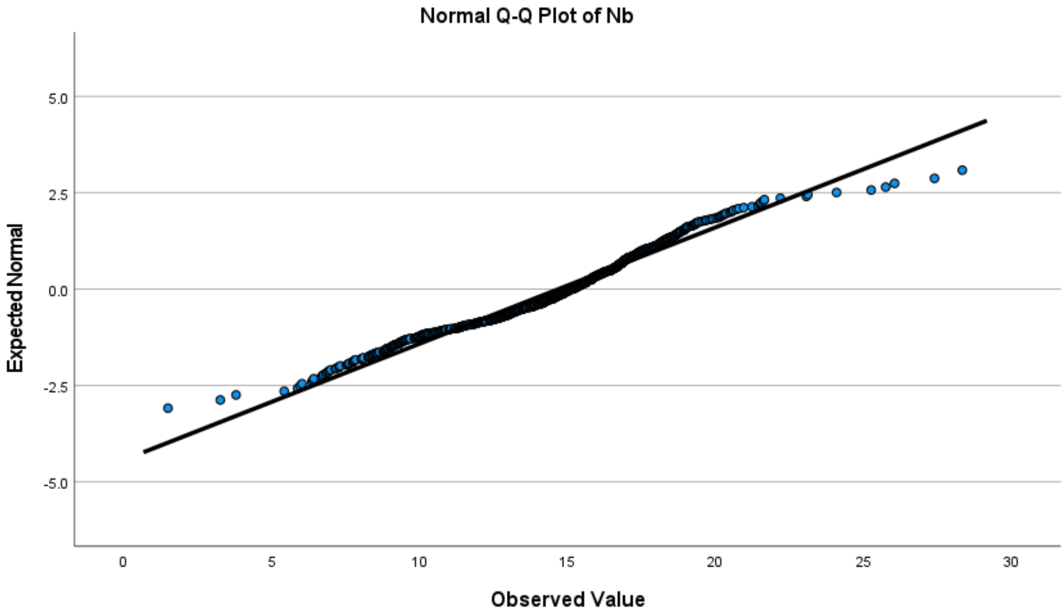
Iron (Fe)



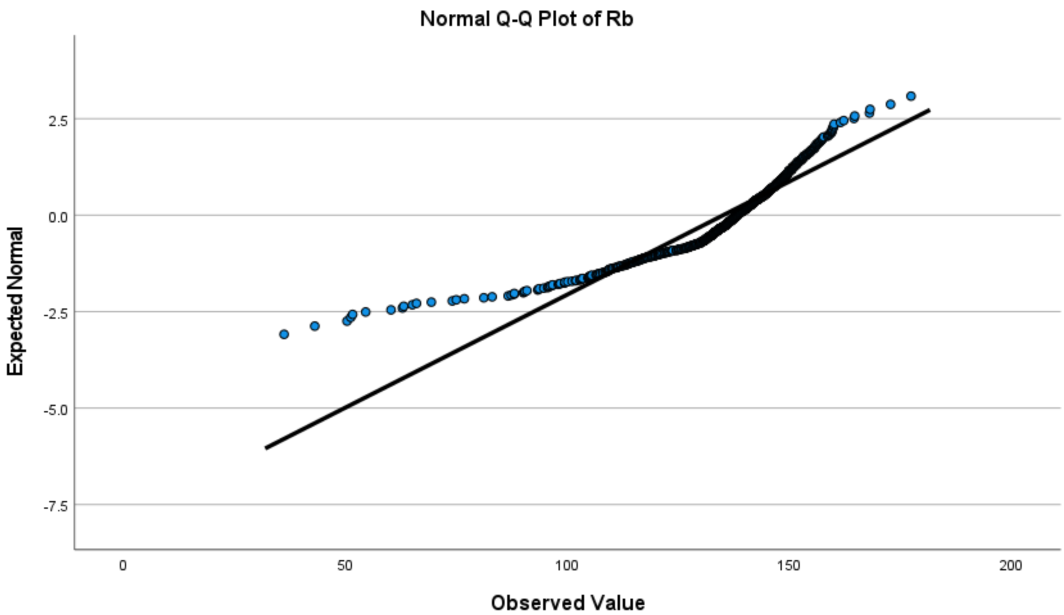
Potassium (K)



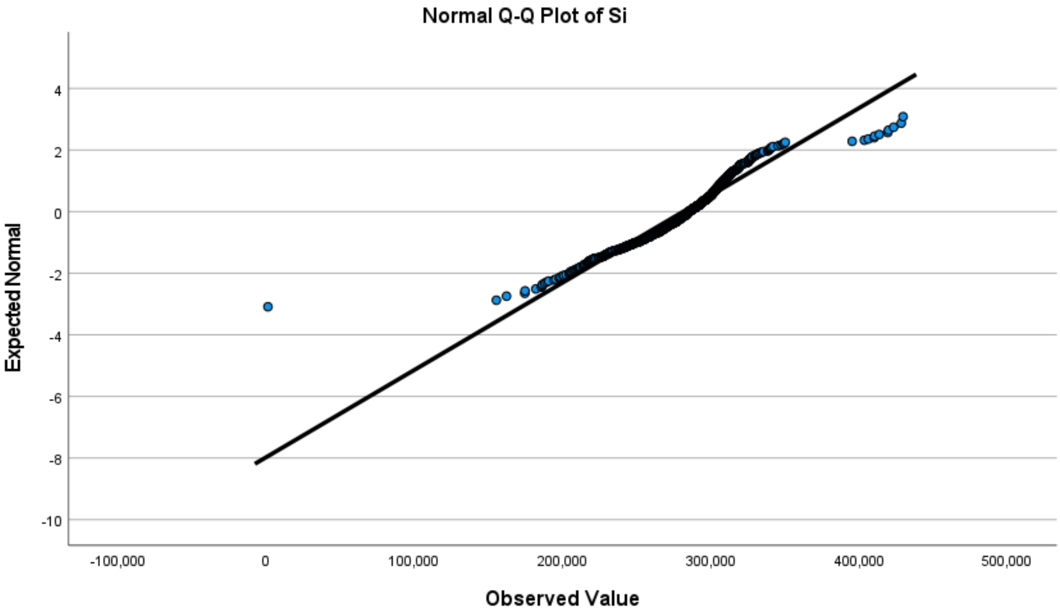
Niobium (Nb)



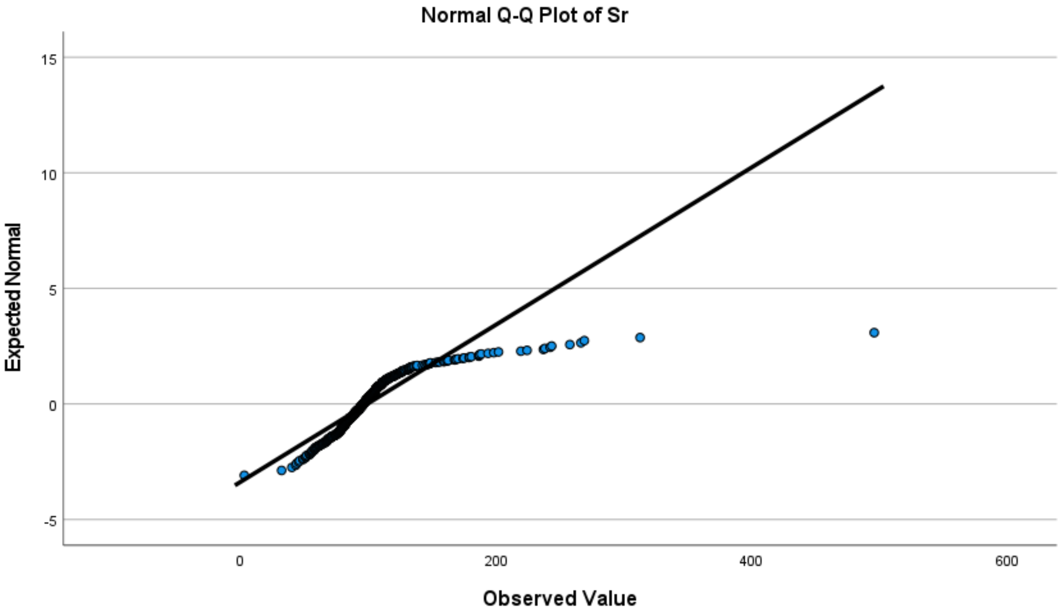
Rubidium (Rb)



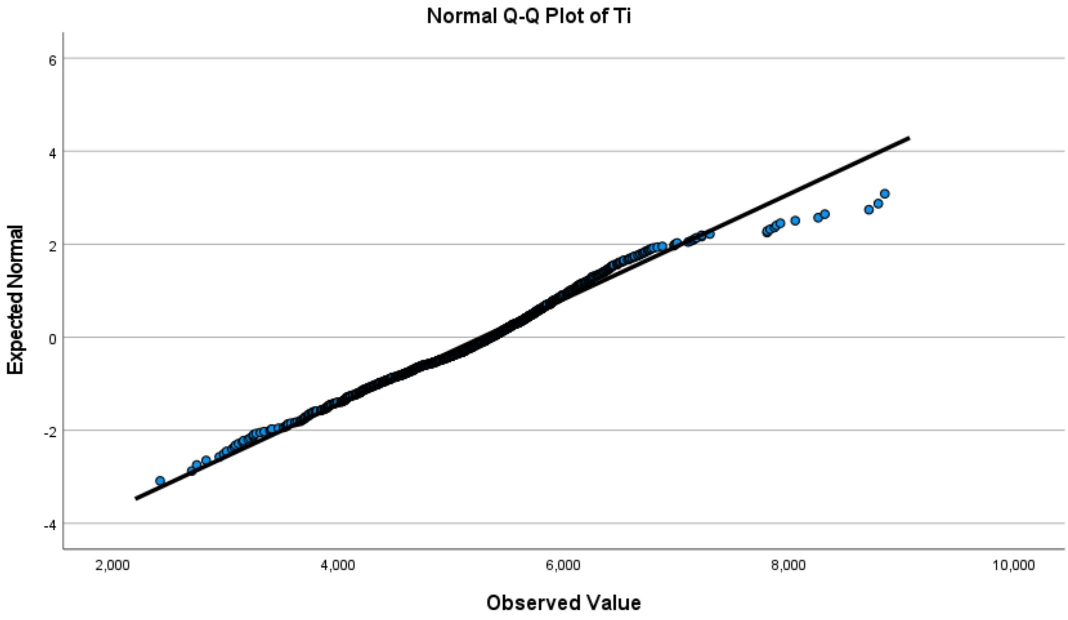
Silicon (Si)



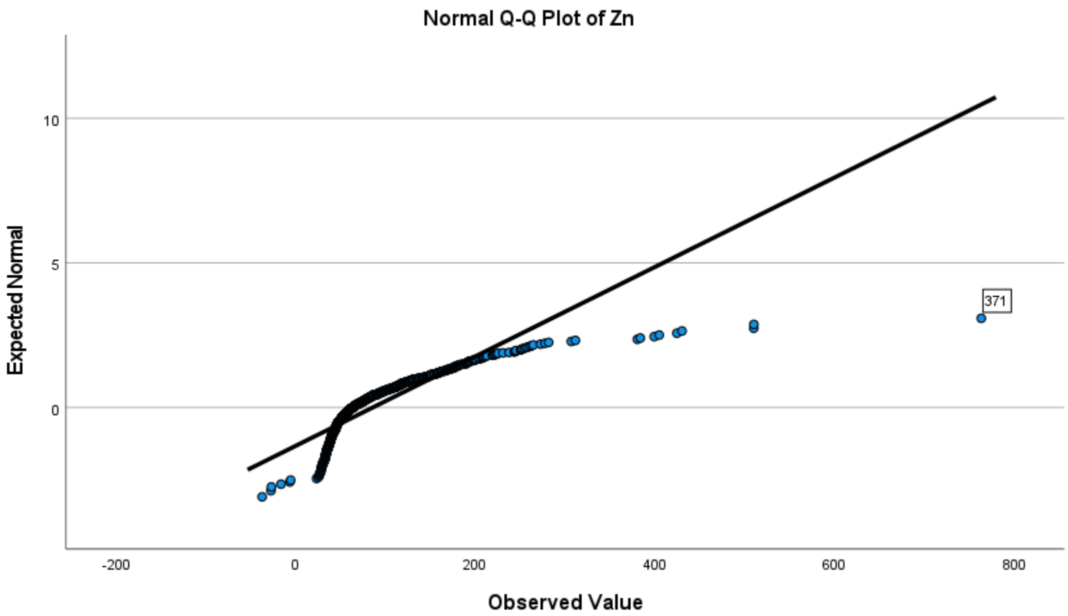
Strontium (Sr)



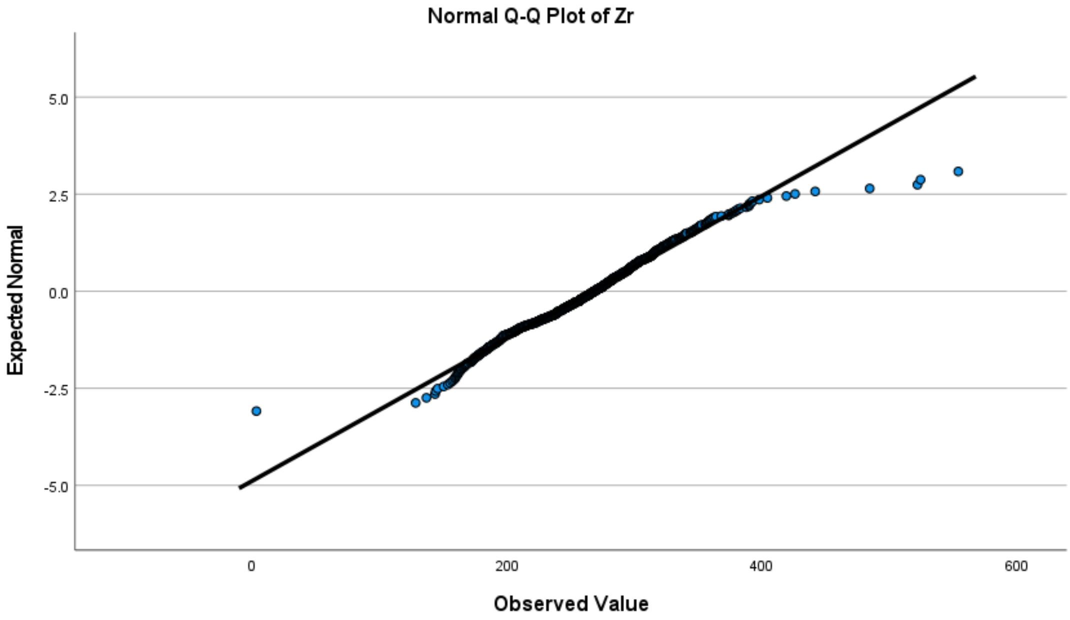
Titanium (Ti)



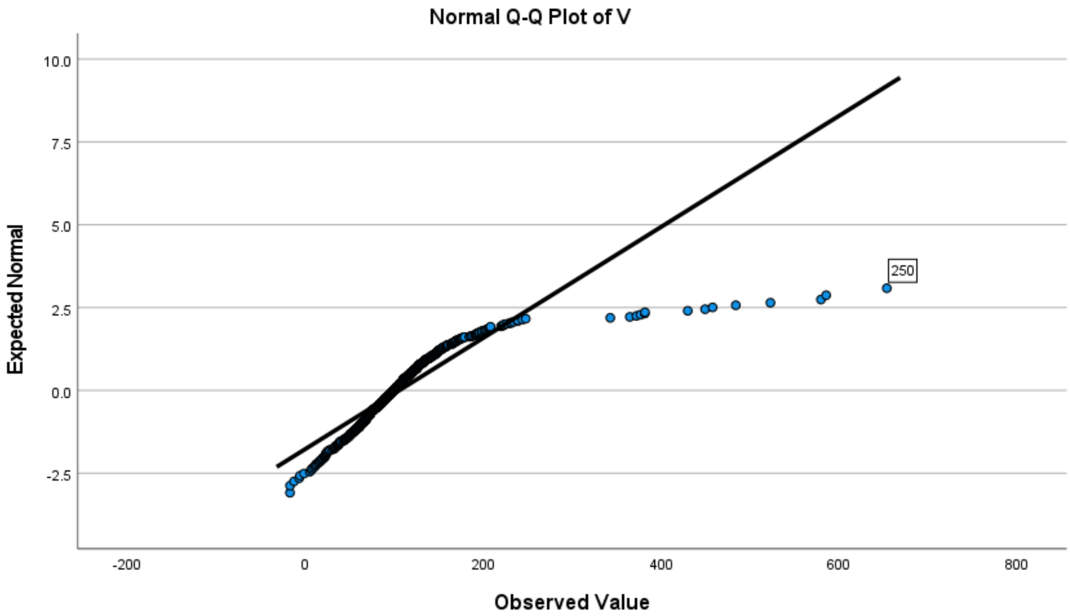
Zinc (Zn)



Zirconium (Zr)



Vanadium (V)



Appendix IX:

Data Summaries, Test of Normality, Q-Q Plots, Ancillary Data for Transformed Data Used in Discriminant Analysis (DFA) 2 and 3

Data Summary Table

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
RbLG10	985	0.5	1.9	2.3	2.2	0.0	0.0	0.0	-2.7	0.1	11.7	0.2
NbLG10	985	0.2	1.6	1.8	1.7	0.0	0.0	0.0	-0.5	0.1	0.7	0.2
SrLG10	985	0.9	1.9	2.7	2.1	0.0	0.1	0.0	1.4	0.1	7.6	0.2
ZrLG10	985	0.5	2.2	2.8	2.5	0.0	0.1	0.0	-0.3	0.1	0.3	0.2
FeLG10	985	1.0	3.9	4.9	4.4	0.0	0.2	0.0	0.0	0.1	-0.6	0.2
AlLG10	985	0.5	4.7	5.2	4.9	0.0	0.1	0.0	-0.2	0.1	0.4	0.2
SiLG10	985	0.4	5.2	5.6	5.4	0.0	0.1	0.0	-0.8	0.1	2.2	0.2
KLG10	985	0.8	3.7	4.6	4.2	0.0	0.1	0.0	-1.0	0.1	2.0	0.2
CaLG10	985	2.1	3.0	5.1	3.9	0.0	0.3	0.1	1.8	0.1	3.7	0.2
TiLG10	985	0.6	3.4	3.9	3.7	0.0	0.1	0.0	-0.7	0.1	1.1	0.2
VLG10	985	1.5	1.4	2.8	2.1	0.0	0.2	0.0	-0.2	0.1	4.0	0.2
CrLG10	985	1.6	1.4	3.0	2.1	0.0	0.1	0.0	-0.2	0.1	3.6	0.2
ZnLG10	985	2.5	0.4	2.9	2.1	0.0	0.2	0.0	-0.2	0.1	7.6	0.2
BaLG10	985	1.0	1.9	2.9	2.6	0.0	0.1	0.0	-0.8	0.1	4.0	0.2

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
RbLG10	0.178	985	<0.001	0.776	985	<0.01
NbLG10	0.089	985	<0.001	0.968	985	<0.01
SrLG10	0.110	985	<0.001	0.899	985	<0.01
ZrLG10	0.064	985	<0.001	0.984	985	<0.01
FeLG10	0.038	985	0.002	0.989	985	<0.01
AlLG10	0.050	985	<0.001	0.990	985	<0.01
SiLG10	0.097	985	<0.001	0.937	985	<0.01
KLG10	0.073	985	<0.001	0.946	985	<0.01
CaLG10	0.235	985	<0.001	0.744	985	<0.01
TiLG10	0.084	985	<0.001	0.968	985	<0.01
VLG10	0.066	985	<0.001	0.942	985	<0.01
CrLG10	0.044	985	<0.001	0.966	985	<0.01
ZnLG10	0.107	985	<0.001	0.893	985	<0.01
BaLG10	0.051	985	<0.001	0.968	985	<0.01

a. Lilliefors Significance Correction

Tests for Homogeneity of Variance

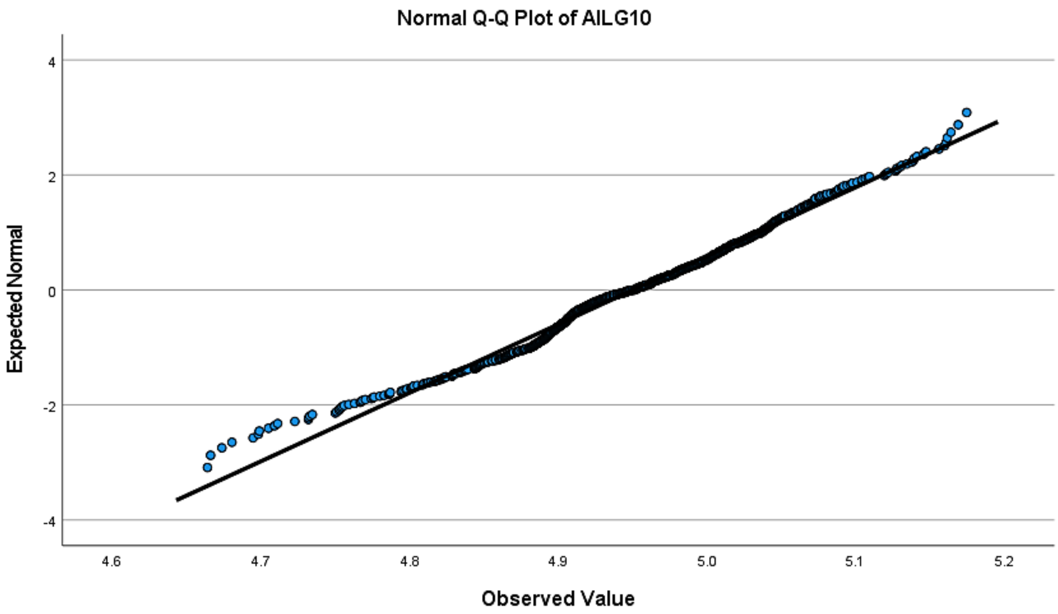
		Levene Statistic	df1	df2	Sig.
RbLG10	Based on Mean	19.318	34	946	<0.01
	Based on Median	14.290	34	946	<0.01
	Based on Median and with adjusted df	14.290	34	93	<0.01
	Based on trimmed mean	18.754	34	946	<0.01
NbLG10	Based on Mean	5.977	34	946	<0.01
	Based on Median	4.012	34	946	<0.01
	Based on Median and with adjusted df	4.012	34	498	<0.01
	Based on trimmed mean	5.524	34	946	<0.01
SrLG10	Based on Mean	13.063	34	946	<0.01
	Based on Median	9.129	34	946	<0.01
	Based on Median and with adjusted df	9.129	34	270	<0.01
	Based on trimmed mean	12.365	34	946	<0.01
ZrLG10	Based on Mean	5.471	34	946	<0.01
	Based on Median	4.282	34	946	<0.01
	Based on Median and with adjusted df	4.282	34	555	<0.01
	Based on trimmed mean	5.376	34	946	<0.01
FeLG10	Based on Mean	4.495	34	946	<0.01
	Based on Median	3.997	34	946	<0.01
	Based on Median and with adjusted df	3.997	34	665	<0.01
	Based on trimmed mean	4.438	34	946	<0.01
AlLG10	Based on Mean	8.555	34	946	<0.01
	Based on Median	7.450	34	946	<0.01
	Based on Median and with adjusted df	7.450	34	669	<0.01
	Based on trimmed mean	8.403	34	946	<0.01
SiLG10	Based on Mean	6.597	34	946	<0.01
	Based on Median	5.216	34	946	<0.01
	Based on Median and with adjusted df	5.216	34	605	<0.01
	Based on trimmed mean	6.365	34	946	<0.01
KLG10	Based on Mean	19.674	34	946	<0.01
	Based on Median	12.929	34	946	<0.01
	Based on Median and with adjusted df	12.929	34	199	<0.01
	Based on trimmed mean	18.816	34	946	<0.01
CaLG10	Based on Mean	14.331	34	946	<0.01
	Based on Median	9.723	34	946	<0.01
	Based on Median and with adjusted df	9.723	34	276	<0.01
	Based on trimmed mean	12.668	34	946	<0.01
TiLG10	Based on Mean	6.137	34	946	<0.01
	Based on Median	4.707	34	946	<0.01
	Based on Median and with adjusted df	4.707	34	564	<0.01
	Based on trimmed mean	5.882	34	946	<0.01
VLG10	Based on Mean	4.238	34	946	<0.01
	Based on Median	3.403	34	946	<0.01
	Based on Median and with adjusted df	3.403	34	504	<0.01
	Based on trimmed mean	3.866	34	946	<0.01
CrLG10	Based on Mean	7.787	34	946	<0.01
	Based on Median	5.166	34	946	<0.01
	Based on Median and with adjusted df	5.166	34	137	<0.01
	Based on trimmed mean	6.756	34	946	<0.01
ZnLG10	Based on Mean	5.138	34	946	<0.01
	Based on Median	3.910	34	946	<0.01
	Based on Median and with adjusted df	3.910	34	274	<0.01
	Based on trimmed mean	4.869	34	946	<0.01
BaLG10	Based on Mean	5.119	34	946	<0.01
	Based on Median	4.065	34	946	<0.01
	Based on Median and with adjusted df	4.065	34	518	<0.01
	Based on trimmed mean	4.889	34	946	<0.01

Coefficients When Dependent Variable is Site (collection unit) or Known/Unknown Groups (Fabric)

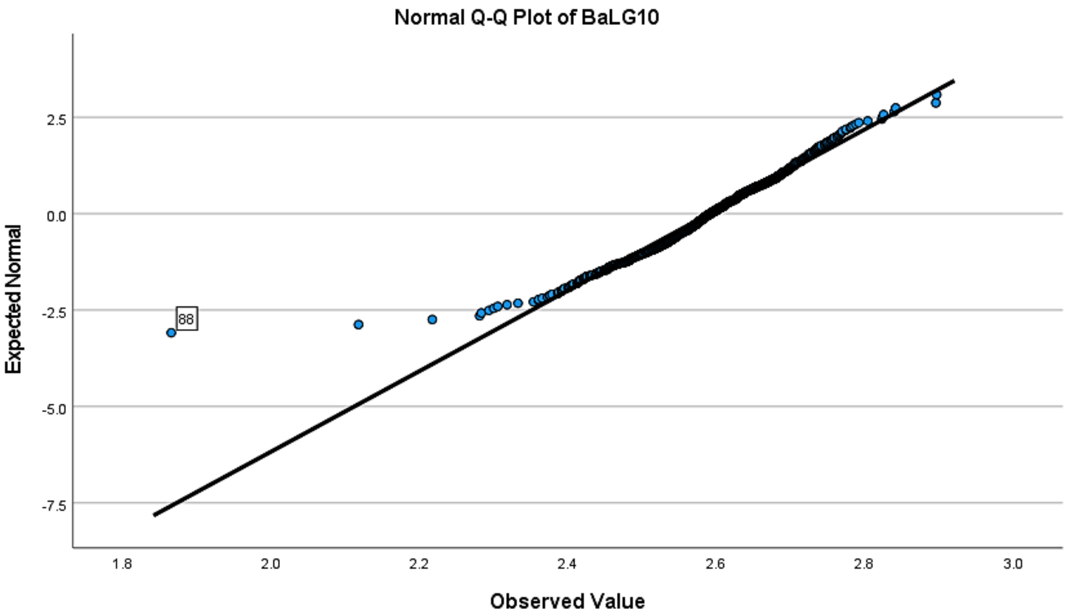
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-88.621	26.042		-3.403	0.001		
	RbLG10	-51.565	7.150	-0.327	-7.212	0.000	0.289	3.458
	NbLG10	49.223	14.503	0.171	3.394	0.001	0.232	4.302
	SrLG10	6.277	2.882	0.062	2.178	0.030	0.726	1.378
	ZrLG10	-19.805	3.544	-0.202	-5.588	0.000	0.456	2.195
	FeLG10	5.521	1.888	0.131	2.924	0.004	0.294	3.396
	AlLG10	-26.279	4.128	-0.290	-6.366	0.000	0.286	3.497
	SiLG10	57.223	5.398	0.411	10.602	0.000	0.395	2.531
	KLG10	-4.454	3.157	-0.062	-1.411	0.159	0.304	3.284
	CaLG10	8.418	0.916	0.309	9.194	0.000	0.523	1.911
	TiLG10	-20.919	6.205	-0.208	-3.371	0.001	0.155	6.434
	VLG10	2.423	1.571	0.049	1.542	0.123	0.588	1.701
	CrLG10	12.419	2.658	0.220	4.672	0.000	0.268	3.726
	ZnLG10	1.855	1.214	0.045	1.528	0.127	0.684	1.463
	BaLG10	-1.238	2.275	-0.016	-0.544	0.586	0.724	1.381

Q-Q Plots by Element

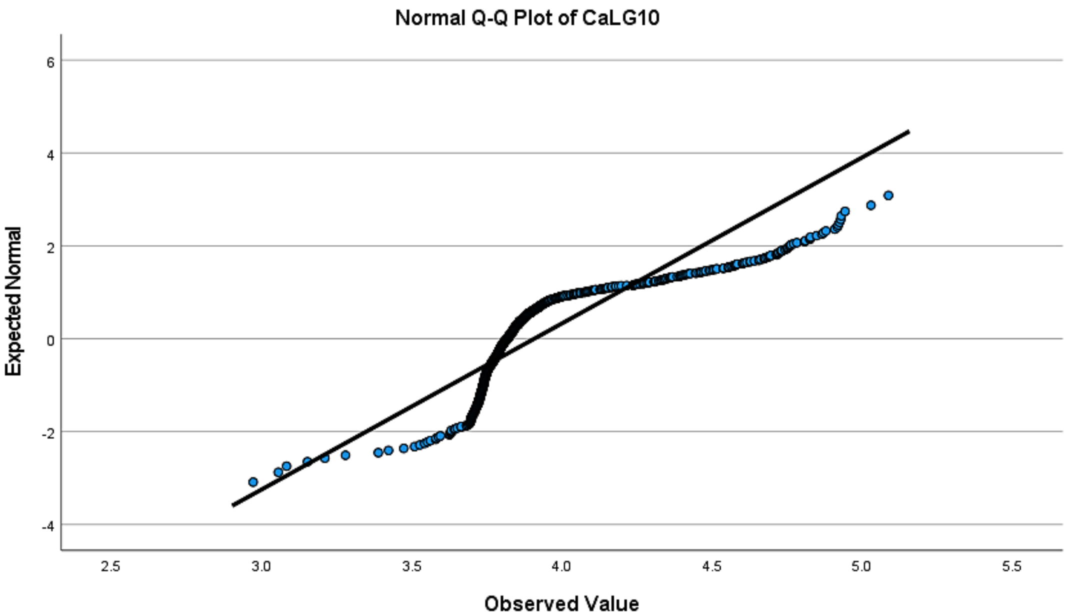
Aluminium (Al)



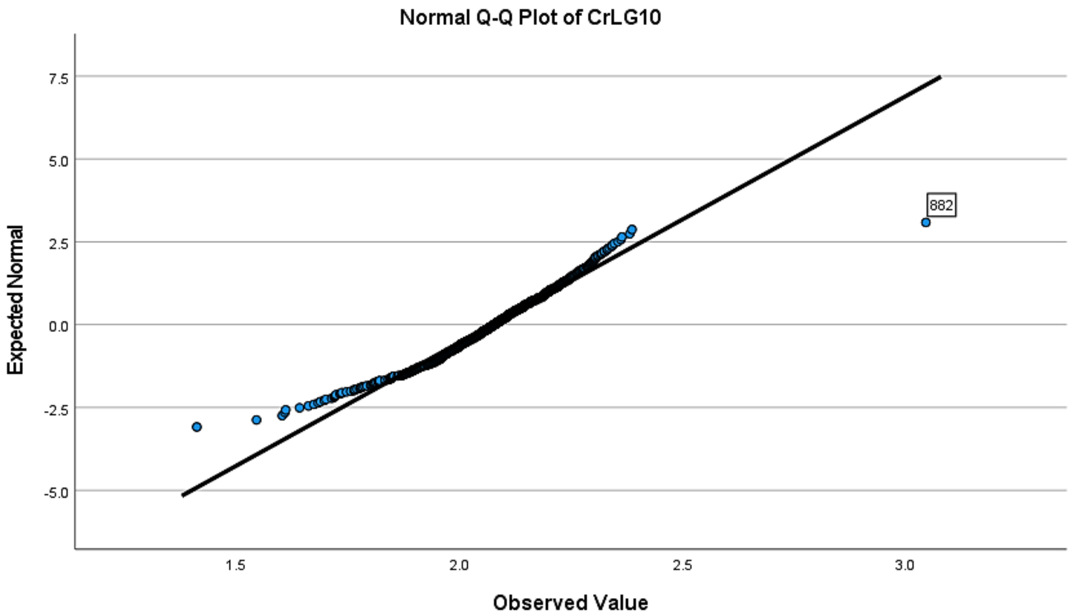
Barium (Ba)



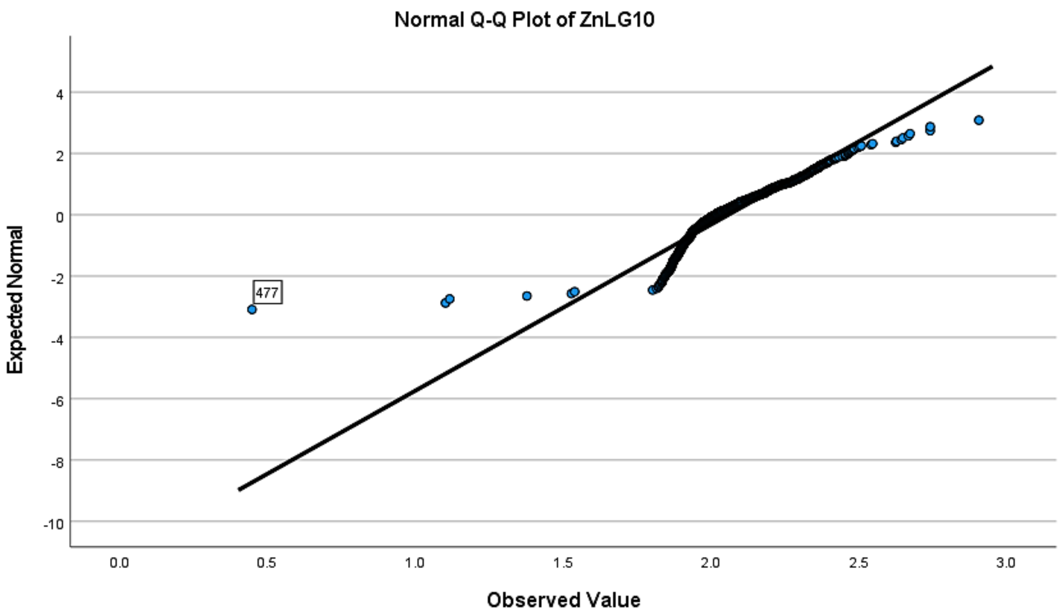
Calcium (Ca)



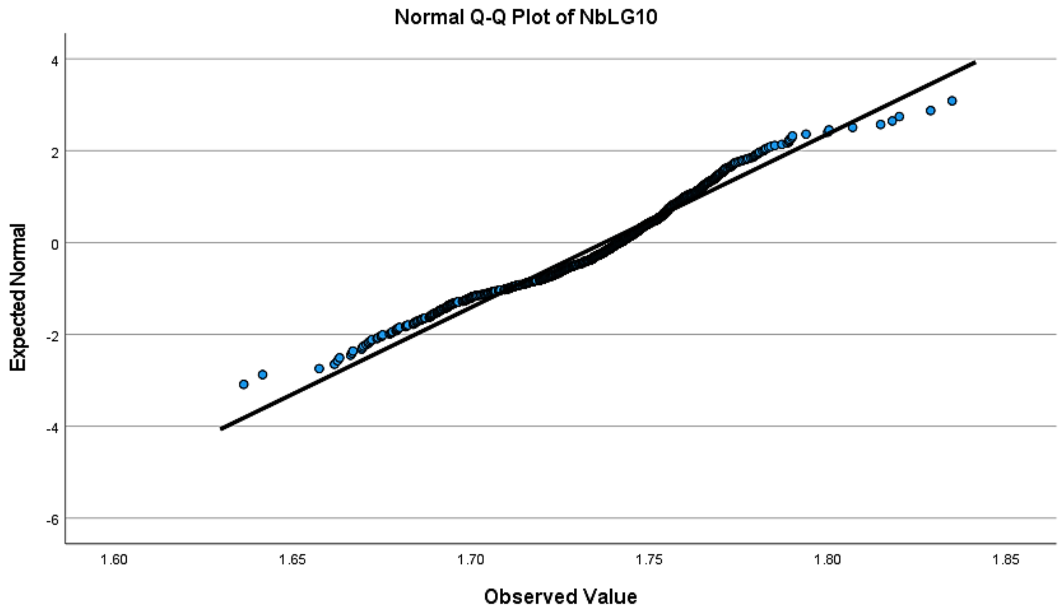
Chromiun (Cr)



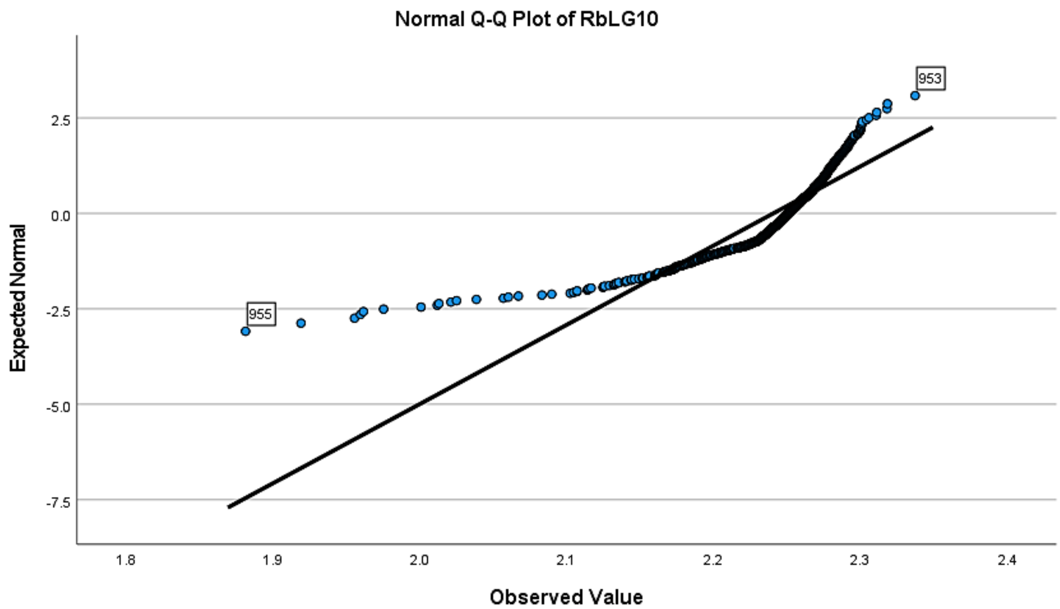
Potassium (K)



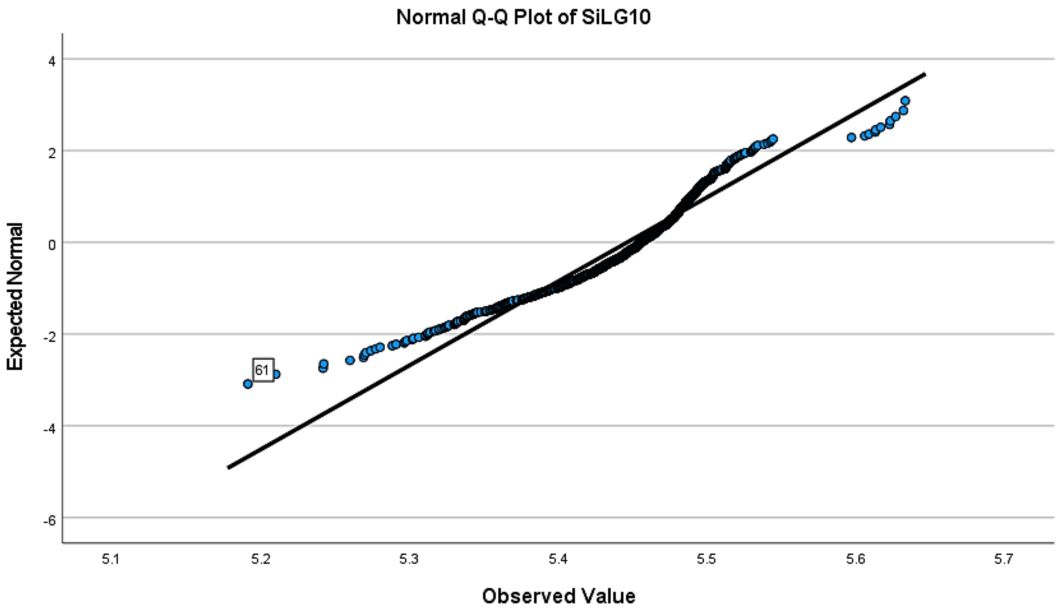
Niobium (Nb)



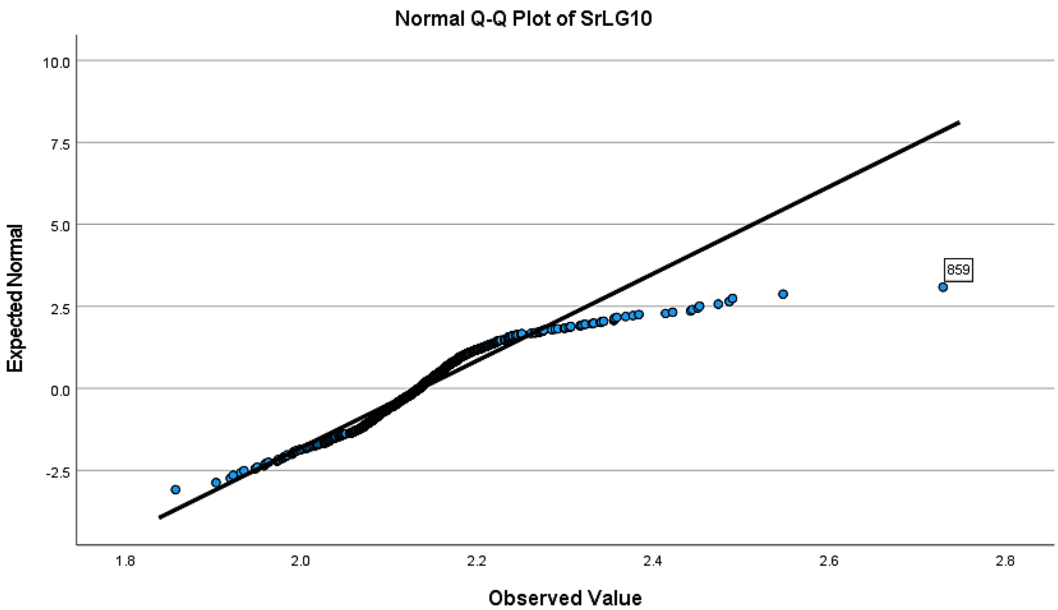
Rubidium (Rb)



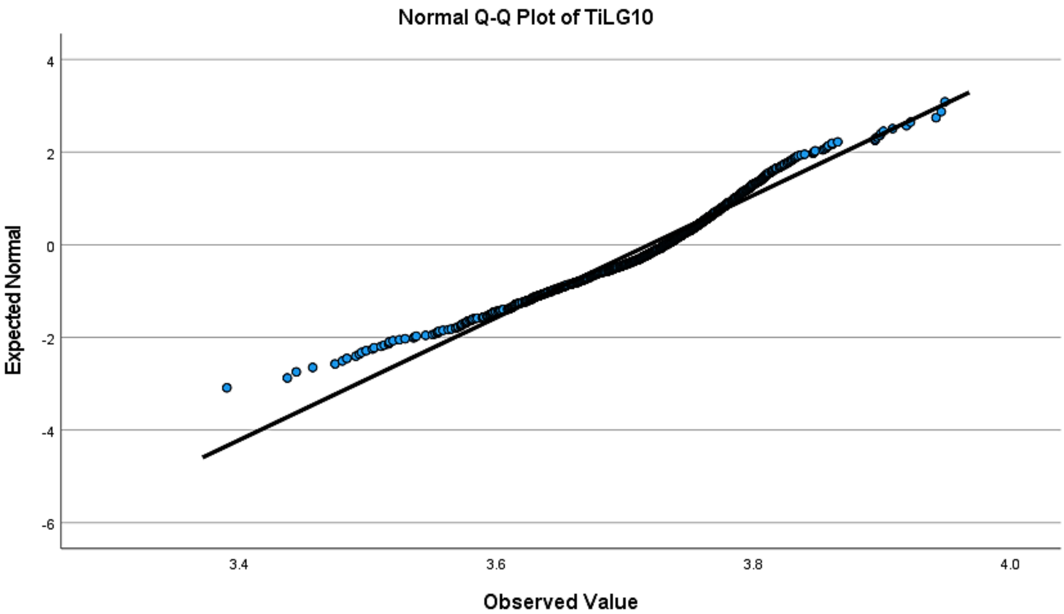
Silicon (Si)



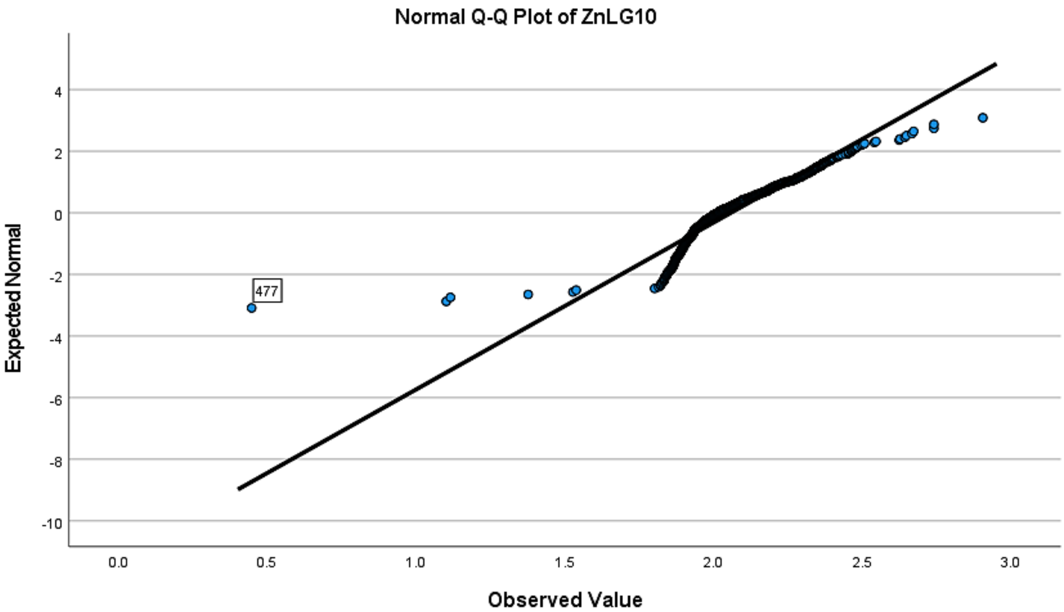
Strontium (Sr)



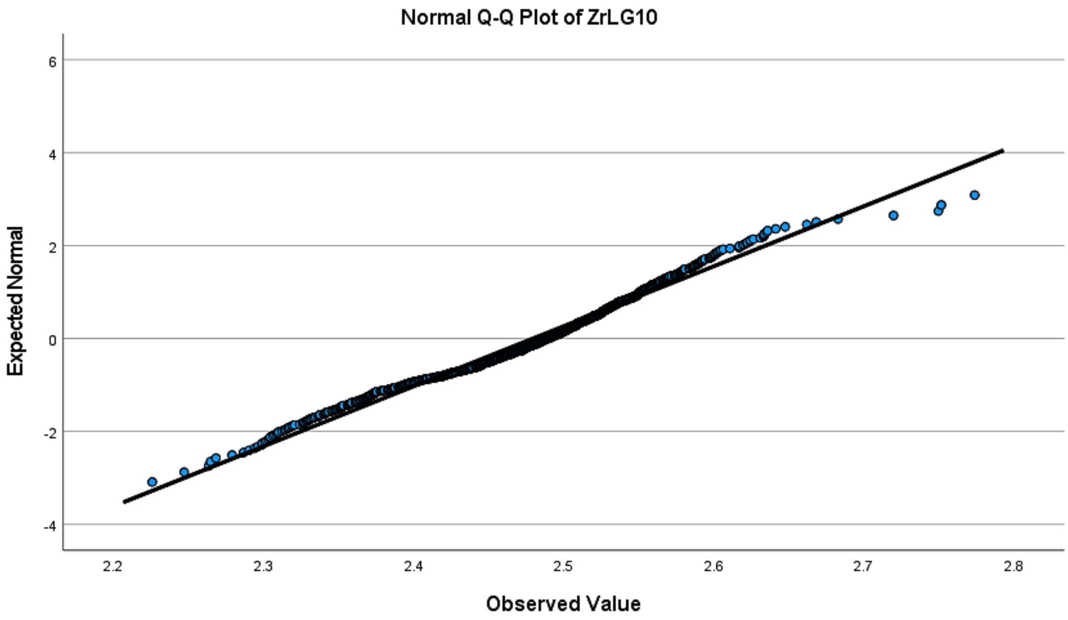
Titanium (Ti)



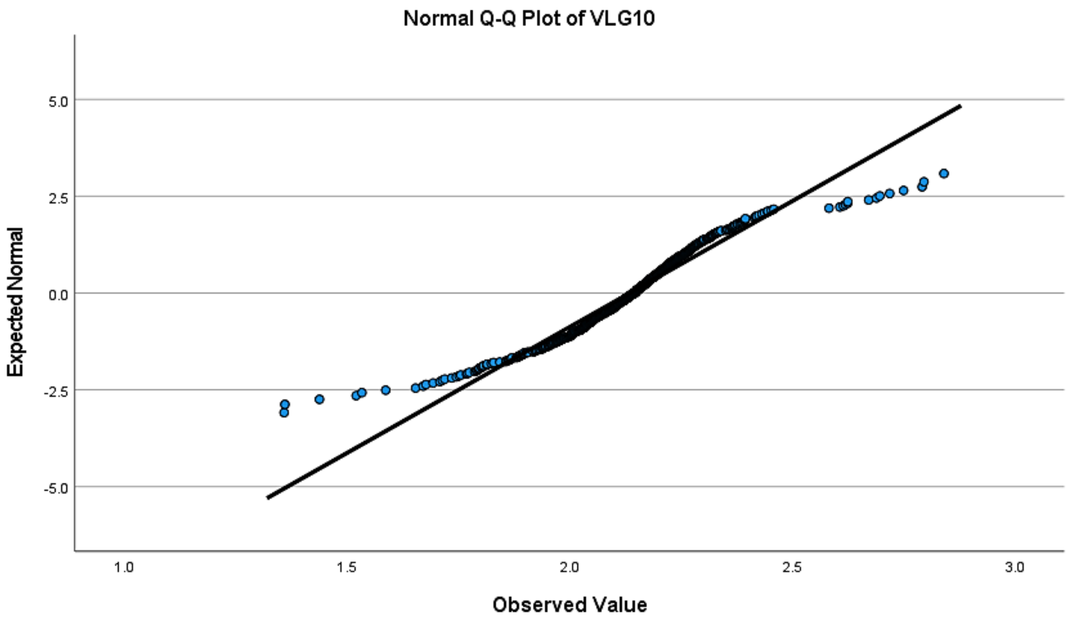
Zinc (Zn)



Zirconium (Zr)



Vanadium (V)



Ancillary Tables from DFA 2

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	5.862	29.8	29.8	0.924
2	5.042	25.6	55.4	0.913
3	2.974	15.1	70.6	0.865
4	1.979	10.1	80.6	0.815
5	1.028	5.2	85.8	0.712
6	0.891	4.5	90.4	0.686
7	0.639	3.3	93.6	0.624
8	0.431	2.2	95.8	0.549
9	0.233	1.2	97.0	0.435
10	0.192	1.0	98.0	0.401
11	0.144	0.7	98.7	0.355
12	0.119	0.6	99.3	0.326
13	0.092	0.5	99.8	0.290
14	0.042	0.2	100.0	0.200

First 14 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 14	0.00	8764.7	532.0	<0.001
2 through 14	0.00	6920.6	481.0	<0.001
3 through 14	0.00	5198.3	432.0	<0.001
4 through 14	0.02	3877.3	385.0	<0.001
5 through 14	0.05	2832.1	340.0	<0.001
6 through 14	0.11	2155.2	297.0	<0.001
7 through 14	0.20	1545.3	256.0	<0.001
8 through 14	0.33	1072.1	217.0	<0.001
9 through 14	0.47	729.1	180.0	<0.001
10 through 14	0.58	528.2	145.0	<0.001
11 through 14	0.69	360.2	112.0	<0.001
12 through 14	0.79	231.0	81.0	<0.001
13 through 14	0.88	123.3	52.0	<0.001
14	0.96	39.2	25.0	0.035

Variables Used in the Analysis

Step	Variable	Tolerance	F to Remove	Wilks' Lambda
1	CaLG10	1.0	111.9	
2	CaLG10	1.0	104.9	0.253
	FeLG10	1.0	68.5	0.182
3	CaLG10	1.0	104.0	0.073
	FeLG10	1.0	69.2	0.053
	RbLG10	1.0	60.8	0.048
4	CaLG10	1.0	104.1	0.028
	FeLG10	1.0	63.1	0.019
	RbLG10	0.6	41.1	0.014
	KLG10	0.6	40.1	0.014
5	CaLG10	1.0	99.8	0.014
	FeLG10	1.0	51.2	0.008
	RbLG10	0.6	38.4	0.007
	KLG10	0.6	37.5	0.007
6	CaLG10	0.9	102.6	0.008
	FeLG10	1.0	51.1	0.005
	RbLG10	0.5	35.6	0.004
	KLG10	0.6	36.7	0.004
	ZrLG10	0.9	23.3	0.003
	SrLG10	0.8	18.8	0.003
7	CaLG10	0.9	100.3	0.005
	FeLG10	1.0	51.2	0.003
	RbLG10	0.5	36.6	0.003
	KLG10	0.6	36.4	0.003
	ZrLG10	0.7	19.8	0.002
	SrLG10	0.8	18.9	0.002
	NbLG10	0.7	12.0	0.002
8	CaLG10	0.9	64.3	0.003
	FeLG10	0.9	53.7	0.002
	RbLG10	0.5	36.7	0.002
	KLG10	0.6	34.5	0.002
	ZrLG10	0.7	19.7	0.001
	SrLG10	0.8	17.6	0.001
	NbLG10	0.6	11.8	0.001
	AlLG10	0.7	11.1	0.001
9	CaLG10	0.9	65.8	0.001
	FeLG10	0.9	48.6	0.001
	RbLG10	0.5	33.7	0.001
	KLG10	0.6	30.8	0.001
	ZrLG10	0.7	19.4	0.001
	SrLG10	0.8	17.4	0.001
	NbLG10	0.6	11.8	0.001
	AlLG10	0.4	28.7	0.001
	SiLG10	0.4	22.5	0.001

Variables Used in the Analysis – Cont.

Step	Variable	Tolerance	F to Remove	Wilks' Lambda
10	CaLG10	0.9	64.8	0.001
	FeLG10	0.9	46.8	0.001
	RbLG10	0.5	35.0	0.001
	KLG10	0.5	29.9	0.001
	ZrLG10	0.7	19.2	0.001
	SrLG10	0.8	16.5	0.000
	NbLG10	0.6	11.8	0.000
	AlLG10	0.4	27.2	0.001
	SiLG10	0.4	20.1	0.001
	BaLG10	0.8	7.8	0.000
11	CaLG10	0.9	58.7	0.001
	FeLG10	0.9	43.5	0.001
	RbLG10	0.5	33.7	0.001
	KLG10	0.5	30.1	0.000
	ZrLG10	0.7	18.5	0.000
	SrLG10	0.8	16.4	0.000
	NbLG10	0.6	10.2	0.000
	AlLG10	0.4	27.0	0.000
	SiLG10	0.4	19.7	0.000
	BaLG10	0.8	7.9	0.000
	VLG10	0.8	7.4	0.000
12	CaLG10	0.8	60.2	0.001
	FeLG10	0.9	42.7	0.000
	RbLG10	0.4	35.6	0.000
	KLG10	0.5	30.1	0.000
	ZrLG10	0.7	16.9	0.000
	SrLG10	0.8	16.2	0.000
	NbLG10	0.3	10.6	0.000
	AlLG10	0.3	20.0	0.000
	SiLG10	0.4	19.2	0.000
	BaLG10	0.8	8.0	0.000
	VLG10	0.8	7.6	0.000
	TiLG10	0.3	7.6	0.000
13	CaLG10	0.8	60.5	0.000
	FeLG10	0.8	36.3	0.000
	RbLG10	0.4	34.3	0.000
	KLG10	0.5	26.8	0.000
	ZrLG10	0.7	15.7	0.000
	SrLG10	0.8	16.4	0.000
	NbLG10	0.3	10.7	0.000
	AlLG10	0.3	20.0	0.000
	SiLG10	0.4	19.4	0.000
	BaLG10	0.8	8.1	0.000
	VLG10	0.8	7.7	0.000
	TiLG10	0.3	7.6	0.000
	ZnLG10	0.9	6.7	0.000
14	CaLG10	0.8	60.1	0.000
	FeLG10	0.6	21.8	0.000
	RbLG10	0.4	33.4	0.000
	KLG10	0.5	26.8	0.000
	ZrLG10	0.7	15.6	0.000
	SrLG10	0.8	16.3	0.000
	NbLG10	0.3	10.8	0.000
	AlLG10	0.3	20.2	0.000
	SiLG10	0.4	19.2	0.000
	BaLG10	0.8	8.1	0.000
	VLG10	0.8	7.1	0.000
	TiLG10	0.2	6.9	0.000
	ZnLG10	0.9	6.6	0.000
	CrLG10	0.5	5.9	0.000

Standardised Canonical Discriminant Function Coefficient

	Function													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
RbLG10	0.284	0.115	-0.841	0.859	0.387	-0.438	0.007	-0.460	0.115	0.081	-0.133	-0.412	0.238	-0.034
NbLG10	-0.087	0.034	0.307	-0.540	-0.151	-0.680	-0.344	1.043	-0.625	-0.324	-0.962	0.002	-0.025	0.196
SrLG10	-0.171	-0.136	0.056	-0.045	0.797	0.259	0.081	0.454	-0.222	0.161	0.285	0.072	-0.339	-0.029
ZrLG10	-0.321	-0.034	0.115	0.586	0.084	0.516	-0.323	-0.126	0.080	0.379	-0.200	0.608	-0.258	0.017
FeLG10	-0.089	0.606	0.510	0.144	0.285	0.100	0.500	-0.249	-0.567	-0.131	-0.024	-0.056	0.422	0.209
AlLG10	-0.570	-0.928	-0.084	-0.151	-0.285	0.370	0.758	0.041	0.014	-0.194	-0.519	0.395	0.091	0.832
SiLG10	0.418	0.687	0.288	-0.077	0.394	-0.216	-0.930	0.081	0.822	-0.118	0.203	-0.432	0.151	0.034
KLG10	0.241	0.452	-0.175	-0.751	-0.480	0.672	-0.017	0.188	-0.270	-0.103	0.214	0.354	-0.183	0.220
CaLG10	0.881	-0.230	0.204	0.308	-0.227	0.054	0.105	0.105	0.179	-0.019	0.144	0.088	0.173	0.257
TiLG10	0.093	-0.083	-0.147	0.586	-0.358	0.445	0.243	-0.571	-0.181	0.657	1.344	-0.843	0.248	-0.241
VLG10	-0.161	-0.022	-0.059	-0.081	0.058	-0.527	-0.164	0.092	0.134	0.127	0.520	0.659	0.326	0.078
CrLG10	0.062	0.125	-0.159	0.186	-0.242	-0.340	0.072	0.399	0.667	-0.381	-0.101	0.014	-0.915	-0.253
ZnLG10	-0.006	0.162	0.017	-0.203	-0.047	-0.250	0.099	0.012	0.339	0.869	-0.341	-0.103	0.055	0.087
BaLG10	-0.254	-0.045	0.103	0.207	-0.192	0.393	0.029	0.431	0.386	-0.096	-0.006	-0.175	0.530	-0.524

Structure Matrix

	Function													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CaLG10	.810*	-0.233	0.259	0.241	-0.020	0.048	0.181	0.238	0.028	0.089	-0.010	0.221	0.104	0.059
FeLG10	-0.157	.648*	0.337	0.302	0.045	-0.066	0.495	0.058	-0.065	-0.119	0.034	0.046	0.085	0.259
RbLG10	0.053	0.279	-.771*	0.346	0.127	0.011	0.018	0.229	-0.068	-0.018	-0.121	-0.054	0.206	0.268
KLG10	0.105	0.505	-.579*	-0.144	-0.191	0.376	0.014	0.300	-0.071	0.023	0.083	0.142	0.045	0.275
ZrLG10	-0.224	0.164	0.123	.594*	-0.196	0.252	-0.445	0.064	-0.126	0.234	-0.130	0.277	-0.178	0.236
SrLG10	0.084	-0.091	-0.143	-0.030	.689*	0.205	0.205	0.542	-0.047	0.176	0.214	-0.050	-0.149	0.083
NbLG10	-0.174	0.085	-0.029	0.294	-0.301	-0.178	-0.312	.544*	-0.380	0.084	-0.024	-0.243	0.004	0.385
ZnLG10	0.074	0.225	0.007	-0.207	-0.007	-0.106	0.365	0.121	0.280	.776*	-0.246	-0.033	0.021	0.007
VLG10	-0.240	0.150	-0.148	0.093	-0.087	-0.446	0.020	0.248	0.075	0.042	0.485	.513*	0.290	0.178
BaLG10	-0.110	0.105	-0.145	0.121	-0.057	0.300	0.193	0.488	0.256	-0.058	-0.097	0.027	.537*	-0.453
CrLG10	-0.184	0.376	0.014	0.330	-0.259	-0.211	0.365	0.313	0.265	-0.141	0.166	-0.024	-.483*	0.143
AlLG10	-0.375	-0.088	-0.116	0.098	-0.069	0.108	0.076	0.167	0.256	-0.128	0.065	-0.210	0.067	.802*
SiLG10	-0.195	0.191	0.105	0.030	0.103	0.097	-0.407	0.087	0.357	-0.146	0.144	-0.338	0.061	.658*
TiLG10	-0.295	0.053	0.020	0.311	-0.376	-0.040	-0.140	0.246	-0.172	0.182	0.404	-0.412	-0.113	.426*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions Variables ordered by absolute size of correlation within

**. Largest absolute correlation between each variable and any discriminant function*

Classification Results for Predicted Group Membership – Original Count

Site		Predicted Group Membership																																						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Original	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(a)	3	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0	35	10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0
	10	0	0	0	0	0	0	0	0	1	45	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
	11	4	0	0	0	0	0	0	0	0	2	39	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
	12	0	0	0	0	0	0	0	1	0	1	3	26	5	2	1	0	1	4	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0
	13	0	0	0	0	0	0	0	0	0	0	0	0	44	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	1	0	0	0	3	6	35	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	1	0	0	0	0
	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	7	4	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0
	17	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9	0	19	2	5	11	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0	0	0	0	5	1	1	5	0	2	29	1	5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	19	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	9	0	26	7	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	1	0	0	9	0	9	3	5	21	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	41	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
	23	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
	24	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	13	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	1	2	0	0	0	1	0	0	0	0
	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	5	1	0	0	0	0	0	1	1	0	0	1	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	3	0	0	0	0	0	0	0	0	0
	29	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	5	0	0	0	0	0	2	0	0	0	0
	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	2	0	0	0	0	0
	31	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	4	0	0	2	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	1	1	0	0
	34	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	2	0	0	7	1	0	0	0	0
	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	9	0	0	0	0
	36	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0	9	0	0	0
	37	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	0
	38	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	7	1
	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	5

Classification Results for Predicted Group Membership (cont.) – Cross Validated Count

		Predicted Group Membership																																						
Site		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Cross-	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
validated	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count	3	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(b+c)	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	8	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0	35	10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0
	10	0	0	0	0	0	0	0	0	2	44	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
	11	4	0	0	0	0	0	0	0	0	3	38	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
	12	0	0	0	0	0	0	0	1	0	1	3	25	5	3	1	0	1	4	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0
	13	0	0	0	0	0	0	0	0	0	0	0	0	43	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	1	0	0	0	4	8	32	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	1	0	0	0	0
	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0	7	5	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	0
	17	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9	0	17	2	6	12	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0	0	0	0	5	1	1	5	0	2	27	1	7	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	19	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	8	0	26	7	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	1	0	0	10	0	10	4	5	18	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
	21	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	41	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
	23	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	43	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	4
	24	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	14	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	1	3	0	0	0	1	0	0	0	0
	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	5	1	0	0	0	0	0	1	1	0	0	1	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	3	0	0	0	0	0	0	0	0	0
	29	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	4	0	0	0	0	0	2	0	0	0	0
	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	1	0	0	2	0	0	0	1	0
	31	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	3	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0
	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	1	2	0	0
	34	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	1	2	0	0	5	1	0	0	0	0
	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	7	0	0	0	0
	36	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	2	0	0	8	0	0	0
	37	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0
	38	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	5	2
	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3	0

a. 69.0% of original grouped cases correctly classified.

b. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

c. 64.0% of cross-validated grouped cases correctly classified.

Groups in Classification Results for Predicted Group Membership

1 – Trigon, Wareham Clay
2 - Wimborne Minster Clay
3 - Horton Clay
4 - Verwood Clay
5 - Old Claygrounds, Crendell Clay
6 - Crendell Common Clay
7 - Petersfinger Clay
8 - Farley Clay
9 - Wareham (Coarseware)
10 – Wareham (Fineware)
11 - East Holme (Whiteware)
12 - East Holme (Redware)
13 – Horton (HOR2)
14 - Horton (HOR1)
15 - Verwood (VER3)
16 - East Worth (VER2)
17 - Harbridge (HAR1)
18 - Edmondsham (EDM1)
19 - Alderholt (ALD3)
20 - Crendell (ALD3)
21 - Southampton (SOU105)
22 - Laverstock (Laverstock Coarseware)
23 – Laverstock (Fineware)
24 – Hermitage
25 – Holnest
26 - Poole – Unprovenanced
27 - Christchurch – Unprovenanced
28 - Dorchester – Unprovenanced
29 - Stratton – Unprovenanced
30 - Lymington – Unprovenanced
31 - Wimborne Minster – Unprovenanced
32 - Horton – Unprovenanced
33 - East Worth – Unprovenanced
34 - Southampton – Unprovenanced
35 - Fordingbridge – Unprovenanced
36 - Shaftesbury – Unprovenanced
37 - Gillingham – Unprovenanced
38 - Salisbury – Unprovenanced
39 - Wilton - Unprovenanced

Ancillary Tables from DFA 3

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	3.992	35.4	35.4	0.894
2	3.08	27.3	62.6	0.869
3	1.796	15.9	78.5	0.801
4	0.735	6.5	85.1	0.651
5	0.591	5.2	90.3	0.609
6	0.51	4.5	94.8	0.581
7	0.261	2.3	97.1	0.455
8	0.137	1.2	98.3	0.347
9	0.09	0.8	99.1	0.287
10	0.049	0.4	99.6	0.216
11	0.043	0.4	99.9	0.204
12	0.004	0.0	100.0	0.063
13	0.002	0.0	100.0	0.047
14	0	0.0	100.0	0.010

a. First 14 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 14	0.00	5829.0	196.0	<0.001
2 through 14	0.01	4270.2	169.0	<0.001
3 through 14	0.05	2906.9	144.0	<0.001
4 through 14	0.14	1910.1	121.0	<0.001
5 through 14	0.24	1375.7	100.0	<0.001
6 through 14	0.38	925.7	81.0	<0.001
7 through 14	0.58	526.0	64.0	<0.001
8 through 14	0.73	301.2	49.0	<0.001
9 through 14	0.83	177.0	36.0	<0.001
10 through 14	0.91	93.7	25.0	<0.001
11 through 14	0.95	47.4	16.0	<0.001
12 through 14	0.99	6.1	9.0	0.7
13 through 14	1.00	2.3	4.0	0.684
14	1.00	0.1	1.0	0.758

Variables Used in the Analysis

Step	Variable	Tolerance	F to Remove	Wilks' Lambda
1	CaLG10	1.0	174.0	
2	CaLG10	1.0	162.9	0.323
	FeLG10	1.0	135.7	0.285
3	CaLG10	1.0	162.2	0.144
	FeLG10	1.0	131.3	0.125
	KLG10	1.0	85.3	0.096
4	CaLG10	1.0	153.9	0.081
	FeLG10	0.9	111.2	0.065
	KLG10	0.9	85.9	0.056
	ZrLG10	1.0	49.9	0.043
5	CaLG10	1.0	154.8	0.050
	FeLG10	0.9	103.4	0.038
	KLG10	0.4	86.8	0.035
	ZrLG10	0.9	45.0	0.025
	RbLG10	0.4	43.0	0.025
6	CaLG10	0.9	180.4	0.039
	FeLG10	0.9	103.3	0.027
	KLG10	0.4	85.9	0.024
	ZrLG10	0.9	43.7	0.018
	RbLG10	0.4	35.8	0.017
	SrLG10	0.7	28.6	0.015
7	CaLG10	0.8	179.1	0.030
	FeLG10	0.9	103.4	0.021
	KLG10	0.4	85.3	0.019
	ZrLG10	0.7	39.4	0.013
	RbLG10	0.4	36.1	0.013
	SrLG10	0.7	28.7	0.012
	NbLG10	0.6	21.8	0.011
8	CaLG10	0.7	118.9	0.018
	FeLG10	0.9	108.8	0.017
	KLG10	0.4	80.5	0.014
	ZrLG10	0.7	39.2	0.010
	RbLG10	0.4	34.9	0.010
	SrLG10	0.7	25.4	0.009
	NbLG10	0.6	23.5	0.009
	AlLG10	0.7	16.8	0.008
9	CaLG10	0.7	118.3	0.013
	FeLG10	0.9	99.1	0.012
	KLG10	0.4	72.4	0.010
	ZrLG10	0.7	37.0	0.007
	RbLG10	0.4	28.4	0.007
	SrLG10	0.7	26.9	0.007
	NbLG10	0.6	23.2	0.007
	AlLG10	0.4	37.6	0.008
	SiLG10	0.5	25.1	0.007

Variables Used in the Analysis – Cont.

Step	Variable	Tolerance	F to Remove	Wilks' Lambda
10	CaLG10	0.7	118.5	0.011
	FeLG10	0.9	79.1	0.009
	KLG10	0.4	63.4	0.008
	ZrLG10	0.7	33.8	0.006
	RbLG10	0.4	27.2	0.006
	SrLG10	0.7	27.9	0.006
	NbLG10	0.6	23.6	0.006
	AlLG10	0.4	38.1	0.006
	SiLG10	0.5	26.2	0.006
	ZnLG10	0.9	12.3	0.005
11	CaLG10	0.7	118.9	0.010
	FeLG10	0.6	43.8	0.006
	KLG10	0.4	63.9	0.007
	ZrLG10	0.7	33.8	0.005
	RbLG10	0.4	26.8	0.005
	SrLG10	0.7	26.8	0.005
	NbLG10	0.5	21.4	0.005
	AlLG10	0.4	35.5	0.005
	SiLG10	0.5	25.7	0.005
	ZnLG10	0.9	11.9	0.004
	CrLG10	0.5	10.2	0.004
12	CaLG10	0.7	116.7	0.008
	FeLG10	0.6	42.7	0.005
	KLG10	0.4	61.7	0.006
	ZrLG10	0.7	32.7	0.005
	RbLG10	0.4	27.1	0.004
	SrLG10	0.7	25.5	0.004
	NbLG10	0.5	21.4	0.004
	AlLG10	0.4	33.5	0.005
	SiLG10	0.4	24.7	0.004
	ZnLG10	0.9	12.1	0.004
	CrLG10	0.5	10.4	0.004
	BaLG10	0.8	10.3	0.004
13	CaLG10	0.7	104.7	0.007
	FeLG10	0.6	42.2	0.004
	KLG10	0.4	61.3	0.005
	ZrLG10	0.7	31.3	0.004
	RbLG10	0.4	25.2	0.004
	SrLG10	0.7	25.4	0.004
	NbLG10	0.5	19.2	0.004
	AlLG10	0.4	34.4	0.004
	SiLG10	0.4	24.6	0.004
	ZnLG10	0.9	12.3	0.003
	CrLG10	0.5	9.4	0.003
	BaLG10	0.8	10.8	0.003
	VLG10	0.8	9.0	0.003
14	CaLG10	0.7	109.4	0.006
	FeLG10	0.6	41.5	0.004
	KLG10	0.4	60.9	0.005
	ZrLG10	0.6	28.3	0.003
	RbLG10	0.3	23.3	0.003
	SrLG10	0.7	25.2	0.003
	NbLG10	0.3	15.9	0.003
	AlLG10	0.3	26.4	0.003
	SiLG10	0.4	24.5	0.003
	ZnLG10	0.9	12.3	0.003
	CrLG10	0.4	8.6	0.003
	BaLG10	0.8	11.5	0.003
	VLG10	0.8	9.3	0.003

Standardised Canonical Discriminant Function Coefficient

	Function													
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
RbLG10	-0.197	-0.310	0.414	0.205	0.972	0.519	-0.518	-0.135	0.245	-0.281	-0.127	0.431	-0.591	-0.615
NbLG10	0.134	0.070	-0.153	-0.616	0.304	-0.984	0.351	0.420	-0.360	0.092	1.092	-0.498	-0.015	-0.391
SrLG10	0.026	-0.490	0.168	-0.300	-0.255	0.462	0.150	0.486	0.151	0.690	0.073	-0.087	-0.022	0.211
ZrLG10	0.187	-0.329	0.407	0.634	-0.127	0.172	-0.415	0.027	0.367	0.048	0.313	-0.262	0.348	0.440
FeLG10	0.562	0.389	0.395	-0.343	-0.255	0.458	0.003	0.552	-0.234	-0.520	-0.057	0.042	0.070	-0.324
AlLG10	-0.688	-0.604	-0.185	-0.005	-0.200	0.380	0.397	-0.122	-0.180	-0.511	0.403	-0.315	0.964	-0.382
SiLG10	0.647	0.374	0.194	0.015	-0.002	-0.377	-0.298	-0.594	0.013	0.594	0.100	0.801	-0.223	-0.129
KLG10	0.202	0.433	-1.153	0.364	-0.630	-0.111	0.137	0.350	-0.186	0.161	-0.079	-0.271	0.513	0.173
CaLG10	-0.656	0.758	0.230	0.305	0.104	0.111	0.206	-0.057	-0.126	-0.012	0.018	0.274	0.321	-0.012
TiLG10	-0.202	0.189	0.230	0.633	-0.299	0.299	0.403	0.464	0.603	-0.172	-1.475	0.782	-0.509	0.077
VLG10	0.102	-0.088	-0.041	-0.221	0.513	-0.075	-0.157	0.164	-0.236	0.018	-0.122	0.436	0.448	0.632
CrLG10	0.069	0.018	0.008	0.148	0.502	-0.121	0.286	-0.870	-0.125	0.801	-0.055	-0.667	-0.086	0.079
ZnLG10	0.176	0.139	-0.153	-0.186	0.282	-0.006	0.204	-0.230	0.823	-0.229	0.311	0.178	0.033	0.108
BaLG10	0.119	-0.121	0.105	0.383	-0.244	0.032	0.451	-0.283	-0.335	-0.173	0.240	0.357	-0.531	0.331

Structure Matrix

	Function													
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
FeLG10	.640*	0.260	0.279	-0.018	0.125	0.391	0.295	0.114	-0.189	-0.182	-0.068	-0.153	0.210	-0.188
CaLG10	-0.523	.650*	0.194	0.114	0.065	0.239	0.030	0.112	-0.034	0.216	0.321	0.109	0.048	0.115
KLG10	0.269	0.123	-.651*	0.457	0.174	0.283	0.043	0.268	-0.086	0.178	0.140	0.064	0.060	-0.172
ZrLG10	0.280	-0.117	0.399	.673*	0.055	-0.182	-0.102	0.232	0.202	0.005	0.190	-0.170	0.293	0.068
VLG10	0.242	-0.181	-0.039	-0.032	.561*	-0.061	0.156	0.178	-0.293	-0.041	-0.181	0.296	0.405	0.399
RbLG10	0.093	-0.093	-0.299	0.408	.529*	0.367	-0.084	0.248	-0.084	0.099	0.201	0.160	-0.158	-0.369
NbLG10	0.167	-0.122	0.142	0.307	0.304	-.481*	0.395	0.467	0.004	0.108	0.166	0.026	0.095	-0.309
CrLG10	0.391	0.036	0.114	0.212	0.428	0.129	.502*	-0.202	-0.106	0.220	-0.253	-0.362	0.175	-0.100
TiLG10	0.196	-0.207	0.196	0.350	0.130	-0.355	.493*	0.265	0.171	0.046	-0.385	0.122	0.202	-0.259
BaLG10	0.132	-0.110	-0.095	0.303	-0.008	0.255	.432*	-0.080	-0.350	-0.185	0.379	0.216	-0.407	0.316
ZnLG10	0.161	0.215	-0.225	-0.218	0.173	0.243	0.332	-0.159	.678*	-0.178	0.273	0.066	0.003	0.189
SrLG10	-0.114	-0.106	-0.042	-0.182	-0.065	0.518	0.176	0.328	0.096	.629*	0.285	0.180	-0.102	0.031
SiLG10	0.320	-0.111	0.109	0.112	-0.173	-0.196	0.011	-0.196	0.008	0.350	0.045	.537*	0.351	-0.467
AlLG10	0.107	-0.435	0.049	0.146	-0.020	-0.024	0.403	-0.151	-0.048	-0.030	-0.045	0.240	.562*	-0.460

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions

**. Largest absolute correlation between each variable and any discriminant function*

Function at Group Centroid

Fabric	Function													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Clay Sample	2.389	1.293	0.248	2.389	-2.681	-1.000	-2.026	-0.216	1.604	0.259	-0.084	-0.068	-0.021	-0.014
Unprovenanced	0.250	0.476	-0.104	-0.617	-0.618	0.264	0.276	-0.135	0.004	0.280	-0.005	0.028	0.017	0.004
Dorset Whiteware (DWW)	-2.362	-1.657	-2.127	-0.159	0.130	-0.995	0.203	1.008	-0.007	0.236	-0.251	-0.059	-0.009	-0.007
Laverstock Fineware (LAVF)	-3.415	2.899	0.559	1.727	0.529	-0.754	-0.033	0.256	-0.066	0.066	0.324	0.103	-0.004	0.011
South Hampshire Redware (SHRW)	0.721	3.640	-0.429	0.936	-0.105	0.205	-0.271	0.263	0.069	0.053	0.993	-1.411	0.115	0.206
Southampton Coarse Sandy ware (SOUCSW)	2.167	2.343	-2.168	-0.433	-1.265	0.495	-1.031	-1.104	-1.262	0.506	-1.363	0.117	-1.373	0.066
Southampton Whiteware (SOUWW)	1.225	1.340	-1.239	-0.013	-1.672	-2.432	-0.739	-0.635	-1.121	-0.315	-0.183	-0.018	0.049	-0.002
West Dorset Sandy ware (WDSW)	3.299	2.550	-0.556	-0.237	1.120	-0.441	0.322	0.099	0.394	-0.299	-0.454	0.049	0.025	0.011
Dorset Whiteware - Post-medieval (DWWPM)	-1.861	-2.782	-2.159	1.240	0.341	-0.165	0.881	-0.911	0.240	-0.123	0.001	-0.018	-0.006	-0.001
Laverstock Coarseware (LAVC)	-4.634	3.554	1.266	-0.474	-0.057	0.845	0.051	-0.213	0.007	-0.196	-0.240	-0.089	-0.007	-0.014
Wareham Coarseware (WARC)	-1.391	-0.468	-2.816	-1.421	-0.306	0.721	-0.826	0.163	0.180	-0.409	0.295	0.050	-0.006	0.005
West Dorset Sandy ware - Post-medieval (WDSWPM)	3.726	2.495	-1.056	-0.227	0.867	-0.250	0.349	-0.004	-0.060	0.077	0.453	-0.074	-0.040	-0.018
Verwood-type (Undefined)	0.179	-1.321	0.956	-0.095	0.707	0.021	-0.447	-0.093	-0.063	0.055	-0.017	-0.004	0.003	0.000
Verwood-type (Horton)	1.719	-0.552	0.044	1.352	-0.622	1.138	0.144	0.357	-0.255	-0.152	-0.052	-0.002	0.004	-0.001
Verwood-type (East Worth)	0.109	-1.851	2.992	-0.832	-0.987	-0.998	0.806	0.259	0.242	-0.367	0.196	0.000	-0.034	0.000

Unstandardized canonical discriminant functions evaluated at group means

Classification Results – Predicted Group Membership Count

Samples by Fabric Analysis			Predicted Group Membership															
			Clay Sample	Un-provenanced	Dorset Whiteware (DWW)	Laverstock Fineware (LAVF)	South Hampshire Redware (SHRW)	Southampton Coarse Sandy ware (SOUCSW)	Southampton Whiteware (SOUWW)	West Dorset Sandy ware (WDSW)	Dorset Whiteware - Post-medieval (DWWPM)	Laverstock Coarseware (LAVC)	Wareham Coarseware (WARC)	West Dorset Sandy ware - Post-medieval (WDSWPM)	Verwood-type (Undefined)	Verwood-type (Horton)	Verwood-type (East Worth)	Total
Original	Count	1	10	0	1	0	0	0	0	1	0	0	0	0	0	1	0	13
		2	2	89	5	7	2	0	7	4	6	3	8	5	28	17	15	198
		3	0	1	46	0	0	0	0	0	2	0	1	0	0	0	0	50
		4	0	1	1	48	0	0	0	0	0	0	0	0	0	0	0	50
		5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
		6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
		7	0	2	0	0	0	0	21	0	0	0	0	0	0	0	0	23
		8	1	1	0	0	0	0	0	35	0	0	0	13	0	0	0	50
		9	0	0	7	0	0	0	0	0	40	0	0	0	3	0	0	50
		10	0	1	0	5	0	0	0	0	0	44	0	0	0	0	0	50
		11	0	1	10	1	0	0	0	0	0	0	37	1	0	0	0	50
		12	0	0	0	0	0	0	0	5	0	0	0	45	0	0	0	50
		13	0	10	0	0	0	0	0	0	0	0	1	1	231	7	0	250
		14	1	4	0	0	0	0	0	0	0	0	0	0	0	94	0	99
		15	0	1	0	0	0	0	0	0	0	0	0	0	3	0	46	50

Original Groups Classification Results Numbering:
1 – Clay Sample
2 – Unprovenanced
3 – Dorset Whiteware
4 – Laverstock Fineware
5 - South Hampshire Redware (SHRW)
6 - Southampton Coarse Sandy ware (SOUCSW)
7 - Southampton Whiteware (SOUWW)
8 - West Dorset Sandy ware (WDSW)
9 - Dorset Whiteware - Post-medieval (DWWPM)
10 - Laverstock Coarseware (LAVC)
11- Wareham Coarseware (WARC)
12 - West Dorset Sandy ware - Post-medieval (WDSWPM)
13 - Verwood-type (Undefined)
14 - Verwood-type (Horton)
15 – Verwood-type (East Worth)

Data Amended in line with Certified Reference Material

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
TRIG_1	Trigon	Clay and Temper	745298.83	302604.73	10068.67	<LOD	1855.60	23986.01	<LOD	13485.84	663.50	1.09	<LOD	359.45	-4.77	44.80	-11.59	22.31	39.90	130.90	-175.16	105.53	124.38	15.57	368.63
TRIG_2	Trigon	Clay and Temper	729051.08	303187.47	9005.82	<LOD	1830.89	23002.71	<LOD	13103.10	921.40	1.71	<LOD	360.61	-8.26	51.42	-19.34	20.14	37.16	123.65	-106.39	100.27	111.90	15.43	248.19
TRIG_3	Trigon	Clay and Temper	729312.22	307436.59	7963.47	<LOD	1846.87	22796.91	<LOD	12403.87	722.64	<LOD	<LOD	300.38	-15.05	36.64	-10.20	16.64	31.78	100.30	-144.34	80.22	93.52	19.48	245.87
TRIG_4	Trigon	Clay and Temper	754302.36	288913.67	8162.76	<LOD	1859.75	22336.98	<LOD	12724.06	758.27	<LOD	<LOD	331.19	-12.34	43.58	-19.19	18.37	33.95	103.19	-251.29	85.52	106.72	17.07	241.56
TRIG_5	Trigon	Clay and Temper	733723.42	297998.32	8145.01	<LOD	1929.49	23064.59	<LOD	12665.99	774.50	<LOD	<LOD	290.77	-14.14	44.09	-17.26	14.51	30.47	95.55	-200.16	77.23	94.93	17.66	245.25
TRIG_6	Trigon	Clay and Temper	765336.20	296087.95	6560.62	<LOD	2017.56	20369.12	<LOD	11910.27	717.58	<LOD	<LOD	271.92	-17.16	20.50	-18.04	10.64	24.81	78.17	-178.44	61.39	71.44	11.37	231.74
OCG_LC	Old Claygrounds, London Clay	Clay	728427.86	144570.81	22621.08	<LOD	7836.97	22496.34	330.66	8740.12	<LOD	-13.93	-32.90	218.70	-13.48	24.38	<LOD	12.16	22.81	119.65	<LOD	56.29	9.39	40.65	363.86
CR_RC	Crendell Common	Clay	713890.98	144959.56	25927.01	<LOD	7830.97	22322.95	146.06	10104.17	<LOD	-12.34	-26.75	234.09	-11.58	69.28	<LOD	13.84	16.23	125.21	<LOD	57.62	19.02	105.36	521.85
CR_LC	Crendell, London Clay	Clay	705588.18	138629.41	28197.02	<LOD	7738.35	19677.80	513.84	7461.45	5468.62	-12.94	-10.32	151.04	-14.95	18.22	<LOD	5.87	56.24	104.69	<LOD	43.62	-17.06	108.06	226.87
EWC	East Worth	Clay	2496.42	3640.78	244.91	<LOD	27597.20	280.71	<LOD	9837.19	171.92	11.21	<LOD	558.56	-15.14	59.59	22.21	1.49	27.42	172.77	16596.64	2.71	90.54	199.13	3.32
F_LC	Farley, London clay	Clay	671221.22	142197.47	61566.33	<LOD	#VALUE!	27093.01	170.22	8527.92	<LOD	-2.43	7.08	360.03	-12.45	114.67	<LOD	11.27	16.90	126.39	<LOD	68.90	58.98	92.32	441.63
F_RC	Farley	Clay	679168.24	159751.83	60938.18	<LOD	12242.25	23197.45	198.61	10265.05	<LOD	-7.58	-8.60	271.23	-5.40	158.84	<LOD	20.61	38.60	140.46	<LOD	91.47	125.27	104.18	330.97
H_LC	Horton, London clay	Clay	746084.86	140720.14	22665.93	<LOD	7736.25	22310.98	300.32	7879.85	5715.79	-12.48	-14.31	280.29	-13.65	10.25	<LOD	9.91	33.50	116.79	<LOD	54.15	-12.57	63.29	368.06
H_RC	Horton	Clay	657815.87	154574.57	50561.09	<LOD	7612.21	26835.79	<LOD	9503.30	10782.27	-4.62	6.07	420.81	-7.12	124.38	<LOD	15.99	26.36	142.99	<LOD	83.59	81.62	84.45	320.87
PFR	Petersfinger	Clay	863269.97	168923.19	31056.17	<LOD	15539.72	17859.97	266.34	9001.11	8367.76	-1.84	<LOD	386.83	-20.79	49.69	-16.91	15.61	20.05	63.05	1378.96	78.89	60.11	81.52	553.90
TRIG_0	Trigon	Clay	730866.22	322128.39	11309.52	<LOD	2113.00	25822.82	<LOD	14703.56	685.13	<LOD	<LOD	400.47	-3.28	56.29	-11.19	24.79	48.35	147.34	-118.55	124.25	134.95	22.03	262.88
VER_A	Verwood	Clay	701557.72	151987.85	36599.10	<LOD	7291.80	25481.85	119.58	9562.60	<LOD	-9.51	-13.92	334.11	-7.75	99.24	<LOD	15.30	30.84	138.39	<LOD	70.72	73.36	43.46	382.97
VER_B	Verwood	Clay	688466.81	152561.56	40715.47	<LOD	7900.91	23514.06	106.63	9274.63	<LOD	-11.58	-17.28	293.65	-12.81	70.24	<LOD	13.36	29.76	131.25	<LOD	66.31	56.64	34.15	425.83
VER_C	Verwood	Clay	699851.89	153518.21	32688.28	<LOD	7934.14	25020.11	113.47	9351.98	<LOD	-13.81	-11.56	306.51	-12.48	72.24	<LOD	14.53	25.52	128.14	<LOD	65.21	67.03	33.94	419.00
WIM	Wimborne Minster	Clay	717871.81	137464.12	29095.35	<LOD	11867.93	22659.03	997.08	7358.52	8538.98	3.52	-11.05	234.59	-10.04	3.83	<LOD	13.08	24.30	119.76	2932.71	90.08	-6.83	68.74	524.26
EHR1	Uncertain Redware	Control later changed	560984.10	167042.27	47875.00	<LOD	7813.37	24057.23	469.64	9851.00	19552.43	32.51	5.89	471.29	-9.92	109.06	26.20	16.00	403.80	146.60	1516.82	106.42	118.45	189.67	312.01
EHR2	Uncertain Redware	Control later Unprovenanced	580132.36	171234.37	48629.10	4905.75	8277.01	23734.01	167.59	10217.38	6407.57	29.58	2.20	464.29	-7.95	116.60	18.95	16.86	220.85	147.40	1209.43	108.02	96.63	95.43	282.79
EHR3	Uncertain Redware	Control later Unprovenanced	575321.20	227029.77	50104.38	<LOD	7743.05	20726.91	263.05	9199.21	3367.05	131.74	16.70	486.42	0.51	129.14	<LOD	16.66	6544.90	145.02	768.56	96.36	117.42	147.22	235.19
EHR4	Uncertain Redware	Control later Unprovenanced	628456.57	187670.25	45130.84	8280.70	7806.11	23892.65	185.76	11393.80	1480.18	-3.32	19.02	392.64	-6.48	118.40	<LOD	21.44	64.55	146.95	446.34	79.70	147.89	118.10	297.09
EHR5	Uncertain Redware	Control later Unprovenanced	586158.76	207166.83	51266.53	<LOD	7294.61	25994.93	45.06	8798.77	5634.04	-1.87	-0.05	373.04	-7.92	119.51	<LOD	12.94	504.98	142.26	1324.61	83.69	92.89	104.70	210.90
EHR6	Uncertain Redware	Control later Unprovenanced	593672.92	218863.79	47696.58	8348.39	7667.87	27864.89	<LOD	8951.32	4923.08	<LOD	<LOD	312.95	-10.73	125.48	<LOD	13.62	271.50	150.53	842.29	93.02	113.32	82.98	230.83
EHR7	Uncertain Redware	Control later Unprovenanced	637169.04	201085.31	34683.45	6791.38	7238.46	25073.38	39.41	10135.74	4329.01	81.95	-2.59	462.85	-0.60	96.71	34.79	18.32	2147.36	149.87	3147.65	95.91	118.59	54.02	256.94
EHR8	Uncertain Redware	Control later Unprovenanced	607091.93	155555.94	48872.83	4341.54	7551.30	24424.82	197.52	7369.45	4277.89	<LOD	11.89	436.32	-9.53	89.47	<LOD	11.02	1050.97	136.41	589.81	77.72	71.52	71.31	205.53
EHR9	Uncertain Redware	Control later Unprovenanced	600532.87	190824.65	51230.15	4367.90	<LOD	24520.25	75.41	9723.63	8239.56	20.64	21.55	473.56	-5.07	123.86	28.46	16.11	978.68	149.60	2387.11	105.28	127.15	114.76	283.97
EHR10	Uncertain Redware	Control later Unprovenanced	625875.73	194131.48	63769.23	5575.72	6847.80	21577.71	322.15	10428.28	5946.06	18.26	-3.60	419.15	-2.05	116.84	<LOD	18.26	254.93	140.32	688.85	76.72	121.20	94.44	257.00
EHR11	Uncertain Redware	Control later Unprovenanced	592750.87	205911.79	60267.95	6460.60	7146.29	27159.53	512.21	9819.70	15003.38	25.07	16.93	404.61	-1.54	200.87	<LOD	16.01	486.50	156.05	2613.93	74.76	169.71	78.58	350.28
EHR12	Uncertain Redware	Control later Unprovenanced	597985.69	215144.35	45279.90	3780.67	8659.33	17515.04	98.39	10021.03	2416.98	<LOD	-2.70	337.59	1.51	133.01	26.89	14.69	631.27	135.86	866.65	102.14	148.81	45.60	299.06
EHR13	Uncertain Redware	Control later Unprovenanced	563229.10	164835.91	39498.59	<LOD	7374.67	21681.68	118.47	9968.12	1143.97	<LOD	-17.61	320.55	-0.72	109.74	<LOD	14.68	761.00	130.93	969.44	58.40	141.22	59.43	257.39
EHR14	Uncertain Redware	Control later Unprovenanced	548226.84	218501.29	24673.00	<LOD	6895.79	27126.55	241.45	8859.19	16709.22	-0.79	-29.91	394.42	0.56	118.56	20.38	12.23	659.20	146.97	1022.59	78.52	152.40	130.44	204.06
EHR15	Uncertain Redware	Control later Unprovenanced	617331.83	224652.87	43433.62	9621.89	6928.57	27731.79	104.27	9801.68	2900.01	<LOD	6.28	546.06	6.50	130.99	<LOD	15.04	928.59	159.93	1558.53	105.78	184.32	38.26	231.63
EHR16	Uncertain Redware	Control later Unprovenanced	573196.78	152746.39	33756.42	7275.36	7331.90	23278.12	357.23	9725.38	2857.37	1458.92	11.05	428.41	-3.09	100.14	<LOD	13.60	897.82	135.29	3243.66	74.67	111.14	50.49	259.38
EHR17	Uncertain Redware	Control later Unprovenanced	588842.05	175702.19	69083.94	6215.64	7024.37	22233.11	284.86	9525.61	2479.26	<LOD	22.11	447.89	-3.03	157.24	<LOD	13.97	1934.40	132.39	1175.65	68.16	145.22	75.29	234.96
EHR18	Uncertain Redware	Control later Unprovenanced	518643.15	150733.13	44956.84	4549.46	10579.30	18870.95	573.27	8826.98	2154.89	4.99	-9.71	350.58	-4.92	129.41	22.02	12.71	584.64	123.73	853.54	76.38	128.69	179.01	308.60
EHR19	Uncertain Redware	Control later Unprovenanced	519294.53	136101.98	42036.56	<LOD	6681.43	16611.02	<LOD	10417.15	541.37	<LOD	-23.90	275.50	-0.80	116.32	<LOD	14.65	1239.42	120.99	1081.04	68.50	151.11	80.29	351.15
EHR20	Uncertain Redware	Control later Unprovenanced	539999.94	160055.19	34014.34	<LOD	7985.74	15452.99	<LOD	9969.52	630.83	-4.80	-13.67	273.34	-5.01	101.13	36.55	14.91	232.66	123.56	487.17	81.65	59.74	114.35	280.32
EHR21	Uncertain Redware	Control later Unprovenanced	598097.73	207366.76	24860.04	<LOD	8064.99	22478.71	<LOD	9610.82	547.69	<LOD	<LOD	224.49	-1.33	88.65	127.67	15.91	401.79	135.26	-138.73	77.98	90.02	34.59	259.04
EHR22	Uncertain Redware	Control later Unprovenanced	616971.26	189427.86	47494.67	<LOD	8114.64	21931.48	76.91	10879.86	3271.54	8.92	-7.92	336.55	-2.56	114.62	<LOD	18.40	238.66	134.66	1257.13	72.40	125.11	48.02	267.26
EHR23	Uncertain Redware	Control later Unprovenanced	605306.45	222928.51	37179.55	<LOD	7663.41	24255.37	140.91	11017.06	3185.25	<LOD	5.17	459.02	3.38	109.29	<LOD	19.12	485.17	145.28	862.84	87.58	96.15	56.74	302.84
EHR24	Uncertain Redware	Control later Unprovenanced	676058.59	180310.35	37531.01	6159.85	7672.51	22121.67	100.20	9433.12	2705.56	<LOD	6.29	393.13	-4.10	87.02	<LOD	15.82	361.58	131.04	1295.18	73.38	86.48	35.87	262.07
EHR25	Uncertain Redware	Control later Unprovenanced	649111.34	179742.78	37371.34	9476.53	8240.93	21898.72	187.11	9187.05	3242.28	<LOD	10.15	432.61	-1.14	95.56	<LOD	15.78	1669.11	131.57	1289.44	75.24	96.39	59.71	263.89
EHR26	Uncertain Redware	Control later Unprovenanced	559863.30	149369.95	28935.36	<LOD	7625.42	16236.20	<LOD	9073.64	9082.39	<LOD	-26.21	212.49	-3.39	92.54	20.41	13.81	631.84	119.63	180.53	79.88	61.00	45.86	237.87
EHR27	Uncertain Redware	Control later Unprovenanced	628924.56	181609.00	29067.91	<LOD	8385.12	17809.81	<LOD	10055.61	4440.92	<LOD	-7.00	331.97	0.99	110.44	33.65	17.58	382.60	135.61	778.26	107.02	108.67	42.95	294.97
EHR28	Uncertain Redware	Control later Unprovenanced	591417.84	205695.63	29413.83	<LOD	7795.53	27131.09	<LOD	10435.13	2219.33	<LOD	-10.92	501.53	5.62	103.67	<LOD	18.86	637.62	159.17	1148.75	98.43	103.68	46.08	269.36
EHR29	Uncertain Redware	Control later Unprovenanced	635789.95	216599.60	30953.98	5556.11	7822.87	25113.46	107.43	10257.35	4300.39	<LOD	-8.09	447.81	4.66	94.58	<LOD	17.62	1420.06	145.41	2870.80	94.48	116.53	46.54	260.52
EHR30	Uncertain Redware	Control later Unprovenanced	661250.11	190366.45	59896.38	6562.22	7338.01	22467.75	456.48	10077.96	6677.36	10.34	18.55	443.58	-3.68	119.71	<LOD	17.62	144.53	139.00	314.72	79.03	135.15	135.95	293.47

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
EHR31	Uncertain Redw are	Control later Unprovenanced	665460.02	174469.74	44056.15	3934.13	6825.86	22911.40	207.08	9084.64	3283.39	2.47	20.06	393.12	-6.78	83.49	24.31	16.84	63.27	138.09	169.51	105.84	105.06	99.78	299.36
EHR32	Uncertain Redw are	Control later Unprovenanced	624188.75	220908.70	38332.54	4933.69	7488.62	21411.90	52.73	10678.82	3988.34	<LOD	-18.85	350.15	-2.00	113.73	<LOD	17.25	528.24	136.11	600.35	82.69	114.68	62.45	296.62
EHR33	Uncertain Redw are	Control later Unprovenanced	529016.61	215059.02	39268.68	5030.04	7968.56	24302.84	479.73	10422.80	6186.43	4.21	-23.47	429.41	3.66	121.53	<LOD	17.32	1499.06	155.06	2494.13	99.91	166.22	180.96	270.74
EHR34	Uncertain Redw are	Control later Unprovenanced	579228.61	166613.72	25269.16	<LOD	6956.97	15447.26	<LOD	9504.35	2059.55	4.62	-7.41	265.72	-2.23	89.98	36.11	16.96	270.99	128.54	1036.96	90.13	88.42	71.50	275.64
EHR35	Uncertain Redw are	Control later Unprovenanced	646028.20	218118.46	34270.64	<LOD	7192.67	24408.29	<LOD	9286.19	3278.78	9.69	9.15	469.12	-2.67	108.90	27.23	15.63	531.33	150.51	1753.58	102.62	165.46	64.97	267.50
EHR36	Uncertain Redw are	Control later Unprovenanced	635350.57	218523.77	31595.27	<LOD	<LOD	25926.68	<LOD	10728.83	8049.71	-0.29	1.23	468.59	-2.44	96.42	<LOD	18.35	140.30	153.80	1259.65	100.18	101.42	54.49	281.49
EHR37	Uncertain Redw are	Control later Unprovenanced	627871.88	222216.84	35308.33	5710.28	7923.07	26743.36	<LOD	10373.98	6387.91	<LOD	-4.96	429.07	-0.42	104.03	<LOD	18.12	381.53	156.77	1669.91	101.85	115.59	48.17	271.15
EHR38	Uncertain Redw are	Control later Unprovenanced	671934.16	224555.39	33955.15	5813.56	7277.39	23108.89	94.40	9744.27	3513.59	<LOD	-3.74	393.58	2.63	118.46	26.03	14.86	595.11	139.92	1421.05	88.87	125.11	77.88	281.64
EHR39	Uncertain Redw are	Control later Unprovenanced	644653.80	211786.14	38064.88	4876.45	7557.38	16874.42	<LOD	10603.79	2172.51	14.57	-27.21	245.91	-1.58	110.58	39.37	17.12	461.00	134.84	1585.58	91.21	108.16	59.40	289.95
EHR40	Uncertain Redw are	Control later Unprovenanced	590403.56	209437.70	29650.82	<LOD	7639.27	25830.67	<LOD	9502.72	4426.37	183.59	1.76	459.02	1.36	89.83	<LOD	16.25	1935.73	150.61	4020.64	94.74	150.34	51.09	227.76
EHR41	Uncertain Redw are	Control later Unprovenanced	586705.71	233000.56	34895.65	4064.35	7187.81	26909.01	55.52	11948.38	1026.00	4.49	-6.43	499.35	-0.58	113.24	<LOD	21.23	475.17	153.18	281.13	100.14	165.30	92.16	262.46
EHR42	Uncertain Redw are	Control later Unprovenanced	652576.92	163228.47	60247.20	5101.73	10505.37	18297.63	506.40	8890.75	3571.35	16.53	-2.47	304.04	-5.75	129.43	<LOD	17.24	143.64	125.17	263.57	64.53	87.02	81.39	484.38
EHR43	Uncertain Redw are	Control later Unprovenanced	640507.62	170733.01	47282.84	<LOD	8122.81	26780.31	100.42	9704.94	3353.26	10.66	15.24	511.73	-6.20	139.92	<LOD	18.72	61.07	150.59	503.63	92.20	112.61	55.29	325.99
EHR44	Uncertain Redw are	Control later Unprovenanced	695429.95	193994.08	44278.92	8242.16	7711.68	29236.04	426.69	10087.48	4880.51	10.66	4.49	481.34	-2.99	111.12	13.12	18.81	55.59	151.80	488.69	92.76	151.10	106.34	299.08
EHR45	Uncertain Redw are	Control later Unprovenanced	575264.06	190851.65	42911.90	<LOD	9284.38	24747.67	155.49	8440.64	14288.85	33.09	-0.12	443.58	-4.65	118.09	<LOD	13.01	989.65	136.63	1527.05	80.41	105.53	96.54	229.52
EHR46	Uncertain Redw are	Control later Unprovenanced	592727.16	211255.10	25952.43	3770.80	7505.45	25274.22	265.92	9192.89	3384.51	<LOD	-18.29	469.47	-0.25	92.32	<LOD	14.65	821.57	149.45	1377.78	96.88	110.39	47.22	234.28
EHR47	Uncertain Redw are	Control later Unprovenanced	432800.85	131959.58	40586.54	<LOD	7635.27	21847.54	<LOD	7339.33	6796.95	39.90	-16.96	478.34	3.64	91.40	<LOD	10.42	2018.78	139.67	2816.30	72.08	124.46	94.48	229.55
EHR48	Uncertain Redw are	Control later Unprovenanced	481020.44	149561.90	14167.38	3429.73	7722.80	24951.23	<LOD	7684.15	733.44	<LOD	-23.92	350.64	5.03	65.72	<LOD	11.33	1877.01	148.65	673.92	82.84	89.43	256.79	206.62
EHR49	Uncertain Redw are	Control later Unprovenanced	640648.33	212128.20	55072.62	10056.23	9466.68	26088.82	472.10	8392.70	2090.39	3.28	17.17	492.51	-2.92	118.54	24.43	14.60	530.10	149.35	1167.35	91.89	125.29	103.52	238.96
EHW1	DWWPM	Control	664047.45	231233.54	10668.39	<LOD	7850.20	24275.00	<LOD	14666.07	2942.68	<LOD	-18.14	399.80	-0.79	45.11	71.88	28.34	1202.78	150.45	1624.91	112.37	133.59	58.25	295.30
EHW2	DWWPM	Control	614619.09	233339.54	18261.88	3684.74	7641.95	25260.77	<LOD	8783.45	4189.09	7.91	-32.20	397.63	-2.54	86.41	<LOD	13.84	693.86	151.76	2056.47	109.04	115.99	40.58	233.66
EHW3	DWWPM	Control	565246.64	190379.26	12882.79	<LOD	7567.50	24600.70	<LOD	11886.46	7069.04	<LOD	-16.57	422.84	-4.55	56.19	225.99	18.97	330.18	144.04	244.96	86.81	107.75	84.30	223.59
EHW4	DWWPM	Control	539210.92	187461.72	14410.05	4371.01	7787.41	25587.21	<LOD	7677.26	-140.56	<LOD	-20.69	369.50	-9.40	60.43	268.80	11.54	3811.49	154.69	2631.84	101.73	98.39	59.42	194.57
EHW5	DWWPM	Control	605219.03	208495.00	15094.50	<LOD	6899.94	25007.71	<LOD	7963.56	1926.64	<LOD	<LOD	319.22	-6.87	61.86	<LOD	13.05	2422.66	152.55	1475.43	102.25	100.62	78.20	239.17
EHW6	DWWPM	Control	593075.60	208955.28	15222.04	<LOD	7541.60	24156.06	<LOD	7996.34	2583.59	<LOD	-16.40	395.79	-10.23	81.17	<LOD	11.54	473.43	141.83	255.77	88.60	106.17	32.83	297.90
EHW7	DWWPM	Control	578067.72	227391.59	16318.25	4157.79	7121.04	23762.73	<LOD	7795.90	3580.40	<LOD	-25.87	385.94	2.93	73.13	23.59	12.81	2556.44	149.71	918.01	96.46	104.10	80.25	225.71
EHW8	DWWPM	Control	577425.17	208812.28	15689.72	5474.10	7017.57	26320.70	1279.65	7823.84	7179.76	47.69	-18.36	425.19	-1.50	66.45	22.41	12.81	673.64	161.47	4054.43	113.78	115.17	108.50	217.65
EHW9	DWWPM	Control	653904.56	239948.08	18054.15	<LOD	6987.24	24939.03	<LOD	8489.74	-686.30	<LOD	-4.83	432.57	-3.42	83.88	253.21	13.84	1102.14	159.49	435.96	114.16	103.70	57.60	243.12
EHW10	DWWPM	Control	588432.19	257335.88	20036.14	<LOD	7599.68	27619.25	58.43	13436.52	2400.21	<LOD	-27.75	483.42	4.98	103.57	<LOD	20.53	783.76	159.43	479.05	106.05	156.88	154.37	235.10
EHW11	DWWPM	Control	595848.75	250046.90	22451.57	<LOD	7395.43	23417.14	62.78	8895.93	2081.38	24.47	-31.16	479.49	-1.75	91.31	<LOD	12.63	807.38	154.66	320.55	100.73	104.73	52.48	210.25
EHW12	DWWPM	Control	627314.08	230755.50	13349.87	<LOD	7259.11	25150.39	40.11	14528.03	3597.50	<LOD	-10.26	447.38	0.94	80.17	<LOD	26.05	577.28	151.55	752.88	104.94	119.88	150.44	277.88
EHW13	DWWPM	Control	595561.82	212092.17	14641.64	<LOD	7678.62	23368.19	<LOD	7405.97	-426.46	364.60	-6.69	488.84	-5.65	48.24	293.65	12.04	4838.75	168.15	12.20	114.59	80.67	120.98	249.80
EHW14	DWWPM	Control	560493.41	253346.23	22474.81	<LOD	<LOD	25252.54	108.50	9023.30	2342.47	<LOD	-15.67	517.55	3.65	118.97	<LOD	13.04	1343.35	155.65	997.64	102.21	107.29	76.84	215.01
EHW15	DWWPM	Control	609392.74	265074.40	18175.79	7875.92	7651.82	24928.36	97.58	13020.97	3501.56	<LOD	-13.79	466.62	4.83	99.99	<LOD	22.19	1244.62	155.63	1069.65	104.75	131.87	64.14	239.32
EHW16	DWWPM	Control	629326.44	253165.34	20882.97	<LOD	7024.08	25976.47	<LOD	8862.09	787.49	-3.09	-9.09	481.25	0.65	88.79	<LOD	14.13	277.05	158.76	274.15	108.89	126.24	33.38	223.93
EHW17	DWWPM	Control	598217.40	236459.29	17425.57	5452.61	7283.67	24438.88	70.17	9318.24	3152.64	-3.09	-24.21	438.39	-1.47	98.75	<LOD	13.51	461.17	154.15	1263.82	104.78	138.62	48.10	215.36
EHW18	DWWPM	Control	576553.42	189795.22	11717.17	6487.03	7283.20	23106.58	110.59	13874.79	2519.94	175.80	-28.35	409.12	4.78	85.62	<LOD	25.75	1225.44	149.16	1181.47	106.71	110.88	43.24	307.52
EHW19	DWWPM	Control	407612.67	142071.27	32004.94	<LOD	7638.80	21819.23	<LOD	7537.84	1328.54	<LOD	-28.35	393.17	6.07	115.64	<LOD	9.16	2674.49	148.66	3612.64	61.22	131.91	69.55	213.52
EHW20	DWWPM	Control	581340.13	241279.80	21385.31	4494.31	7596.41	23630.57	<LOD	8652.92	4183.98	<LOD	-37.26	326.69	-4.87	77.23	<LOD	14.28	1398.12	145.67	1080.35	94.13	120.61	49.84	264.17
EHW21	DWWPM	Control	649785.57	248458.34	15289.92	<LOD	7623.23	26074.64	<LOD	7989.09	-7.74	266.97	-14.41	507.83	-4.03	87.63	266.60	14.68	340.11	168.01	722.23	120.73	110.09	167.72	230.91
EHW22	DWWPM	Control	525117.28	185751.71	14413.80	5743.28	7562.64	26134.32	105.77	6942.77	382.37	266.97	-0.93	573.92	-1.81	63.94	266.60	12.39	10207.68	156.03	8062.97	99.24	55.75	103.84	226.07
EHW23	DWWPM	Control	423970.67	192279.38	15758.75	4571.60	8076.45	21785.60	201.33	9224.72	1339.22	266.97	-30.64	473.26	-1.44	103.52	257.91	13.18	5090.53	147.42	14518.72	88.55	87.47	75.96	211.55
EHW24	DWWPM	Control	572617.67	183384.43	16288.98	<LOD	7180.45	23809.94	102.20	8694.59	1080.70	5.85	-17.52	463.57	-2.13	87.76	258.67	15.04	388.97	151.27	1690.04	100.72	72.47	67.63	269.07
EHW25	DWWPM	Control	487527.49	156702.26	23991.92	3887.52	7669.83	24993.18	<LOD	8356.86	800.28	4.96	-21.11	434.61	-7.40	100.83	<LOD	13.78	765.02	150.72	1703.14	92.47	65.22	72.25	236.76
EHW26	DWWPM	Control	592413.08	206811.30	28573.53	<LOD	7710.55	20426.01	<LOD	9394.96	866.82	50.27	-13.30	345.25	-7.72	95.67	251.94	12.90	2096.35	138.85	2571.73	82.88	89.38	52.94	324.75
EHW27	DWWPM	Control	680315.31	189629.00	14054.36	5623.24	7457.64	20114.27	<LOD	7675.79	648.45	4.67	-14.17	320.27	-9.94	38.80	<LOD	10.54	670.18	134.13	801.81	81.65	50.12	78.84	276.96
EHW28	DWWPM	Control	664971.88	208534.56	27909.44	<LOD	7459.89	15673.88	<LOD	9615.78	1325.42	21.83	-11.95	311.59	-8.68	60.57	256.52	17.42	235.22	135.79	1507.87	86.17	78.97	52.41	286.96
EHW29	DWWPM	Control	626987.61	225443.49	14252.76	<LOD	7238.31	26168.80	<LOD	8140.37	802.11	0.54	-3.75	508.44	-7.40	61.98	<LOD	12.44	302.68	159.68	615.94	108.94	108.99	82.51	237.70
EHW30	DWWPM	Control	592135.90	223057.61	16424.49	3833.90	7435.99	24696.29	<LOD	8620.04	1312.89	<LOD	-31.31	447.84	0.58	86.00	<LOD	13.48	954.28	153.99	1257.14	98.51	144.80	164.32	276.88

Sample ID	Site Description	Sample Group	$*SiO_2$	$*Al_2O_3$	*FeO	*Mg	*CaO	$*K_2O$	*MnO	$*TiO_2$	$*P_2O_5$	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
EHW31	DWWPM	Control	500141.28	193219.40	15042.38	<LOD	7479.52	24329.14	82.55	8384.54	1234.36	6.55	-24.83	439.69	0.07	92.09	24.85	13.51	462.91	153.07	859.60	102.28	90.84	84.46	254.86
EHW32	DWWPM	Control	567971.71	222665.23	15355.91	3845.02	7628.35	23582.96	<LOD	8654.67	152.54	14.70	-32.20	407.41	-3.31	84.53	<LOD	12.51	469.81	148.80	563.91	96.13	94.86	93.30	226.27
EHW33	DWWPM	Control	592198.18	210898.19	14946.36	<LOD	7756.07	26012.09	<LOD	8125.35	1330.90	12.46	-13.65	502.77	-1.14	71.82	23.94	13.03	250.27	158.58	1035.61	110.64	121.03	91.37	220.80
EHW34	DWWPM	Control	598976.93	194402.66	13815.78	14571.59	7690.34	23638.03	<LOD	13775.88	2552.61	10.14	-22.73	446.87	-0.17	80.41	<LOD	23.12	548.37	149.73	1096.98	105.14	126.66	52.07	253.65
EHW35	DWWPM	Control	597839.03	220439.67	15943.81	<LOD	7574.65	25226.73	141.56	13156.62	1217.20	1708.97	2.82	441.77	7.84	61.31	24.50	25.26	11554.52	140.31	11756.11	92.73	94.11	69.07	236.93
EHW36	DWWPM	Control	605715.80	169283.62	15888.02	<LOD	7688.13	22171.05	<LOD	7744.90	1453.21	6.86	-9.01	415.60	-4.93	43.26	<LOD	10.78	365.93	138.31	1214.51	85.61	68.06	42.82	242.94
EHW37	DWWPM	Control	569179.97	193426.98	16639.30	9932.01	8268.58	24035.01	100.43	8002.97	1187.30	212.57	-14.95	489.10	-2.77	87.79	<LOD	12.55	529.49	148.93	1408.57	90.41	127.88	58.09	247.12
EHW38	DWWPM	Control	624453.52	224899.55	22477.24	4743.96	7829.91	25089.95	65.12	9992.43	1320.24	4.46	0.07	527.74	-3.32	75.08	<LOD	17.39	566.18	155.36	2043.70	97.44	118.19	57.45	274.13
EHW39	DWWPM	Control	612152.11	203061.57	16497.86	5190.99	7537.13	24586.86	<LOD	8450.20	1246.90	-0.60	-9.05	464.52	-4.71	54.21	<LOD	12.75	406.67	148.37	1097.99	98.64	78.85	41.26	247.07
EHW40	DWWPM	Control	593867.96	275484.08	19296.27	<LOD	7213.34	26600.81	95.09	13215.66	1457.59	<LOD	23.18	596.84	2.50	91.65	<LOD	20.79	2051.33	154.62	800.64	103.08	117.51	74.42	256.80
EHW41	DWWPM	Control	556376.09	173332.47	18063.03	4356.86	7566.61	22714.05	149.62	9006.35	4598.80	2.93	-14.26	357.81	-5.14	41.44	<LOD	13.50	406.37	137.61	873.60	79.47	90.52	85.86	246.29
EHW42	DWWPM	Control	514717.78	176114.27	18737.48	6874.65	1932.37	25867.46	<LOD	7840.72	10795.77	220.56	23.45	490.87	10.55	88.65	23.49	13.92	7035.85	159.94	16516.07	110.36	146.74	52.24	196.69
EHW43	DWWPM	Control	548400.36	216156.38	27104.41	<LOD	7582.92	22133.72	<LOD	9235.15	3951.18	42.69	-6.68	411.10	-3.18	105.61	<LOD	12.48	491.45	140.61	685.33	86.74	121.88	85.20	264.12
EHW44	DWWPM	Control	576727.80	211991.25	16860.86	9007.96	7734.88	26117.03	<LOD	8237.29	469.03	7.29	-2.65	440.00	0.80	72.50	28.75	12.89	1014.15	159.56	643.22	105.17	94.34	117.96	237.91
EHW45	DWWPM	Control	658765.12	186809.47	11901.89	11822.61	7769.04	22898.20	<LOD	11640.77	2559.17	6.54	-8.22	407.16	-1.14	31.28	<LOD	21.51	1942.97	146.12	5239.63	97.48	222.02	33.10	262.44
EHW46	DWWPM	Control	581510.04	204399.74	19090.25	<LOD	7380.24	22059.61	339.16	13064.62	3182.93	623.14	9.08	468.02	-1.33	59.86	<LOD	18.75	4156.27	136.77	6356.80	86.01	85.76	80.52	251.64
EHW47	DWWPM	Control	572126.02	264070.70	27915.99	3772.10	7101.54	25282.72	86.00	10172.58	1670.01	<LOD	0.80	440.30	3.75	88.40	<LOD	14.19	1288.29	150.47	1219.69	91.75	111.44	77.27	244.22
EHW48	DWWPM	Control	544934.63	273913.98	24397.65	4966.65	7049.04	24924.44	96.06	9865.10	2971.57	-1.14	-23.96	408.28	-2.46	90.57	<LOD	14.07	817.32	149.62	2086.19	100.83	111.02	91.58	253.76
EHW49	DWWPM	Control	554646.36	219816.11	15940.30	4552.89	7333.89	22845.54	<LOD	8530.47	2248.45	-4.86	-18.29	338.82	-1.01	60.47	23.20	12.94	1114.03	138.55	2020.00	86.02	62.62	117.86	282.71
EHW50	DWWPM	Control	632241.69	211181.33	17691.12	5490.64	7451.30	25644.50	<LOD	8615.73	784.26	-11.59	-18.61	457.85	-4.80	69.24	23.07	13.49	197.78	157.26	374.77	104.71	97.83	43.65	258.58
LAVC1	LAVC	Control	438768.94	112276.45	21541.00	<LOD	118859.50	13181.97	129.39	6724.35	6361.88	41.84	-7.82	197.40	-9.20	50.22	40.40	11.03	376.89	107.03	2468.70	102.74	23.48	82.50	209.70
LAVC2	LAVC	Control	417866.62	106406.29	17272.98	8861.33	113181.07	13596.81	117.04	5855.98	4392.34	51.09	4.79	336.20	-10.25	30.33	<LOD	8.10	533.93	113.03	2234.92	109.80	12.45	78.03	192.34
LAVC3	LAVC	Control	452727.51	107651.77	17314.55	5660.60	90256.47	14722.29	117.92	5928.63	6561.92	41.21	-15.79	369.42	-10.52	30.54	41.11	8.31	505.90	114.78	2528.77	116.41	29.72	110.91	193.93
LAVC4	LAVC	Control	503725.29	128061.98	18881.18	<LOD	75374.31	14412.26	43.84	6459.74	5110.77	35.21	-9.73	291.38	-8.09	44.53	36.67	9.11	442.37	117.89	2448.36	107.53	56.80	67.91	184.03
LAVC5	LAVC	Control	547540.22	156873.69	26640.31	6489.81	64174.18	15066.58	83.13	7720.85	7633.80	65.11	-5.13	304.23	-10.35	73.13	62.88	11.58	643.04	122.95	2852.71	113.11	91.54	105.86	224.38
LAVC6	LAVC	Control	493262.94	130426.71	18917.05	<LOD	72705.55	13851.68	34.18	6227.50	4108.00	16.72	7.06	325.29	-9.72	40.69	<LOD	7.78	266.83	120.91	1327.68	96.70	40.64	77.32	177.10
LAVC7	LAVC	Control	540127.69	151970.14	22637.47	<LOD	69232.67	14928.75	108.58	7723.66	6382.85	31.11	-12.95	309.70	-5.26	50.95	45.47	13.04	254.94	128.24	2526.57	112.64	73.32	79.55	220.68
LAVC8	LAVC	Control	503983.56	132552.86	44308.29	8320.46	63369.73	16084.48	157.71	7294.08	7173.18	85.30	-13.34	271.55	-6.92	84.32	34.27	12.36	434.44	129.06	11726.35	122.30	97.57	68.30	207.94
LAVC9	LAVC	Control	486556.93	117989.10	18891.74	<LOD	66373.39	13806.52	174.29	6608.35	3140.66	25.43	-4.69	294.38	-7.41	48.66	32.71	10.83	437.75	116.71	1431.48	105.03	27.55	73.57	195.44
LAVC10	LAVC	Control	459228.88	101882.38	26222.70	<LOD	79140.93	19994.30	35.82	7131.60	10650.93	250.54	-16.73	399.72	-6.59	53.23	76.81	15.56	3792.17	146.40	3803.20	111.88	53.15	49.22	265.42
LAVC11	LAVC	Control	423126.18	108422.93	21465.25	<LOD	50268.71	14201.10	22.65	6266.02	9649.42	316.03	-23.09	159.63	-3.80	38.09	37.04	8.50	2616.89	116.02	11223.19	94.39	43.81	45.29	185.24
LAVC12	LAVC	Control	470564.55	127743.94	21610.47	<LOD	44804.20	15196.46	-34.97	7189.57	3082.87	32.52	-35.65	124.96	-8.53	34.40	41.88	12.02	248.50	120.77	4741.74	89.80	52.17	60.56	191.55
LAVC13	LAVC	Control	466880.31	115500.88	22912.12	<LOD	52878.66	14758.00	<LOD	7022.15	6487.31	49.62	-26.03	297.47	-5.44	37.31	35.14	11.21	324.06	122.68	6637.06	121.60	56.03	112.28	188.25
LAVC14	LAVC	Control	666240.89	167194.93	22815.89	<LOD	28291.69	14165.38	<LOD	7886.05	6082.01	58.37	-8.07	264.88	-10.70	56.79	30.09	11.40	426.05	113.17	2161.82	114.03	58.26	39.76	210.07
LAVC15	LAVC	Control	607405.24	149896.08	22431.44	5510.56	28354.69	14464.00	<LOD	6764.43	7173.13	361.61	-7.76	236.57	-7.36	52.78	<LOD	9.31	3033.61	107.93	7802.93	92.44	11.80	51.01	195.23
LAVC16	LAVC	Control	541183.08	130088.69	27766.13	<LOD	39998.91	17867.66	124.48	6975.58	3098.18	339.13	9.22	249.71	-11.01	59.97	19.01	12.95	2898.27	117.08	4024.44	99.06	32.10	61.73	209.03
LAVC17	LAVC	Control	700277.24	177119.16	21386.73	3715.09	15701.35	14385.25	<LOD	7706.57	3596.99	33.59	-3.02	286.83	-9.98	42.82	24.83	11.44	229.44	115.50	1781.83	97.52	55.24	35.59	206.56
LAVC18	LAVC	Control	625199.84	144021.99	19714.71	8119.97	41254.71	18012.12	188.79	7217.56	353.04	3598.41	66.37	251.43	-7.25	41.93	216.06	10.03	29164.87	118.46	-377.89	88.73	37.44	34.63	174.75
LAVC19	LAVC	Control	468260.74	127497.78	22999.88	<LOD	77261.67	13526.41	116.34	6417.47	7594.34	39.92	4.26	233.84	-10.73	29.30	<LOD	11.88	338.58	114.77	2406.20	100.50	21.78	83.05	209.88
LAVC20	LAVC	Control	448732.11	125359.34	22102.89	9869.17	93702.51	14307.97	102.49	6788.34	11942.69	66.42	-4.54	292.03	-4.26	50.45	25.98	9.05	777.78	114.05	2108.29	123.39	44.37	114.69	196.32
LAVC21	LAVC	Control	585582.64	147668.70	19544.73	6644.57	30242.98	17182.59	98.08	7263.90	6584.33	182.44	-7.78	294.97	-5.09	40.39	35.46	9.22	1856.67	115.87	855.63	117.74	46.97	53.49	157.85
LAVC22	LAVC	Control	521518.93	140986.24	23779.38	<LOD	68365.21	14395.87	125.38	7325.37	3730.24	16.23	-5.34	248.03	-6.35	57.95	22.02	7.57	246.85	108.67	214.44	106.98	33.75	99.94	215.35
LAVC23	LAVC	Control	437369.92	106794.90	17185.10	<LOD	80868.21	16998.42	39.91	5915.65	7142.11	1143.99	-5.21	355.09	2.22	26.04	27.09	6.68	8440.54	117.76	18126.18	97.64	23.70	54.65	178.79
LAVC24	LAVC	Control	517296.87	152851.33	25785.26	3582.29	30642.40	13749.82	39.99	7801.46	3778.45	0.73	-5.33	250.23	-5.85	72.26	22.86	9.34	57.14	109.27	-429.95	104.39	56.62	85.44	197.49
LAVC25	LAVC	Control	373560.08	89073.69	15939.44	<LOD	149353.76	14132.21	664.26	5415.43	5656.47	48.82	-4.29	315.93	-10.63	0.80	23.50	8.56	453.42	112.66	1246.07	126.06	-5.83	72.89	193.13
LAVC26	LAVC	Control	446828.47	110363.99	20142.75	5727.98	105723.34	13903.06	76.04	6105.61	5930.39	54.11	-0.15	237.93	-7.04	35.77	38.49	7.80	533.57	113.72	2996.14	102.92	16.49	71.63	195.06
LAVC27	LAVC	Control	373222.25	101839.37	19570.46	19882.22	103739.12	15671.31	123.08	5414.21	10014.58	49.80	35.40	324.20	-4.27	20.04	473.32	8.36	947.43	111.54	3350.07	102.04	-1.36	55.39	201.68
LAVC28	LAVC	Control	466233.59	122328.90	21995.66	8922.19	82585.40	15681.40	<LOD	6426.68	3822.45	112.16	0.18	229.67	-7.47	52.00	2894.11	10.52	682.81	119.84	4266.71	107.16	36.23	56.58	205.41
LAVC29	LAVC	Control	499056.12	121811.44	19791.27	<LOD	63240.30	14411.83	150.11	6294.25	4577.40	44.59	-9.26	287.36	-7.63	34.32	24.68	7.28	629.32	106.37	1901.16	95.76	24.05	116.35	177.58
LAVC30	LAVC	Control	513220.07	120570.87	17902.77	<LOD	35782.29	17772.92	123.75	7223.57	5444.38	178.14	-19.59	266.12	-8.57	56.65	42.73	8.06	4323.72	116.27	3996.29	88.09	55.20	65.82	180.18

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
LAVC31	LAVC	Control	485441.91	107336.20	22768.37	12960.86	80521.20	24907.98	278.87	6795.38	9103.86	224.09	3.72	401.28	-3.53	53.11	18.59	14.13	6107.59	141.30	12381.06	104.33	61.21	48.57	263.61
LAVC32	LAVC	Control	389113.42	93479.61	16832.91	<LOD	122452.67	14362.97	115.31	5909.13	3912.57	38.23	-21.21	346.02	-10.00	34.46	19.03	8.84	371.66	113.80	1190.69	116.89	32.30	73.47	181.90
LAVC33	LAVC	Control	401901.83	97112.24	18890.53	<LOD	115526.15	19143.85	324.50	5190.31	6215.64	383.98	38.84	338.43	5.75	50.13	<LOD	6.95	21685.70	118.44	11433.16	99.77	15.70	113.39	165.22
LAVC34	LAVC	Control	439260.25	112594.13	25388.90	<LOD	67480.93	15580.17	137.57	6328.24	3452.47	14.96	-6.84	298.84	-12.66	52.28	<LOD	9.09	185.90	122.63	771.62	121.14	38.79	78.15	181.55
LAVC35	LAVC	Control	483105.95	121691.31	22702.47	7093.67	66146.32	13048.03	61.68	7017.69	4188.84	67.29	-9.88	302.38	-9.40	63.28	18.81	11.35	575.43	102.75	1797.14	110.56	63.10	60.11	203.34
LAVC36	LAVC	Control	346809.17	87103.08	15675.35	<LOD	170736.09	15911.29	269.03	5265.28	9268.52	103.32	-22.95	238.23	-9.65	36.91	18.22	7.75	1108.03	113.93	3605.64	131.97	6.89	82.66	193.99
LAVC37	LAVC	Control	465987.50	133000.33	26176.32	<LOD	75346.05	12802.91	146.63	7152.62	4763.37	58.15	-26.62	335.83	-12.89	75.80	43.86	9.50	525.38	112.15	1401.77	131.81	57.52	112.28	194.88
LAVC38	LAVC	Control	437403.89	114523.65	21413.70	<LOD	102504.67	13813.80	96.21	6057.99	3462.03	42.95	-16.67	204.23	-10.36	48.26	21.77	9.97	435.27	111.49	1995.08	104.24	22.76	57.25	193.81
LAVC39	LAVC	Control	429203.78	95739.77	15929.64	<LOD	118474.37	13898.58	151.60	5250.03	3454.99	51.50	-11.11	296.71	-10.58	19.80	17.47	8.04	569.01	113.28	1251.74	127.68	17.00	52.47	184.37
LAVC40	LAVC	Control	464391.33	109393.74	16310.61	<LOD	73705.85	26485.48	123.61	5449.93	6634.22	487.49	-8.41	263.18	-4.25	0.08	28.13	6.74	8100.98	116.20	7844.24	91.89	25.25	82.37	161.22
LAVC41	LAVC	Control	521738.75	138379.25	26465.75	<LOD	56098.65	15380.77	127.95	6891.07	6294.88	23.46	-22.74	247.92	-12.53	65.83	<LOD	9.29	330.52	108.67	353.30	111.62	53.69	103.39	196.62
LAVC42	LAVC	Control	542540.54	147222.55	24388.23	4294.42	28413.19	15666.05	37.68	7756.73	2801.32	16.64	-29.59	215.80	-14.76	54.05	24.82	9.41	175.04	115.31	195.31	101.09	64.36	78.83	191.25
LAVC43	LAVC	Control	530540.90	138906.81	31596.00	6676.27	78782.18	20707.57	206.57	7616.34	5773.26	24.29	-17.09	357.47	-11.34	69.64	38.21	15.33	366.56	122.39	208.16	92.94	89.06	99.91	290.12
LAVC44	LAVC	Control	543087.20	164227.41	34933.54	4746.37	34417.23	17287.15	61.27	8239.53	4938.94	26.24	-7.25	296.01	-11.09	79.85	<LOD	11.91	481.94	120.36	225.85	85.61	80.86	103.32	213.71
LAVC45	LAVC	Control	500734.40	143445.29	28576.89	6070.07	43235.86	16124.41	225.11	7708.16	3375.16	69.91	-17.65	244.75	-8.61	52.33	26.54	9.50	1823.58	113.35	974.99	105.81	39.01	107.04	195.03
LAVC46	LAVC	Control	488369.80	128726.78	23197.22	<LOD	44199.63	14282.22	93.38	7137.17	3980.94	22.66	-18.00	264.39	-12.84	41.12	41.17	9.08	649.51	108.87	102.03	107.55	36.35	111.13	192.71
LAVC47	LAVC	Control	463988.23	125799.74	26852.93	<LOD	93945.84	15864.85	364.28	6498.31	6577.57	225.75	-20.58	189.39	-8.41	29.29	28.36	10.62	1334.58	114.47	7574.85	107.34	18.74	72.38	224.78
LAVC48	LAVC	Control	525214.92	158954.81	28286.33	<LOD	32299.51	14427.04	<LOD	7251.92	2138.44	7.80	-19.67	219.68	-11.20	55.02	21.22	9.89	410.28	114.39	46.39	79.00	57.43	142.64	206.09
LAVC49	LAVC	Control	518631.32	115627.80	36240.73	<LOD	50031.88	20256.31	553.71	7191.57	2545.28	17.15	1.20	340.46	-15.35	54.92	40.29	14.23	343.39	120.45	892.58	76.50	77.51	113.82	283.01
LAVC50	LAVC	Control	538146.47	145326.42	40471.46	7186.10	48084.60	20107.07	400.93	8302.52	2789.25	39.33	6.08	317.96	-11.50	74.33	<LOD	14.67	289.52	130.30	1002.86	77.05	77.45	82.72	259.99
LAVF1	LAVF	Control	479346.82	110471.68	18287.26	<LOD	32611.58	19258.69	<LOD	7785.21	1715.49	33.26	-23.79	277.53	-9.59	75.62	20.25	13.09	3313.21	129.62	2454.47	87.35	66.33	32.53	239.34
LAVF2	LAVF	Control	553262.35	132291.72	17413.82	10929.36	51123.99	20899.97	121.49	7020.58	5774.23	505.79	15.90	384.90	-5.70	49.23	18.77	13.46	18348.95	134.62	17034.17	84.55	63.07	46.31	251.77
LAVF3	LAVF	Control	484697.49	128731.52	16812.57	5971.57	78282.94	19569.16	122.16	7893.50	11165.33	221.25	6.85	385.61	-9.49	64.81	<LOD	16.18	1827.96	137.82	10875.29	83.50	172.36	63.47	276.28
LAVF4	LAVF	Control	642278.17	169579.40	16095.24	<LOD	28689.91	22090.20	73.24	9088.27	4853.24	<LOD	11.02	290.97	-11.09	78.65	<LOD	15.53	1180.80	132.76	2022.85	78.21	75.06	39.88	265.15
LAVF5	LAVF	Control	480460.99	119533.12	18955.37	23151.48	21050.58	23525.14	137.83	8539.80	17857.45	45.47	-10.89	312.83	-7.47	60.58	<LOD	14.54	599.32	135.27	5183.05	84.96	86.08	44.87	244.39
LAVF6	LAVF	Control	614945.93	147732.98	16520.77	<LOD	26143.74	21927.27	136.03	8539.55	6929.40	207.39	-20.50	342.61	8.57	62.54	<LOD	15.84	3710.14	136.64	5019.60	83.25	66.24	58.12	274.18
LAVF7	LAVF	Control	474117.97	118656.85	19591.36	<LOD	59059.86	19203.26	<LOD	8088.03	3958.69	78.04	-14.27	283.33	-0.76	65.83	19.22	16.62	3417.53	137.14	6812.89	96.25	57.05	45.49	315.85
LAVF8	LAVF	Control	458502.76	125853.04	23479.48	<LOD	116119.76	20717.14	209.88	8847.79	6645.28	95.58	-14.87	385.93	-5.73	90.38	38.33	17.92	713.99	144.87	4564.79	120.18	102.81	79.75	275.27
LAVF9	LAVF	Control	597816.14	158335.07	21676.91	5376.15	42032.69	20302.48	<LOD	8720.16	2850.27	-5.01	-15.47	301.85	-11.57	71.11	<LOD	14.68	316.77	132.72	1293.99	85.18	82.93	40.30	245.14
LAVF10	LAVF	Control	575965.48	132701.64	26980.17	<LOD	39170.18	21860.57	111.52	9551.17	8315.75	<LOD	<LOD	265.42	-4.18	74.98	<LOD	14.57	1664.12	157.36	1756.63	101.22	66.45	89.75	305.89
LAVF11	LAVF	Control	397860.23	96640.87	18626.64	<LOD	117345.40	17930.57	-4.88	7275.73	6055.41	<LOD	-27.03	235.18	0.78	57.67	156.84	17.04	5093.42	136.36	10322.44	102.84	7.58	54.16	328.28
LAVF12	LAVF	Control	489729.89	111258.01	19760.03	12857.70	73410.16	19570.15	52.17	7424.04	5889.12	75.35	0.59	355.30	-5.75	54.01	<LOD	14.48	750.19	135.59	3315.00	86.36	25.33	61.14	252.37
LAVF13	LAVF	Control	397313.17	87522.81	22597.35	15822.91	98460.52	18729.82	53.22	6617.20	3294.66	881.98	-14.03	325.79	-5.92	56.50	46.33	14.20	4179.84	130.67	14671.81	80.47	-17.15	46.91	282.83
LAVF14	LAVF	Control	446586.40	102094.75	16921.96	<LOD	89804.64	19475.45	24.62	7788.81	6645.65	172.09	-27.87	259.69	-5.93	56.01	27.42	15.68	2780.13	131.65	11382.62	84.30	22.03	61.21	294.43
LAVF15	LAVF	Control	523597.48	137294.50	20566.26	5074.10	56675.28	20731.14	-7.05	9474.72	3431.51	7.47	-11.11	332.07	-2.30	67.67	<LOD	17.62	1702.97	140.51	3488.06	96.80	54.18	47.90	277.82
LAVF16	LAVF	Control	594399.68	146804.95	17845.17	4913.35	30310.54	22232.85	<LOD	9618.46	2681.39	31.13	-28.68	318.27	-1.20	64.04	55.67	14.53	3080.27	133.66	2004.90	87.76	53.02	58.27	272.57
LAVF17	LAVF	Control	627270.14	155922.29	19418.52	5601.80	18757.52	23938.40	<LOD	9940.85	4563.35	92.52	-44.23	206.62	-3.63	69.47	98.01	17.97	6847.74	138.56	10625.32	89.99	39.03	39.52	338.03
LAVF18	LAVF	Control	630143.81	170745.11	22001.10	6978.74	25894.55	21723.85	82.51	9441.63	6321.76	<LOD	-30.18	370.66	0.35	76.31	43.19	14.76	2244.64	131.01	952.41	90.51	47.99	114.31	292.71
LAVF19	LAVF	Control	603298.75	163597.06	26772.71	5023.02	27331.80	21160.99	32.71	9428.65	3447.89	29.21	-46.58	281.58	-7.40	92.85	<LOD	16.71	1167.80	141.15	1299.08	85.58	51.53	48.00	280.85
LAVF20	LAVF	Control	636911.61	173264.79	26857.62	6025.04	12660.91	19609.22	<LOD	9467.41	2215.02	18.52	-11.83	285.41	-10.00	67.14	21.57	14.64	1200.21	133.19	487.88	75.49	79.53	41.53	271.13
LAVF21	LAVF	Control	571238.18	141748.16	18455.71	<LOD	26255.00	20130.71	137.34	8245.92	2703.18	384.89	-36.13	340.37	-1.92	39.61	30.92	15.72	3299.02	145.91	5522.50	97.02	45.23	40.17	294.50
LAVF22	LAVF	Control	491959.83	115331.18	21082.63	6988.14	72456.03	21035.17	163.17	7748.30	9477.52	16.19	2.41	337.16	-3.52	42.24	242.47	14.82	4942.35	137.93	6937.20	87.98	71.16	51.47	261.66
LAVF23	LAVF	Control	464877.61	107142.40	23765.08	5620.15	65788.54	20014.80	118.04	7755.66	4454.78	138.77	-6.03	392.73	-5.59	63.75	<LOD	14.36	3330.72	136.39	11828.17	85.09	65.79	40.31	269.82
LAVF24	LAVF	Control	450318.01	94386.41	17670.82	<LOD	61112.37	18844.30	283.98	7378.01	1512.93	<LOD	25.45	302.84	2.65	40.00	34.33	13.55	8017.41	130.11	5855.06	78.00	40.02	35.14	260.27
LAVF25	LAVF	Control	428614.28	94247.29	14812.03	26588.00	24333.32	18193.26	301.17	6759.92	10799.55	1949.39	6.96	357.88	-5.26	25.84	34.81	14.33	9127.91	141.62	60373.42	80.04	62.52	29.85	291.12
LAVF26	LAVF	Control	464535.61	99731.94	15844.01	<LOD	42071.35	19456.35	<LOD	8126.09	4585.33	203.39	-5.25	273.56	-7.84	50.80	165.43	12.78	6589.94	132.71	4890.05	81.22	50.21	27.37	283.60
LAVF27	LAVF	Control	440523.81	102476.19	18403.35	<LOD	93496.82	17441.44	239.58	6520.24	3661.34	34.45	-6.52	333.92	-10.47	30.02	<LOD	14.30	823.69	128.17	4888.76	82.53	38.44	43.42	271.90
LAVF28	LAVF	Control	568823.14	148989.80	22945.85	4985.93	53635.90	20276.24	85.97	9066.37	2818.85	22.78	-1.41	386.77	-10.72	56.57	<LOD	17.60	1317.97	141.62	5577.88	106.64	109.32	45.08	303.44
LAVF29	LAVF	Control	489847.94	119851.03	17337.20	17119.39	84582.87	19245.21	<LOD	7461.35	3891.51	34.14	-16.51	318.36	-11.40	28.21	<LOD	17.50	728.25	135.81	3540.42	87.08	67.61	34.50	290.45
LAVF30	LAVF	Control	540353.09	149960.60	19429.63	10803.70	74903.84	22404.98	109.26	8417.65	7879.53	<LOD	-2.94	371.78	-8.92	39.70	<LOD	15.80	1338.49	139.80	2764.19	105.83	76.27	45.60	286.24

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
LAVF31	LAVF	Control	493759.21	127460.85	20695.53	12418.75	43437.85	26060.33	149.73	7600.05	9430.29	1170.37	-1.22	367.97	-7.71	38.63	<LOD	15.28	7209.93	139.23	21165.44	99.18	83.25	86.60	252.67
LAVF32	LAVF	Control	453761.81	117667.30	20288.49	16899.35	31747.02	24126.58	153.49	6630.08	25225.49	2246.57	-10.13	419.81	12.24	26.31	<LOD	14.00	11749.42	141.18	42472.87	91.09	73.32	52.86	251.71
LAVF33	LAVF	Control	472960.29	119903.86	21269.35	9642.14	34569.61	26059.18	206.65	7428.60	13612.19	1301.46	-18.43	368.47	11.06	40.75	96.20	17.90	8570.45	147.75	34771.22	101.03	205.06	123.48	264.83
LAVF34	LAVF	Control	614738.66	161291.70	20651.84	22105.31	40544.14	23287.29	239.81	8958.70	3572.64	4233.54	35.56	367.42	-1.01	62.80	36.54	17.75	24960.52	137.11	6434.27	98.07	72.95	39.02	289.17
LAVF35	LAVF	Control	589182.08	142442.03	23434.17	5095.66	51738.40	20008.83	<LOD	7783.49	2262.34	35.47	-4.80	342.90	-13.30	46.22	<LOD	14.92	365.64	132.81	2874.97	78.60	73.49	38.37	259.40
LAVF36	LAVF	Control	555869.23	140639.18	22456.99	<LOD	52819.33	21688.77	153.46	8142.99	2821.01	93.60	21.58	450.68	-4.31	33.15	33.75	15.15	1970.34	136.53	11108.61	97.48	67.42	37.22	262.88
LAVF37	LAVF	Control	483338.39	122633.94	19923.08	23544.70	50017.87	18973.92	244.03	7445.37	3912.66	5556.84	5.24	316.82	-0.20	69.97	278.20	13.53	5032.12	130.15	8018.44	79.76	54.01	40.54	226.17
LAVF38	LAVF	Control	697221.27	161084.80	20663.38	6593.95	36492.10	21604.44	<LOD	8788.99	5965.44	471.76	-24.11	253.88	-5.06	45.59	<LOD	18.04	5853.48	136.50	10953.56	82.97	72.28	44.62	260.28
LAVF39	LAVF	Control	555062.04	143371.39	23093.53	<LOD	48272.13	20563.83	206.40	8914.90	4111.58	83.91	-5.80	456.15	-8.20	78.56	25.20	16.26	929.92	147.42	4745.79	78.13	96.30	98.75	253.19
LAVF40	LAVF	Control	648398.29	189044.52	23714.00	5470.82	37359.76	18469.01	201.86	9030.21	2217.29	3.39	-17.10	287.79	-5.56	50.90	25.87	16.82	651.01	128.30	190.96	89.23	32.92	75.04	265.81
LAVF41	LAVF	Control	586654.94	172883.54	27835.41	7283.31	40627.66	18846.70	235.93	8941.11	5973.17	317.51	-4.96	347.30	1.17	75.42	44.56	15.11	3790.85	129.11	4083.45	80.93	70.53	56.75	247.97
LAVF42	LAVF	Control	632483.52	194636.05	30150.25	7089.90	31225.31	20454.87	118.95	9965.15	2716.79	27.76	-17.31	329.94	-2.23	72.32	<LOD	16.67	1170.63	135.58	214.08	83.92	61.38	73.67	263.87
LAVF43	LAVF	Control	589284.73	162245.78	26057.39	9072.73	72452.17	19070.16	245.01	8655.54	3037.06	17.10	-2.17	237.01	-4.22	62.05	<LOD	16.84	554.47	132.40	526.06	88.08	78.15	64.34	279.87
LAVF44	LAVF	Control	569826.96	171454.40	22165.83	5837.06	80162.88	18423.33	289.81	7647.96	4019.39	50.40	-24.98	271.81	-3.37	49.23	27.46	17.11	2106.16	125.12	2025.05	75.57	49.95	83.90	338.01
LAVF45	LAVF	Control	636381.08	190120.66	28016.41	14437.04	55775.25	18939.99	225.46	9390.53	4338.68	58.58	-16.63	293.85	0.89	67.01	150.99	17.54	2078.86	131.86	2903.48	81.42	80.89	90.43	256.88
LAVF46	LAVF	Control	608280.25	179959.66	29176.52	4938.61	29869.41	19069.47	178.81	8852.51	2045.57	236.62	-9.49	292.93	-0.52	83.72	110.35	15.95	3002.27	127.37	3453.49	79.05	71.06	47.67	251.28
LAVF47	LAVF	Control	567114.46	159010.28	27617.89	6639.10	31969.06	19279.30	224.91	9571.84	2681.71	56.07	-6.50	344.57	-2.28	81.39	32.69	16.11	917.34	134.41	921.57	76.50	61.52	76.78	290.99
LAVF48	LAVF	Control	549411.35	177170.85	20816.06	5895.00	15233.69	21021.80	112.58	9816.38	4620.91	297.72	-32.93	362.97	2.42	67.63	56.72	16.75	3057.68	129.86	5355.16	84.93	46.90	62.89	298.63
LAVF49	LAVF	Control	556996.30	136838.06	27525.44	7563.18	59330.19	18909.86	258.89	8295.31	3010.35	18.40	-11.08	333.29	-4.02	62.10	<LOD	15.34	458.92	136.06	460.73	92.25	60.18	82.03	300.52
LAVF50	LAVF	Control	553795.96	150148.04	27198.12	<LOD	52507.88	18810.73	106.89	8744.07	4752.07	13.75	-19.93	264.59	0.44	63.18	27.80	14.80	1300.50	132.52	889.57	75.98	66.44	70.45	296.23
HST-1	WDSWPM	Control	653921.39	152917.93	51675.61	<LOD	9337.90	27230.84	458.63	9572.19	<LOD	99.00	39.41	358.77	-0.83	124.91	<LOD	18.18	1074.11	146.78	1381.09	90.82	128.57	170.30	278.93
HST-2	WDSWPM	Control	630099.27	150569.97	62646.19	<LOD	8993.66	29559.56	456.48	8851.51	14524.91	102.31	52.61	377.63	3.93	159.52	<LOD	18.59	1444.03	151.34	1172.89	86.26	125.25	168.18	297.61
HST-3	WDSWPM	Control	621440.80	149512.83	61601.62	<LOD	8637.08	28801.48	839.55	8063.60	<LOD	<LOD	76.17	417.70	6.93	128.86	<LOD	17.34	3228.59	147.07	903.65	88.41	94.10	150.74	269.08
HST-4	WDSWPM	Control	634875.15	151444.03	59047.83	<LOD	9774.55	30599.78	433.39	8549.79	<LOD	<LOD	61.35	387.31	2.09	126.00	<LOD	17.40	2080.21	152.45	1055.63	90.24	114.96	132.35	290.83
HST-5	WDSWPM	Control	625224.59	149360.48	59437.58	<LOD	8001.20	27317.78	535.57	8850.73	5592.72	225.34	61.64	449.45	2.18	156.72	<LOD	16.73	2330.84	145.56	1657.60	84.49	174.55	224.16	251.50
HST-6	WDSWPM	Control	646802.93	149084.48	59281.82	<LOD	9009.30	29709.59	708.71	8520.14	6306.15	67.28	6.27	383.21	-9.42	138.22	<LOD	17.49	815.61	149.85	1471.07	87.46	147.49	118.72	283.29
HST-7	WDSWPM	Control	651695.73	152233.29	60063.96	<LOD	8643.91	30535.93	333.49	8534.29	<LOD	18.16	13.64	381.16	-6.35	141.84	<LOD	16.28	957.07	147.16	1299.21	81.94	146.47	146.14	286.06
HST-8	WDSWPM	Control	666065.51	152293.81	54321.91	<LOD	11667.85	30018.06	317.48	8311.09	<LOD	44.32	17.22	385.98	-10.40	117.95	<LOD	15.99	816.69	144.85	1143.19	88.62	127.55	127.10	275.41
HST-9	WDSWPM	Control	651184.44	154974.84	59768.94	<LOD	10949.35	29923.65	341.18	9419.64	<LOD	55.70	21.66	406.71	-8.93	155.32	<LOD	16.87	686.36	149.58	943.32	88.92	137.00	162.37	291.05
HST-10	WDSWPM	Control	657540.62	153626.74	58289.25	<LOD	9948.29	29835.23	756.48	8670.88	<LOD	21.42	15.00	372.05	-3.51	116.17	22.81	15.80	2776.03	146.14	1612.16	83.00	121.79	148.58	303.73
HST-11	WDSWPM	Control	636233.51	150751.43	94222.31	<LOD	10050.62	26758.61	819.34	8606.07	8251.45	476.35	58.36	555.64	7.35	179.36	34.57	13.03	11546.18	130.25	4005.82	55.54	203.46	156.76	249.56
HST-12	WDSWPM	Control	640006.00	154802.73	62519.49	<LOD	8897.94	29285.43	992.25	9230.25	<LOD	53.00	30.75	466.67	-8.00	160.43	<LOD	17.85	535.07	152.96	896.88	92.05	175.40	161.60	284.09
HST-13	WDSWPM	Control	663806.39	152922.01	61338.18	<LOD	12938.81	31598.13	378.46	8773.14	<LOD	25.63	5.97	381.26	-8.12	137.79	<LOD	16.64	724.88	153.55	1106.17	91.15	132.63	137.27	287.24
HST-14	WDSWPM	Control	636266.75	150541.30	63205.50	<LOD	9958.39	27649.17	571.13	8606.82	6574.85	175.14	15.16	393.70	-7.00	154.88	<LOD	18.69	1627.38	147.96	2167.47	90.55	158.33	182.21	280.65
HST-15	WDSWPM	Control	660121.55	152150.84	58062.38	<LOD	13694.97	30294.82	454.48	8629.76	<LOD	93.32	23.44	434.12	-10.00	135.32	<LOD	16.05	785.92	149.39	1192.08	94.43	154.94	133.92	292.61
HST-16	WDSWPM	Control	650675.81	148846.90	54566.53	<LOD	9985.95	28402.12	460.33	8934.49	<LOD	10.43	34.09	404.24	-4.00	130.52	<LOD	15.48	850.50	143.59	791.96	83.05	89.75	162.03	297.79
HST-17	WDSWPM	Control	636061.22	152106.51	62704.44	<LOD	8057.18	30152.79	479.66	8638.92	<LOD	24.75	15.61	409.29	-2.64	141.24	<LOD	14.99	1446.83	140.08	1001.82	74.43	105.28	177.99	259.89
HST-18	WDSWPM	Control	688468.86	156404.61	57627.72	<LOD	14292.50	31831.93	351.93	8873.70	5912.72	18.66	12.38	410.61	-3.73	137.20	<LOD	18.08	243.91	158.92	626.93	108.00	133.63	131.87	294.93
HST-19	WDSWPM	Control	620600.69	149232.62	63989.38	<LOD	10613.65	28162.11	1959.92	8863.19	6746.27	444.68	18.54	396.30	-3.33	145.18	89.47	16.15	2863.44	149.19	3256.77	84.97	145.22	251.27	216.09
HST-20	WDSWPM	Control	648614.09	152796.67	57788.84	<LOD	7453.46	28888.40	336.66	8724.50	<LOD	88.44	19.70	380.72	-7.27	123.55	<LOD	16.55	684.82	147.43	1140.58	80.84	109.90	135.35	272.34
HST-21	WDSWPM	Control	639770.58	153135.87	65453.26	<LOD	#VALUE!	30378.97	289.55	8901.42	<LOD	108.61	18.30	375.68	-5.98	132.35	<LOD	16.74	851.02	152.70	1364.03	84.27	114.66	128.36	270.68
HST-22	WDSWPM	Control	623854.45	151578.39	57164.59	<LOD	8110.40	29739.17	510.57	8641.61	35847.57	127.38	3.77	352.91	5.86	149.21	<LOD	15.28	3794.50	139.48	1756.47	76.69	101.73	197.55	255.73
HST-23	WDSWPM	Control	639946.06	146173.78	55948.32	<LOD	8339.09	29019.49	432.24	7703.07	<LOD	14.69	3.73	334.52	-6.53	120.44	<LOD	14.45	760.15	143.74	658.37	80.63	83.06	103.97	317.81
HST-24	WDSWPM	Control	645738.68	153584.36	50997.38	<LOD	9271.78	30827.78	328.00	9405.41	14425.34	22.05	-20.83	340.96	-3.09	133.30	<LOD	16.47	2279.48	149.53	1193.83	97.33	146.17	147.52	273.85
HST-25	WDSWPM	Control	643758.39	153562.46	60935.24	<LOD	8546.01	30026.18	534.06	9101.92	<LOD	18.15	-1.02	366.31	-3.26	141.78	<LOD	16.04	478.29	147.60	686.21	84.32	114.54	149.65	267.41
HST-26	WDSWPM	Control	620866.14	144814.86	57325.14	<LOD	11666.31	28966.64	455.08	8216.61	<LOD	36.59	-0.43	341.41	-3.19	135.35	<LOD	16.93	647.40	148.69	1146.59	87.79	138.19	111.10	297.39
HST-27	WDSWPM	Control	620787.99	148155.64	66835.80	<LOD	8633.81	28718.11	363.52	8405.55	<LOD	75.27	7.96	395.47	11.56	138.50	<LOD	14.66	4604.77	135.02	1779.23	67.79	133.66	211.54	294.12
HST-28	WDSWPM	Control	650426.31	151602.09	54027.36	<LOD	8607.12	27640.58	270.37	9127.35	<LOD	59.76	15.86	358.31	-3.37	127.46	<LOD	18.81	1002.15	140.47	1230.76	80.40	157.17	141.40	302.01
HST-29	WDSWPM	Control	624450.39	152218.21	71832.98	<LOD	8575.41	28736.56	594.85	8906.19	5758.70	149.76	14.87	374.36	-1.97	143.94	<LOD	17.28	1317.89	146.69	1952.74	79.48	149.53	149.72	295.51
HST-30	WDSWPM	Control	614287.60	154910.05	72925.20	<LOD	8890.36	27956.43	560.68	8068.02	6538.78	80.41	31.20	452.93	20.67	143.46	<LOD	15.68	9968.98	137.68	2618.55	65.94	168.60	281.69	266.93

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
HST-31	WDSWPM	Control	617758.46	149486.57	59986.31	<LOD	9295.55	28057.89	908.84	8542.27	<LOD	1319.56	8.71	371.67	-5.81	153.65	<LOD	15.09	10115.46	140.78	4672.28	71.42	148.47	272.74	268.60
HST-32	WDSWPM	Control	633222.10	148740.54	59640.34	<LOD	8922.01	28103.66	526.72	9283.76	<LOD	78.27	-16.38	265.18	-6.92	134.31	<LOD	18.34	1368.74	144.05	1401.00	83.49	140.86	193.76	294.77
HST-33	WDSWPM	Control	647036.70	151551.62	63264.83	<LOD	8932.34	28575.70	492.22	8951.79	6586.23	69.87	-9.78	355.66	-8.21	128.44	<LOD	19.51	874.58	154.02	1062.29	96.25	179.10	149.29	288.55
HST-34	WDSWPM	Control	661366.28	154499.76	59411.99	<LOD	13982.38	29713.43	561.17	9195.58	<LOD	67.51	6.91	369.15	-10.91	130.74	<LOD	16.39	620.36	150.75	1250.52	93.95	155.20	158.29	313.53
HST-35	WDSWPM	Control	671630.61	156907.76	55185.45	<LOD	12513.15	28874.90	495.23	9364.23	<LOD	52.53	-1.53	364.91	-4.21	130.37	<LOD	18.65	1036.28	147.57	1241.40	90.14	154.04	176.06	322.00
HST-36	WDSWPM	Control	643296.73	154460.05	54827.31	<LOD	13612.46	27609.40	399.90	9640.14	<LOD	14.38	7.86	333.06	-5.42	162.19	<LOD	16.62	1057.47	145.10	984.96	89.47	157.89	190.08	277.81
HST-37	WDSWPM	Control	656761.65	156312.95	56843.23	<LOD	11157.13	28239.48	296.02	10061.84	<LOD	93.56	9.40	370.03	-3.70	148.46	<LOD	18.20	1543.11	147.58	1586.43	88.47	198.37	245.43	299.71
HST-38	WDSWPM	Control	659576.37	155358.47	58367.59	<LOD	13273.38	29014.13	366.21	9149.32	8211.90	44.27	19.63	387.72	-6.14	131.68	<LOD	17.53	1202.17	145.56	1046.76	95.93	148.64	191.73	293.24
HST-39	WDSWPM	Control	654700.96	150133.08	55710.83	<LOD	8817.97	28507.74	452.71	8425.09	<LOD	44.37	19.80	395.94	-7.08	143.19	<LOD	14.96	625.16	147.78	1131.54	82.53	138.30	128.13	282.13
HST-40	WDSWPM	Control	642675.56	152407.20	67143.10	<LOD	9594.49	29064.34	1027.81	8555.63	6044.15	371.30	9.71	353.02	-1.72	136.32	<LOD	15.16	2908.59	144.05	2673.24	74.90	171.96	181.36	274.28
HST-41	WDSWPM	Control	602862.01	150534.10	75635.46	<LOD	9693.58	27785.11	641.10	7612.72	6038.95	510.87	11.85	410.45	8.05	150.47	<LOD	16.19	5550.60	137.15	3353.08	81.56	167.88	383.75	266.28
HST-42	WDSWPM	Control	631025.11	149091.36	61209.52	<LOD	8760.30	29719.31	749.94	8751.18	7022.57	60.51	7.77	429.27	-0.49	139.13	<LOD	17.00	552.36	152.75	1269.83	99.64	169.59	123.94	233.37
HST-43	WDSWPM	Control	638707.21	151876.22	68946.46	<LOD	9977.81	28644.26	1672.29	9584.24	5989.76	49.66	7.94	421.09	5.16	174.31	<LOD	16.88	3209.55	149.87	1886.09	89.41	157.99	197.57	239.40
HST-44	WDSWPM	Control	595568.10	144519.49	43432.99	<LOD	9079.15	27456.83	332.78	6980.68	6701.24	2486.71	10.13	432.88	7.45	91.72	<LOD	12.92	14378.74	136.82	14048.89	67.20	53.89	184.05	193.34
HST-45	WDSWPM	Control	638625.83	150205.73	58474.43	<LOD	10300.38	28232.80	418.05	8636.44	<LOD	103.36	3.14	386.09	3.01	132.22	<LOD	16.14	1800.44	143.53	1454.59	97.32	135.97	175.90	261.96
HST-46	WDSWPM	Control	642321.56	147931.08	62082.43	<LOD	8733.65	29768.20	631.69	8669.11	<LOD	62.75	17.69	423.98	1.63	139.10	<LOD	14.16	683.69	148.12	1340.50	83.40	152.54	118.57	223.54
HST-47	WDSWPM	Control	645529.96	157808.11	73275.85	<LOD	7891.16	29768.78	448.40	9392.43	6176.28	108.87	24.62	448.78	0.63	171.21	<LOD	16.84	1268.85	146.42	1360.14	81.16	140.06	183.07	266.63
HST-48	WDSWPM	Control	640031.03	154128.42	61354.05	<LOD	9489.28	30179.49	354.47	9604.76	6003.55	28.85	3.33	383.64	2.11	166.85	<LOD	18.96	881.69	149.84	1190.79	94.06	167.70	178.79	236.59
HST-49	WDSWPM	Control	644539.49	151476.02	55539.64	<LOD	9532.34	29857.90	462.93	9478.37	17224.49	39.56	5.23	393.73	-0.17	125.60	<LOD	16.19	886.29	146.40	1316.73	95.86	130.74	147.60	259.57
HST-50	WDSWPM	Control	644328.79	154165.99	57893.82	<LOD	11626.03	30418.27	572.95	9002.81	6060.66	138.90	13.10	454.28	-3.11	128.11	<LOD	15.89	1042.07	150.46	1718.24	95.66	163.43	171.51	234.88
SOW1	SOU105 Wasters	Control	568539.87	131713.00	33795.07	<LOD	7886.01	23650.47	350.25	7464.02	2550.62	2018.15	<LOD	341.40	<LOD	51.20	113.40	16.54	4580.18	126.93	7593.94	70.18	76.58	62.26	273.37
SOW2	SOU105 Wasters	Control	517046.19	141265.70	18632.02	<LOD	5912.10	26090.48	282.64	7635.88	2357.77	109.14	<LOD	321.65	-24.51	51.85	110.64	12.26	3203.71	109.46	1334.05	55.30	57.93	31.60	160.60
SOW3	SOU105 Wasters	Control	574502.93	147852.13	22487.99	<LOD	6920.60	21106.30	<LOD	8679.77	3480.64	681.93	<LOD	345.15	<LOD	47.35	125.69	16.74	12916.92	126.58	10072.32	51.72	88.79	40.33	170.95
SOW4	SOU105 Wasters	Control	727439.51	179243.31	28407.44	<LOD	8690.89	21286.02	<LOD	8740.25	2908.29	105.76	<LOD	338.83	<LOD	59.06	122.73	16.99	3190.99	111.33	2247.30	59.62	78.16	34.24	255.18
SOW5	SOU105 Wasters	Control	709080.12	167200.77	33524.01	<LOD	12078.26	21979.50	297.99	9038.68	4067.24	<LOD	<LOD	319.05	-20.81	61.78	93.21	16.89	461.90	117.49	1327.15	66.23	91.00	37.04	274.31
SOW6	SOU105 Wasters	Control	655237.11	154511.80	28831.08	<LOD	7566.24	20015.12	<LOD	8213.94	2779.35	79.32	<LOD	268.70	<LOD	51.97	151.81	15.37	7514.00	103.15	5725.62	48.56	78.24	33.61	258.04
SOW7	SOU105 Wasters	Control	698742.05	200653.69	28094.42	<LOD	6401.38	23296.22	<LOD	10752.45	2628.44	18.72	<LOD	322.28	-18.88	54.89	57.98	19.79	2108.13	138.22	2707.99	69.29	109.30	36.08	196.72
SOW8	SOU105 Wasters	Control	655376.11	150566.81	24455.45	<LOD	5921.32	18871.35	<LOD	7286.74	1976.09	285.90	<LOD	340.64	-5.70	43.65	225.85	15.13	11108.15	104.58	4204.96	50.92	69.38	47.04	244.56
SOW9	SOU105 Wasters	Control	639909.07	147474.78	21899.75	<LOD	6905.35	18874.09	<LOD	7802.90	3185.96	158.68	<LOD	400.39	<LOD	50.93	239.50	14.29	6892.64	95.49	4835.08	46.02	67.82	32.10	257.65
SOW10	SOU105 Wasters	Control	670044.82	154653.02	22869.15	<LOD	7410.50	18990.09	<LOD	7672.37	2734.02	<LOD	<LOD	308.29	-9.80	42.28	233.77	14.26	5829.32	102.82	3620.62	57.89	60.43	29.84	253.62
SOW11	SOU105 Wasters	Control	716209.45	155926.60	31652.09	<LOD	6676.98	21996.60	<LOD	8656.16	1379.64	48.40	<LOD	298.71	-14.18	64.48	158.91	15.82	4334.24	118.92	2120.77	61.71	76.21	28.01	265.41
SOW12	SOU105 Wasters	Control	668428.45	151807.57	29864.36	<LOD	6401.29	21192.41	<LOD	8507.78	1552.30	154.26	<LOD	220.28	-21.02	72.25	128.66	14.25	3418.68	110.72	3105.86	57.92	66.45	23.38	243.22
SOW13	SOU105 Wasters	Control	664319.99	146506.09	31666.30	<LOD	7506.47	19776.17	<LOD	8290.07	3476.76	37.88	<LOD	225.21	<LOD	60.57	55.41	12.23	6898.51	96.61	4125.25	45.29	72.78	36.53	290.07
SOW14	SOU105 Wasters	Control	645447.66	153591.50	32493.37	<LOD	7881.86	19933.39	<LOD	7853.97	3470.90	<LOD	<LOD	334.62	<LOD	58.91	80.26	12.98	12074.04	94.62	4774.75	43.00	85.98	43.57	258.72
SOW15	SOU105 Wasters	Control	696686.04	156366.19	32640.27	<LOD	11273.99	22010.00	<LOD	8726.22	2909.57	83.35	<LOD	270.76	-15.16	63.26	0.94	13.25	2732.22	110.23	1035.17	58.73	84.21	42.95	316.72
SOW16	SOU105 Wasters	Control	700898.28	165621.05	29322.69	<LOD	8502.73	20671.39	<LOD	8591.15	3001.75	77.41	<LOD	352.26	-18.15	60.15	2.31	14.65	1008.96	115.83	1209.78	67.61	80.35	45.38	311.39
SOW17	SOU105 Wasters	Control	651818.73	147051.89	30347.32	<LOD	8279.07	19089.24	274.07	7872.34	3054.62	515.75	<LOD	385.47	-13.70	60.23	-3.91	10.19	5636.95	98.12	4619.98	39.95	66.23	44.55	276.13
SOW18	SOU105 Wasters	Control	706916.35	174889.40	28781.79	<LOD	8481.34	21047.30	<LOD	8889.47	3022.12	319.57	<LOD	296.52	-9.43	56.85	132.49	14.73	4776.65	117.08	4486.80	57.50	85.20	45.58	299.18
SOW19	SOU105 Wasters	Control	638852.17	143687.94	25846.99	<LOD	8520.98	19561.28	<LOD	7821.90	2802.70	241.39	<LOD	348.07	-7.90	56.94	29.40	11.84	6059.27	98.35	3159.42	50.66	65.75	42.60	258.81
SOW20	SOU105 Wasters	Control	700754.41	161491.06	26413.27	<LOD	7358.37	21499.98	<LOD	8794.48	2182.11	11.73	<LOD	326.97	-15.10	58.96	17.70	11.36	523.09	104.79	1542.54	53.79	85.25	41.71	278.60
SOW21	SOU105 Wasters	Control	639948.39	129234.75	27885.98	<LOD	11819.64	20401.80	<LOD	7862.91	4428.18	10.65	<LOD	345.62	-17.87	78.55	34.27	11.90	773.40	105.33	2384.69	57.80	80.64	40.44	238.46
ALD8-1	VER	Control	597460.62	205356.03	33763.35	<LOD	7679.39	18530.95	<LOD	9572.09	737.33	56.77	-8.79	369.02	-1.56	97.13	60.96	17.03	2415.09	148.59	4979.03	101.40	230.86	46.18	252.30
ALD8-2	VER	Control	571193.98	164306.73	52531.79	<LOD	8509.10	20378.50	265.70	7526.54	1850.75	385.06	26.67	415.11	-2.42	102.27	32.24	13.05	9012.57	133.96	13870.08	77.35	104.79	190.77	278.85
ALD8-3	VER	Control	591205.34	171409.64	24665.96	<LOD	7853.86	18276.65	84.20	8516.96	1790.14	1236.07	5.64	349.84	-2.40	50.84	64.49	15.47	7469.40	140.31	21815.24	99.19	93.86	46.05	247.34
ALD8-4	VER	Control	704749.38	278600.15	35944.73	<LOD	9955.65	18853.85	216.90	10100.78	1073.05	656.92	49.37	401.86	-0.85	87.94	76.17	19.05	8620.51	157.00	5039.94	110.45	141.14	51.60	333.10
ALD8-5	VER	Control	590707.25	179426.95	25336.19	<LOD	8556.56	19326.25	263.93	8662.40	1451.54	170.92	9.72	369.89	-7.58	75.73	56.60	15.86	9846.96	135.81	8630.40	90.86	154.23	60.16	248.67
ALD8-6	VER	Control	524881.62	123123.30	14506.53	<LOD	9519.85	15823.28	247.41	5672.81	4417.57	3967.61	13.67	350.44	-8.14	15.87	38.71	9.01	26160.92	127.84	57328.23	70.66	24.16	56.22	200.21
ALD8-7	VER	Control	644368.86	196113.96	29319.24	<LOD	8084.02	19573.30	238.52	9336.45	1197.54	2856.27	69.63	282.86	-3.86	104.24	51.93	16.72	23557.70	141.42	9035.80	90.69	585.32	33.50	265.63
ALD8-8	VER	Control	674091.73	176694.49	27042.24	<LOD	7617.94	16904.69	240.79	7853.99	1581.30	703.11	55.10	339.80	-8.37	46.72	40.95	11.36	12633.41	126.72	2543.36	84.75	108.65	26.97	226.63
ALD8-9	VER	Control	607052.29	161194.43	24760.58	<LOD	8388.01	16798.63	70.51	7734.60	1209.52	78.78	22.68	372.85	-4.95	50.78	43.53	12.67	1286.28	131.06	2744.01	87.98	107.03	29.55	228.12
ALD8-10	VER	Control	669124.07	173521.46	21733.84	<LOD	8500.20	18291.21	103.08	8323.21	1815.10	99.07	-6.97	283.71	-1.77	56.28	50.91	15.05	977.63	134.37	6423.75	98.50	91.51	30.13	241.69

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
ALD8-11	VER	Control	680798.51	196431.27	32243.69	<LOD	9817.53	18717.65	119.79	9234.50	659.17	15.26	-5.21	334.04	5.69	109.27	55.67	17.01	2729.79	138.17	1632.30	94.89	117.65	48.92	279.62
ALD8-12	VER	Control	672448.19	178956.30	28536.19	<LOD	8722.89	18655.87	212.56	8135.52	2834.87	341.63	5.97	325.30	-5.29	73.58	39.58	13.88	2101.16	135.14	7345.60	98.80	128.16	33.95	247.19
ALD8-13	VER	Control	683643.02	185244.74	31775.47	<LOD	9298.90	18029.99	122.15	8844.72	1874.56	72.49	-4.67	287.47	-2.02	99.85	60.95	15.42	566.32	136.51	2415.17	100.52	101.52	41.43	285.21
ALD8-14	VER	Control	626518.42	180256.12	28988.73	<LOD	8117.85	17361.04	121.62	8564.09	1953.25	108.23	-4.10	300.96	-5.01	74.01	53.97	14.50	1146.04	133.77	4233.74	96.74	222.31	37.77	295.63
ALD8-15	VER	Control	683087.40	207943.96	31762.62	<LOD	8165.99	18017.86	45.68	8979.09	973.09	42.21	8.04	294.51	-3.09	87.52	54.97	15.40	383.51	140.04	1326.55	102.06	88.67	32.83	247.15
ALD8-16	VER	Control	672003.97	189488.78	31040.98	<LOD	7377.31	17446.34	<LOD	8308.71	706.19	24.02	8.39	296.32	-6.05	72.48	44.97	13.72	341.55	133.75	1172.44	94.87	85.81	28.38	239.37
ALD8-17	VER	Control	897069.32	242814.71	27631.26	<LOD	7415.26	22215.56	159.34	8844.00	961.20	61.35	1.14	343.06	2.16	78.92	55.61	13.85	774.05	133.72	2081.12	86.86	88.27	60.28	269.36
ALD8-18	VER	Control	916550.73	259893.17	32184.23	<LOD	9945.02	19907.73	54.98	9840.74	1203.86	103.71	-1.60	362.12	3.71	103.24	44.74	15.07	2203.87	136.02	2572.58	103.56	102.16	54.80	316.79
ALD8-19	VER	Control	905582.89	261299.35	30574.53	<LOD	9925.12	17949.85	40.61	9101.84	1281.54	17.84	-6.80	311.12	4.90	82.82	72.67	14.18	1018.26	138.35	2751.42	96.60	133.80	36.73	247.53
ALD8-20	VER	Control	898065.28	259113.92	32105.72	<LOD	12911.93	19038.17	107.43	9548.58	5889.87	319.62	-5.70	318.44	7.99	93.14	78.53	16.12	2944.29	149.59	15821.37	95.48	342.76	52.10	260.64
ALD8-21	VER	Control	877969.40	240157.74	33626.89	<LOD	8842.93	18868.50	223.62	8553.11	1124.14	<LOD	-15.08	226.38	7.88	81.17	48.73	15.40	9745.63	138.87	8726.56	107.87	109.45	40.66	250.68
ALD8-22	VER	Control	725563.88	196878.02	22471.31	<LOD	9939.52	16227.79	124.55	6931.98	6698.88	1942.51	22.79	380.12	15.86	45.53	47.94	10.41	10076.18	133.00	43572.72	83.98	372.17	54.68	222.02
ALD8-23	VER	Control	884823.79	249480.39	30406.90	<LOD	8415.48	19325.09	49.44	9248.92	1600.30	5.29	-3.14	344.16	0.19	88.52	43.34	14.02	538.47	136.77	1161.66	93.25	87.76	36.41	295.75
ALD8-24	VER	Control	869023.89	233106.51	28689.22	<LOD	11393.33	19108.53	41.04	8938.12	1365.93	2331.85	-20.96	253.59	11.73	73.86	51.65	15.42	6494.40	137.39	2237.15	102.72	90.44	52.87	302.22
ALD8-25	VER	Control	919181.86	254590.42	33316.77	<LOD	9170.99	19249.17	96.31	9270.22	3053.58	107.98	-7.43	346.50	2.30	97.73	57.02	15.05	1792.10	139.16	5193.91	122.78	117.56	44.56	316.32
ALD8-26	VER	Control	877438.17	260217.27	34554.06	<LOD	9555.90	18535.46	216.73	9419.67	743.22	17.39	-23.63	302.41	10.73	89.69	73.62	15.64	3363.69	145.89	3143.75	94.62	92.47	45.26	256.70
ALD8-27	VER	Control	608724.47	171352.45	34121.30	<LOD	8392.26	19159.07	417.46	10099.36	1146.49	50.29	-2.88	297.30	5.52	126.18	37.49	16.06	3169.47	137.55	2285.82	95.97	133.76	157.44	250.25
ALD8-28	VER	Control	628111.85	187445.53	34913.72	<LOD	7422.24	19564.32	<LOD	9121.24	65.28	<LOD	-1.04	310.43	5.17	105.11	63.72	15.92	1094.19	142.98	1181.86	101.32	101.93	35.50	238.07
ALD8-29	VER	Control	644389.27	189705.20	36989.16	<LOD	9642.09	19283.67	100.59	9277.92	2615.35	112.10	-8.04	310.89	1.38	96.41	59.46	16.53	1752.39	144.36	5653.70	116.50	144.13	38.41	279.14
ALD8-30	VER	Control	592912.79	169596.97	32720.43	<LOD	11267.22	17376.25	106.66	9474.10	1498.29	<LOD	-3.51	287.21	2.45	86.67	51.06	15.70	903.46	139.50	2802.56	96.87	79.85	53.02	244.99
ALD8-31	VER	Control	571319.48	173107.02	27076.73	<LOD	9454.75	18450.53	120.09	10082.51	7402.57	8742.23	-8.04	354.60	3.96	108.50	31.12	15.57	1881.22	131.49	2436.58	91.37	115.71	208.97	293.22
ALD8-32	VER	Control	597437.92	180408.15	25889.67	<LOD	8336.25	17255.76	<LOD	9490.59	2492.07	<LOD	-5.58	312.15	2.11	89.14	58.34	15.88	826.30	142.91	1308.87	94.30	70.22	45.75	296.07
ALD8-33	VER	Control	548870.32	163388.27	29019.84	<LOD	11973.41	18647.96	110.98	9969.80	6620.38	593.16	-9.10	343.40	-4.41	101.05	55.14	15.35	5243.03	132.52	8480.97	110.35	148.48	222.75	294.23
ALD8-34	VER	Control	621707.65	181529.15	25202.82	<LOD	10585.30	17754.43	<LOD	10547.18	2229.50	<LOD	-8.06	362.65	1.48	70.79	53.23	16.32	3017.87	131.39	1645.95	95.97	117.49	230.72	264.06
ALD8-35	VER	Control	597635.02	173235.71	22906.71	<LOD	10276.62	18122.44	82.10	9170.11	3444.52	33.29	-16.94	276.41	-4.03	72.16	39.82	14.99	2570.19	127.24	2975.65	94.73	124.28	168.06	280.11
ALD8-36	VER	Control	590810.28	174941.08	29832.74	<LOD	10024.37	18946.78	113.91	9909.43	3497.11	20.82	-19.38	327.42	2.31	79.77	29.24	16.73	2409.04	146.68	4671.66	96.13	176.46	120.79	264.79
ALD8-37	VER	Control	644229.07	179815.00	29277.06	<LOD	9060.99	18447.28	69.17	10423.69	2385.16	8.47	-4.58	338.00	-3.82	68.70	54.78	19.27	228.02	141.47	1233.35	106.43	122.53	37.90	325.47
ALD8-38	VER	Control	464803.95	132107.94	21298.72	<LOD	10355.41	18592.34	265.43	6225.31	9576.64	3611.01	28.92	520.43	14.79	26.02	42.66	11.45	20566.76	133.48	45475.72	98.12	220.00	105.68	251.95
ALD8-39	VER	Control	539757.25	168642.11	32743.36	<LOD	8529.36	17452.16	615.07	8769.44	2538.34	6018.19	96.92	354.25	-3.42	143.96	58.41	14.71	44147.05	133.68	3517.18	83.75	131.87	157.18	264.24
ALD8-40	VER	Control	614672.49	165402.21	32655.04	<LOD	8290.60	18918.92	<LOD	8297.34	2345.38	82.72	-35.49	247.12	-1.11	77.56	56.29	14.32	1679.35	140.01	4388.83	109.01	129.68	51.24	242.66
ALD8-41	VER	Control	602184.41	157454.00	22695.87	<LOD	9236.76	18652.21	64.65	8525.41	3486.04	589.66	-21.03	286.09	6.67	24.53	46.06	12.45	9827.65	131.69	30353.35	82.45	82.00	60.71	248.16
ALD8-42	VER	Control	574635.64	158653.58	28207.97	<LOD	8307.29	18763.68	770.49	7789.38	2634.28	94.65	6.31	391.74	3.85	56.17	57.33	13.19	3770.81	131.10	6674.27	86.42	230.78	45.24	222.56
ALD8-43	VER	Control	570873.39	145470.82	21948.48	<LOD	8814.95	17394.15	347.64	7604.98	1056.46	3743.11	45.48	325.45	29.50	49.54	38.89	14.19	32991.18	131.21	14515.43	81.47	166.10	40.99	213.41
ALD8-44	VER	Control	466047.53	132255.36	17118.33	<LOD	10784.19	17992.20	336.19	5885.02	5940.45	4502.42	41.02	464.83	27.69	30.10	51.16	11.51	23910.22	132.72	57068.82	74.43	135.49	43.53	219.70
ALD8-45	VER	Control	652029.28	174815.75	22212.93	<LOD	7554.53	18872.04	697.15	8557.77	158.98	7461.70	93.74	328.68	-4.10	65.92	45.23	13.84	55375.38	131.67	3439.32	88.68	66.67	33.28	237.36
ALD8-46	VER	Control	578993.72	144412.11	21473.13	<LOD	8340.69	17465.81	732.91	7849.85	1091.79	7362.37	239.47	369.91	-1.81	80.75	70.67	11.30	80648.69	129.87	8523.92	96.29	125.89	29.88	228.50
ALD8-47	VER	Control	580461.98	151263.09	30932.60	<LOD	7785.48	18554.26	538.61	8329.13	1473.86	35.56	10.72	366.18	11.24	75.65	47.21	13.14	5901.25	129.64	4194.10	86.77	124.85	32.77	243.57
ALD8-48	VER	Control	625860.24	149318.08	22149.17	<LOD	9306.33	17655.04	<LOD	8463.26	1202.97	101.78	-21.12	264.01	-6.51	52.47	34.13	13.32	1892.77	130.99	8288.55	92.99	84.24	25.35	233.68
ALD8-49	VER	Control	569015.64	167654.47	25460.39	<LOD	10017.22	18311.28	125.99	7756.03	1959.55	2784.71	2.94	352.33	1.77	63.76	39.78	12.18	16478.24	135.97	18027.52	88.04	99.14	39.16	257.36
ALD8-50	VER	Control	536136.23	157354.70	29583.94	<LOD	9053.70	19433.34	70.05	8066.69	4074.75	272.31	-7.30	325.93	9.91	85.61	39.52	13.85	2337.85	134.89	10178.64	93.71	109.99	37.52	257.45
ALD3-1	VER	Control	530037.85	147832.05	22987.80	<LOD	12094.56	19945.77	528.75	8117.45	1148.78	1253.70	22.46	407.98	-3.47	58.99	55.01	15.46	11073.03	132.65	8794.77	86.78	92.61	82.42	231.65
ALD3-2	VER	Control	628336.04	181289.66	31833.94	<LOD	8005.34	17606.54	<LOD	8923.02	331.77	13.26	-12.36	346.49	-3.73	59.12	52.77	15.42	1099.42	140.49	2223.11	93.11	79.78	42.15	245.67
ALD3-3	VER	Control	627647.09	203013.45	39418.43	<LOD	11001.71	19449.42	73.63	10238.88	1711.21	76.47	<LOD	225.35	2.18	112.87	60.40	19.03	3119.89	144.52	4323.79	120.55	119.69	68.02	352.52
ALD3-4	VER	Control	577246.86	171626.16	22732.24	<LOD	9058.81	17388.36	153.64	8278.79	2604.10	996.04	-5.62	347.71	4.46	58.11	65.54	15.84	8841.26	133.93	25561.11	97.65	97.04	48.07	275.02
ALD3-5	VER	Control	614428.52	200521.50	36569.34	<LOD	11187.78	18592.95	239.92	9425.96	303.04	9.71	3.21	398.82	0.57	107.59	65.73	15.96	471.17	137.19	486.00	101.03	117.30	44.19	250.57
ALD3-6	VER	Control	654009.54	205325.42	35869.19	<LOD	8967.01	19086.82	60.80	9615.24	365.53	0.85	4.68	339.38	2.73	80.79	68.67	18.39	661.65	148.03	1893.52	108.27	96.68	49.93	341.00
ALD3-7	VER	Control	470798.96	144070.04	23116.44	<LOD	11379.76	19275.88	516.80	8364.47	4113.68	224.57	28.99	432.76	-5.68	77.54	78.76	15.06	2821.02	136.01	5907.07	87.81	109.37	44.63	267.06
ALD3-8	VER	Control	692069.58	171817.40	25804.65	<LOD	8004.55	17109.05	163.23	9520.22	836.16	59.07	-14.66	271.38	-0.52	60.42	79.82	17.38	854.63	134.00	2401.90	90.73	144.82	45.50	282.59
ALD3-9	VER	Control	596158.15	174410.05	34185.33	<LOD	8359.97	18963.02	55.69	9618.95	40.72	16.00	9.90	350.13	1.46	102.71	59.21	16.39	660.98	141.06	796.37	105.13	111.36	39.16	322.23
ALD3-10	VER	Control	598002.40	176851.34	32020.14	<LOD	9966.14	17397.17	52.63	9154.33	68.95	4542.58	-27.47	362.33	-0.28	79.97	48.94	14.70	5345.18	130.66	3650.91	94.20	93.57	40.04	326.78

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
ALD3-11	VER	Control	617647.06	197993.75	36728.33	<LOD	10244.58	19451.24	125.31	9385.64	-86.73	15.97	-1.74	353.55	-1.81	117.46	61.26	16.71	325.15	148.86	959.29	114.22	106.08	39.32	311.78
ALD3-12	VER	Control	603363.08	166544.22	36903.31	<LOD	8786.13	20054.09	45.65	9236.90	-24.29	28.26	-12.79	309.87	-3.54	113.27	60.34	16.61	223.27	146.95	1312.56	111.79	109.15	39.13	338.87
ALD3-13	VER	Control	628006.21	202163.21	39108.52	<LOD	11617.85	19668.45	130.21	9933.18	531.63	12.26	-3.89	320.02	-3.01	127.42	60.42	18.16	466.26	146.31	1055.76	112.04	128.78	46.92	316.28
ALD3-14	VER	Control	547884.22	158776.59	33193.06	<LOD	9745.30	19448.60	395.83	9691.83	629.45	35.83	5.89	341.26	-5.73	115.62	34.61	15.67	2175.03	139.54	2707.28	105.58	159.68	41.03	282.73
ALD3-15	VER	Control	537551.73	175202.64	33193.92	<LOD	9964.23	19570.89	<LOD	9161.54	992.69	223.88	-32.27	197.72	<LOD	119.05	36.75	16.55	9271.68	142.43	8684.90	103.41	105.27	32.89	294.52
ALD3-16	VER	Control	559491.95	169865.45	34403.65	<LOD	9989.93	19876.76	185.63	9337.88	256.39	26.14	6.62	391.02	-1.56	108.81	40.29	14.52	4311.31	133.56	3978.14	92.43	202.11	42.80	313.01
ALD3-17	VER	Control	597046.74	179384.97	29079.54	<LOD	8175.48	17149.27	<LOD	9458.95	-582.91	3.71	-42.86	215.06	-6.06	96.10	37.87	14.83	1393.00	138.74	564.63	92.42	93.43	35.81	271.80
ALD3-18	VER	Control	468917.42	150637.71	23233.82	<LOD	9178.88	16951.23	100.12	6990.11	1571.89	1817.24	21.40	394.36	-9.58	55.80	41.74	11.84	9469.04	133.63	36172.56	77.85	105.03	46.30	250.78
ALD3-19	VER	Control	526632.51	119613.07	34513.54	<LOD	8380.51	18438.08	748.89	7622.76	104.47	<LOD	-24.63	271.74	-10.58	76.94	33.97	13.53	2887.33	126.63	1252.27	82.15	138.03	49.35	261.60
ALD3-20	VER	Control	611667.50	172513.22	32940.65	<LOD	8791.57	17692.35	339.27	9492.42	637.86	<LOD	-24.11	219.47	-1.80	73.27	33.40	15.99	3305.00	130.98	3606.65	95.46	94.60	40.47	274.94
ALD3-21	VER	Control	606578.73	170616.41	24124.46	<LOD	8840.62	17182.27	<LOD	8540.83	319.17	0.03	-15.39	272.17	-6.83	71.04	68.65	16.14	344.50	137.48	276.37	94.77	78.29	47.01	258.88
ALD3-23	VER	Control	580929.82	180038.56	39065.44	<LOD	9218.08	17806.64	99.80	9701.00	400.42	13.59	0.45	322.44	-2.98	109.79	67.67	16.69	359.35	143.15	634.83	101.18	111.31	40.87	271.46
ALD3-23	VER	Control	507709.88	157255.67	27606.62	<LOD	9600.65	18481.26	112.62	8994.62	1519.46	324.94	-13.42	281.62	-2.88	81.59	54.52	15.84	7912.90	132.95	6278.74	85.19	121.01	80.60	286.74
ALD3-24	VER	Control	584965.13	171029.32	34535.90	<LOD	8848.73	18268.61	403.86	9707.76	767.30	6940.81	82.90	372.49	-6.01	109.36	57.23	15.84	42446.39	138.28	2717.76	100.42	121.43	32.88	314.41
ALD3-25	VER	Control	642734.18	186614.38	34057.91	<LOD	8673.33	20016.61	123.46	9707.93	812.05	12.37	10.64	390.18	-3.96	114.66	63.10	16.81	254.75	146.78	1224.45	106.78	122.71	38.91	324.22
ALD3-26	VER	Control	609167.15	171127.77	34090.50	<LOD	8909.94	19524.91	127.39	9723.70	868.21	6.91	-7.23	312.72	-4.38	112.66	41.40	16.17	387.68	138.42	690.50	99.84	86.86	38.25	358.43
ALD3-27	VER	Control	653634.57	196312.64	31668.14	<LOD	8715.29	18969.89	431.04	9808.49	624.20	10334.83	96.26	382.60	8.95	67.42	82.19	17.46	63030.46	141.47	-521.03	103.08	132.58	44.85	303.96
ALD3-28	VER	Control	610386.55	188878.05	40295.52	<LOD	10272.27	19051.96	216.42	9649.55	1944.24	344.56	-9.81	370.56	0.28	122.02	53.51	17.37	3732.73	148.00	8150.58	112.69	113.07	42.10	326.37
ALD3-29	VER	Control	647537.06	198600.75	31479.57	<LOD	8865.96	17975.94	252.24	9819.63	1335.69	54.60	-6.56	290.58	-3.19	96.74	56.33	16.23	1200.45	133.87	2131.28	87.59	111.69	36.56	274.21
ALD3-30	VER	Control	619005.95	176485.61	25736.15	<LOD	11605.60	18126.45	145.64	9091.74	928.23	9.81	-12.29	367.27	-8.38	92.58	57.98	14.85	894.38	132.40	899.00	124.38	106.51	47.64	278.18
ALD3-31	VER	Control	547762.98	161746.88	20414.62	<LOD	7845.03	18359.60	370.30	8351.72	368.41	4827.87	91.68	313.72	-0.32	52.97	72.76	13.19	34656.54	131.96	16007.11	73.75	75.16	39.36	266.03
ALD3-32	VER	Control	603889.11	185831.31	31432.05	<LOD	9042.00	18766.87	138.12	8949.80	2616.91	130.52	-0.86	363.69	-1.85	93.47	57.00	16.96	2786.79	138.81	7946.01	89.04	376.71	49.76	318.93
ALD3-33	VER	Control	526188.27	169011.85	23861.12	<LOD	10609.88	15653.24	104.94	6806.07	4915.06	3713.33	50.77	258.56	20.33	60.27	49.24	8.31	29327.20	131.01	55763.90	64.32	81.49	31.74	288.79
ALD3-34	VER	Control	574795.13	179327.41	29382.22	<LOD	9604.75	16845.39	52.99	8778.13	2412.31	1458.81	17.83	352.07	2.84	100.82	61.20	15.63	7716.01	138.07	27235.71	85.52	126.40	47.45	244.49
ALD3-35	VER	Control	579879.79	185915.00	25508.87	<LOD	9113.59	16695.07	<LOD	8214.60	4069.23	1595.08	-37.76	203.70	4.04	67.34	39.05	15.31	11014.62	137.76	50014.69	87.42	74.47	65.37	317.29
ALD3-36	VER	Control	658713.71	199331.95	41339.89	<LOD	11387.03	19246.71	334.33	9766.96	1246.85	93.10	10.58	374.29	2.68	128.18	41.70	16.36	2451.59	139.06	3921.06	114.76	148.67	45.24	308.04
ALD3-37	VER	Control	659471.73	200592.96	36457.70	<LOD	8971.50	17569.96	371.94	9434.24	1616.41	5812.01	27.50	304.43	3.89	83.08	53.40	15.81	35211.24	135.97	-124.69	102.97	110.98	39.09	266.58
ALD3-38	VER	Control	629122.19	191799.58	28577.28	<LOD	10415.26	18725.44	43.54	9033.40	1127.90	23.06	-12.47	250.63	2.20	101.38	25.62	13.39	1728.26	134.77	2193.92	108.06	116.80	61.85	244.02
ALD3-39	VER	Control	572650.34	169000.36	23658.11	<LOD	9817.67	18772.32	504.55	7711.48	1381.68	991.43	13.55	339.93	3.27	86.92	50.50	13.32	8680.68	132.93	6950.96	92.37	69.53	76.97	319.36
ALD3-40	VER	Control	528905.52	162752.15	26587.85	<LOD	10603.60	16452.32	281.35	7441.53	3432.24	2377.87	28.05	468.17	8.88	65.35	40.84	14.93	11915.56	135.82	30601.48	97.51	186.26	45.48	331.72
ALD3-41	VER	Control	625435.23	177509.70	29262.16	<LOD	8414.39	18748.18	119.23	8505.24	2353.47	411.95	5.23	311.46	-4.32	83.53	50.14	14.89	4257.73	127.49	4490.09	79.72	76.28	125.56	243.99
ALD3-42	VER	Control	845682.33	222370.39	26550.20	<LOD	10041.91	18044.61	15.68	9895.89	753.10	<LOD	-9.35	275.22	3.12	78.31	50.88	16.84	1787.05	136.09	886.54	110.37	107.22	42.60	248.68
ALD3-43	VER	Control	629308.09	200388.95	40339.39	<LOD	9198.84	18097.21	23.44	9863.82	903.07	-4.59	-0.34	279.41	0.87	121.21	72.13	17.18	204.02	144.79	389.62	106.95	87.85	43.90	267.56
ALD3-44	VER	Control	598744.63	170084.48	32569.91	<LOD	8721.75	18350.87	372.55	8762.38	2551.15	292.67	-3.39	368.49	5.44	78.67	53.29	14.31	5114.91	130.09	10996.24	89.58	457.74	46.70	264.45
ALD3-45	VER	Control	611037.65	192187.11	30660.16	<LOD	7842.16	18268.67	526.35	9297.64	892.44	8480.12	141.83	337.16	12.76	57.06	75.06	15.35	71500.18	141.99	3955.93	92.74	198.45	37.62	268.03
ALD3-46	VER	Control	622710.22	183637.68	29631.38	<LOD	8081.95	19790.41	368.12	9703.59	1020.69	77.47	-10.86	283.24	1.75	72.67	33.05	17.92	2223.77	136.60	2601.46	93.33	123.78	52.68	261.48
ALD3-47	VER	Control	620353.40	183403.69	35311.28	<LOD	9814.17	20111.10	197.69	9669.18	1321.21	19.48	-0.84	339.90	-1.84	114.81	59.29	16.59	825.81	138.42	1543.77	109.11	128.00	39.86	326.82
ALD3-48	VER	Control	596486.80	202085.80	42121.57	<LOD	10806.98	19984.02	590.88	10098.11	2374.48	223.61	29.76	403.91	3.44	90.03	71.91	17.15	4415.08	145.06	6926.48	103.19	140.76	47.21	295.51
ALD3-49	VER	Control	555551.55	192996.56	23634.99	<LOD	9163.45	18386.76	465.27	7560.14	2160.96	8897.81	94.26	439.10	-0.57	156.85	84.30	15.30	51519.39	140.05	28046.37	95.32	127.32	51.57	261.33
ALD3-50	VER	Control	579942.92	181873.15	35781.31	<LOD	9928.58	20425.55	276.58	8943.95	3251.61	82.70	9.48	329.78	-2.15	76.09	44.45	15.26	1611.03	129.08	3079.35	93.94	134.33	111.44	260.00
VER3-1	VER	Control	621055.09	161932.84	27244.30	<LOD	8369.74	18057.66	<LOD	9222.84	580.05	-4.95	-1.65	339.27	-9.47	86.44	34.90	15.33	364.36	132.96	394.89	95.79	82.67	45.87	357.42
VER3-2	VER	Control	540067.85	158275.08	22522.28	<LOD	9342.93	18790.71	65.58	7532.65	4900.30	2350.77	16.38	456.22	-11.69	53.89	36.55	12.00	12553.79	138.72	36049.74	96.44	108.71	67.37	306.01
VER3-3	VER	Control	570539.82	177834.30	30780.48	<LOD	9655.31	16253.68	252.28	7598.17	3544.82	5660.98	55.80	522.33	-11.85	138.86	26.02	12.01	30740.57	137.70	32811.95	90.88	107.30	201.32	259.04
VER3-4	VER	Control	660240.88	220017.02	33896.92	<LOD	8507.18	18118.47	15.04	9656.85	1841.84	91.92	3.25	385.96	-4.17	96.57	68.66	14.93	1583.73	143.31	2182.06	100.69	106.04	43.21	328.80
VER3-5	VER	Control	665348.00	190024.47	31730.81	<LOD	9143.86	19207.41	40.47	9815.68	1270.34	28.92	-22.29	328.63	-8.19	113.05	47.31	15.30	682.46	140.57	2273.39	104.01	103.40	49.87	335.24
VER3-6	VER	Control	651000.95	195733.40	30396.24	<LOD	9304.79	19706.07	204.96	9825.74	1862.67	<LOD	4.38	379.69	-9.92	94.91	41.87	14.49	3809.81	140.86	4867.77	106.97	135.30	60.35	318.19
VER3-7	VER	Control	609460.65	188440.48	39601.42	<LOD	9074.10	19195.96	54.55	10258.72	1669.18	4.40	-3.05	367.72	-7.04	123.88	23.91	17.79	626.48	141.59	1219.85	105.48	119.02	69.03	298.13
VER3-8	VER	Control	634616.69	177533.18	30952.98	<LOD	9248.65	18967.31	85.43	9245.00	2055.49	44.85	-12.09	349.05	-5.43	107.05	47.14	14.25	622.35	142.04	1736.19	104.16	114.08	34.20	336.40
VER3-9	VER	Control	607711.41	188544.12	34719.26	<LOD	10144.56	16837.90	263.00	9391.04	188.03	4978.90	53.66	335.62	-2.70	89.08	87.48	17.15	28216.39	143.40	1309.39	123.06	96.74	56.03	295.37
VER3-10	VER	Control	602357.04	182552.22	30835.55	<LOD	8702.14	18870.23	28.56	9463.66	2593.54	110.44	-4.48	377.88	-8.06	92.28	45.14	14.26	2861.97	141.67	6002.30	103.49	160.05	50.59	317.18
VER3-11	VER	Control	647156.08	182970.41	25579.60	<LOD	8657.58	19625.08	137.81	9485.25	3501.28	84.39	-2.91	351.24	-5.53	70.40	43.94	15.33	845.60	136.24	6115.81	91.67	131.62	57.45	311.42
VER3-12	VER	Control	471026.83	134424.56	26669.77	<LOD	12923.60	20617.63	98.50	7543.57	1454.13	1472.38	23.43	436.36	<LOD	64.23	95.42	14.72	5821.17	145.16	19278.94	126.31	110.91	142.85	260.95
VER3-13	VER	Control	669723.69	206068.71	33228.82	<LOD	8723.66	18995.67	33.77	10648.10	1654.63	-7.86	13.14	369.44	-3.61	99.08	31.00	17.67	149.41	145.78	143.48	99.86	116.05	56.17	287.88
VER3-14	VER	Control	675609.44	195387.30	32650.37	<LOD	8402.85	19198.19	56.36	10605.82	1586.69	<LOD	-3.12	353.76	-0.74	76.59	28.65	18.49	411.61	143.89	230.29	101.30	117.04	56.20	291.00
VER3-15	VER	Control	665951.09	215250.33	45980.00	<LOD	9975.10	18689.54	205.07	9256.24	1349.16	-6.13	21.84	372.25	-4.90	110.25	74.65	17.62	381.86	145.95	67.13	146.09	114.85	71.53	307.59

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
VER3-16	VER	Control	680669.65	190637.65	28889.11	<LOD	8890.46	18277.98	28.94	10216.93	889.39	<LOD	4.26	294.64	-1.73	76.02	52.42	16.79	1202.33	132.39	421.24	107.03	91.78	64.24	313.74
VER3-17	VER	Control	651216.30	195815.90	32473.41	<LOD	8343.72	19267.32	78.65	9706.48	3991.28	<LOD	-21.43	327.63	-3.24	96.18	48.26	15.53	288.13	139.71	257.16	114.84	74.19	53.86	312.57
VER3-18	VER	Control	638486.02	200802.41	40202.48	<LOD	8611.68	18758.37	277.98	9504.75	6312.75	1.37	-5.58	353.26	-6.39	116.27	52.49	14.95	354.90	136.12	642.95	111.67	96.60	158.12	305.97
VER3-19	VER	Control	667511.26	213140.35	33545.73	<LOD	8223.62	18944.49	<LOD	10172.06	5073.72	<LOD	-5.12	342.36	1.54	99.01	52.42	16.74	868.45	144.65	939.73	97.76	99.84	59.00	287.72
VER3-20	VER	Control	648207.89	197034.96	30645.14	<LOD	8246.36	18765.91	<LOD	10073.77	1518.93	<LOD	-12.83	317.25	-6.51	83.16	42.82	15.84	680.62	140.93	906.82	102.65	81.02	41.76	322.18
VER3-21	VER	Control	494510.37	136154.21	28008.88	<LOD	7646.79	17320.44	87.68	8163.56	1160.19	31.38	-1.08	280.70	-5.79	115.13	56.95	12.55	3160.04	129.97	4440.30	81.88	364.72	33.64	248.59
VER3-22	VER	Control	643079.90	192442.12	26257.15	<LOD	8286.40	18533.17	<LOD	9146.27	287.78	<LOD	-6.07	323.29	-4.21	85.63	50.36	15.88	1062.27	143.00	511.39	109.46	92.79	33.69	332.02
VER3-23	VER	Control	497958.47	142618.52	28045.82	<LOD	7826.09	17819.43	<LOD	9060.49	2903.82	5900.97	-18.72	286.38	-3.44	100.16	43.12	14.45	2346.10	134.94	4140.44	96.53	108.65	30.60	277.46
VER3-24	VER	Control	587328.85	207126.34	35031.58	<LOD	11047.27	19081.17	544.18	9458.88	3298.01	19.66	12.41	388.30	1.29	148.99	54.10	15.42	3142.09	143.41	4036.46	99.52	238.62	91.11	252.95
VER3-25	VER	Control	667020.14	204412.58	31376.58	<LOD	8868.03	18678.09	151.28	9749.42	966.11	53.62	-1.31	358.10	-2.47	98.29	66.05	19.70	1242.22	146.85	3248.52	94.84	146.13	62.18	287.79
VER3-26	VER	Control	649952.55	177608.56	30420.55	<LOD	8489.43	18150.27	290.35	9333.01	1937.67	63.74	-5.38	308.27	-9.21	79.91	54.98	15.94	1267.76	139.74	2838.19	93.09	105.77	45.36	293.00
VER3-27	VER	Control	631203.04	180646.98	25576.81	<LOD	9529.31	19662.20	116.08	9697.30	3603.89	95.69	-4.25	359.46	-7.90	85.01	49.93	16.09	1112.88	147.05	3666.85	96.60	140.71	85.54	312.24
VER3-28	VER	Control	582736.48	166034.91	29696.47	<LOD	9270.21	18012.86	74.31	8436.07	4019.23	538.91	-4.40	307.58	-5.69	77.60	32.55	13.45	5261.38	136.57	14220.39	96.82	653.48	51.09	290.41
VER3-29	VER	Control	561064.47	160056.89	30858.28	<LOD	10448.24	18324.48	<LOD	9014.77	3414.89	<LOD	-7.79	306.50	2.40	106.83	40.36	14.21	2486.10	132.95	2443.88	88.12	135.00	48.64	277.79
VER3-30	VER	Control	607063.90	190131.93	41592.06	<LOD	9445.23	19633.64	164.72	10140.54	7620.23	100.72	14.37	490.79	-3.30	132.94	45.36	14.53	2184.75	137.00	863.70	142.26	104.48	78.92	276.63
VER3-31	VER	Control	653480.85	193640.91	30915.35	<LOD	8484.55	20606.27	130.80	10073.67	1003.80	<LOD	0.11	349.44	-0.51	100.80	49.57	16.50	1185.57	145.20	297.70	116.99	101.70	37.60	315.63
VER3-32	VER	Control	622937.89	179761.04	34441.55	<LOD	11121.36	19894.52	<LOD	9937.08	10271.79	17.15	-21.08	302.69	-4.53	89.03	62.66	14.95	1816.54	136.83	314.09	109.51	114.16	36.09	302.84
VER3-33	VER	Control	610219.46	163212.81	31592.55	<LOD	7560.43	19692.98	203.81	9945.57	4534.50	20.31	8.58	398.04	-4.65	84.74	50.61	17.93	593.23	146.13	848.72	82.50	79.81	48.07	328.72
VER3-34	VER	Control	596867.18	183082.51	33797.94	<LOD	8800.33	19227.21	176.00	10235.31	5076.12	<LOD	21.39	444.24	-4.73	103.51	57.04	15.67	1435.18	138.68	519.64	113.37	76.95	52.04	260.47
VER3-35	VER	Control	646039.01	184356.16	27023.11	<LOD	8258.54	19217.21	147.42	9420.58	1537.52	7.59	5.20	374.75	-7.45	81.71	52.20	17.41	254.40	140.66	26.73	97.91	87.21	51.87	309.30
VER3-36	VER	Control	682597.44	191945.62	29869.77	<LOD	7544.23	20578.46	339.72	9625.94	1992.13	153.30	14.98	386.66	-1.95	70.61	90.73	15.63	3329.56	140.19	-130.78	104.66	94.51	37.32	299.20
VER3-37	VER	Control	634228.53	206076.65	40042.21	<LOD	9235.10	18572.34	<LOD	9485.03	2548.08	<LOD	<LOD	400.34	2.55	85.31	58.19	15.42	1306.31	146.23	8779.27	104.24	522.73	49.77	255.86
VER3-38	VER	Control	645213.12	192232.35	29778.09	<LOD	8460.55	18617.24	95.65	10326.88	725.74	1.25	3.39	353.52	0.09	81.19	38.79	16.83	241.14	138.92	1124.70	118.15	112.25	46.00	306.53
VER3-39	VER	Control	472001.44	124499.05	34012.82	<LOD	8039.82	19283.77	<LOD	10086.46	1104.92	329.87	1.55	542.31	-0.71	105.46	52.23	19.66	3244.50	147.96	6591.72	92.74	483.81	54.73	314.59
VER3-40	VER	Control	596885.58	159474.55	26893.61	<LOD	9159.14	18452.37	251.65	10084.53	1048.99	31.28	-3.48	372.49	-1.09	84.40	60.77	15.14	1629.39	136.80	2708.19	117.32	93.32	34.94	308.25
VER3-41	VER	Control	628404.20	187550.79	28745.36	<LOD	8524.92	20113.20	280.07	9669.47	1489.67	22.29	-7.95	358.77	6.52	82.09	44.00	18.83	3092.60	141.71	2593.74	98.16	126.40	99.45	248.54
VER3-42	VER	Control	619098.33	175178.21	30119.41	<LOD	7433.35	18189.72	<LOD	9411.38	644.05	17.91	-0.30	309.19	0.39	75.57	54.04	15.18	1386.12	136.70	1064.65	95.64	126.44	40.44	282.04
VER3-43	VER	Control	531045.43	157539.44	30713.41	<LOD	8482.31	19958.53	101.68	9575.25	1661.89	1001.98	-3.83	384.65	13.55	88.31	27.63	16.75	6930.69	142.80	17037.54	89.95	243.98	78.53	253.07
VER3-44	VER	Control	621649.39	198862.14	32035.54	<LOD	7375.12	19490.15	95.95	9601.18	1914.27	17.11	0.09	366.13	3.68	90.04	51.55	16.83	1989.66	146.43	2859.82	94.91	200.82	60.23	310.02
VER3-45	VER	Control	593028.21	187700.76	28120.08	<LOD	8633.04	18814.65	139.38	9861.65	2938.81	60.86	-10.72	356.55	2.70	72.71	43.89	19.37	1175.77	136.81	633.92	93.10	134.04	106.40	287.04
VER3-46	VER	Control	594904.13	177496.53	30650.78	<LOD	8579.66	18535.13	<LOD	9188.98	3714.36	297.59	-1.84	334.29	-0.54	75.62	58.77	15.67	3111.57	139.61	8429.54	94.95	449.30	38.85	361.24
VER3-47	VER	Control	611901.98	191054.26	28765.98	<LOD	8810.64	18915.58	165.83	9555.54	6793.29	68.62	-26.09	314.41	8.29	70.53	69.69	15.71	2228.65	139.03	1578.33	98.87	117.96	73.46	313.82
VER3-48	VER	Control	637075.14	196250.10	25977.62	<LOD	8257.21	19177.78	115.23	9756.98	2063.88	243.18	-40.13	203.86	5.33	77.23	39.01	16.60	3609.83	142.23	545.75	108.52	74.90	39.23	328.12
VER3-49	VER	Control	488312.64	134187.70	36407.90	<LOD	7967.55	18216.28	111.52	9356.82	294.81	-8.80	-13.31	366.75	-4.70	113.08	26.12	14.92	194.85	137.72	1167.95	85.39	154.27	137.18	282.92
VER3-50	VER	Control	648536.90	175747.04	27683.76	<LOD	8088.12	19901.33	100.37	10220.95	1016.10	-10.33	0.85	353.89	-2.57	95.54	<LOD	15.56	161.04	141.66	-411.16	87.95	120.80	51.07	376.17
EWR1	VER	Control	638504.57	195188.85	45936.85	<LOD	8841.20	11136.91	<LOD	9803.02	2408.28	42.58	<LOD	346.02	-15.13	77.62	28.50	14.20	1660.13	105.05	1045.15	88.50	118.55	43.63	301.50
EWR2	VER	Control	659765.64	231589.45	35141.90	<LOD	8755.33	14428.16	302.15	11973.33	2600.14	<LOD	<LOD	320.05	-5.84	88.85	39.14	19.34	3117.04	114.75	1231.01	112.90	101.14	60.18	309.13
EWR3	VER	Control	513126.43	138274.79	20341.98	<LOD	5917.67	12103.73	386.57	6772.25	4154.84	3146.09	<LOD	520.84	2.57	44.65	26.97	12.70	20806.92	106.88	25392.67	74.13	71.37	78.05	242.38
EWR4	VER	Control	684014.35	242291.92	34252.88	<LOD	8914.64	13616.30	<LOD	11058.88	1981.16	<LOD	<LOD	370.13	-11.41	82.27	39.42	20.02	3329.04	119.33	2280.94	114.73	105.26	46.00	338.04
EWR5	VER	Control	726361.39	272726.92	34011.55	<LOD	8814.15	12639.59	<LOD	10708.49	2098.11	<LOD	<LOD	347.96	-11.83	84.91	56.98	17.92	1263.17	118.93	899.61	124.78	88.68	44.44	283.71
EWR6	VER	Control	657053.25	203201.66	33358.43	<LOD	8403.37	11716.99	<LOD	10405.94	2018.09	<LOD	<LOD	320.73	-8.66	78.07	59.08	18.41	2869.48	114.70	1244.35	95.67	104.33	63.58	323.93
EWR7	VER	Control	729334.40	228651.47	29413.40	<LOD	8480.82	13730.49	<LOD	11050.90	2303.65	<LOD	<LOD	354.39	-12.83	66.60	39.50	19.23	1110.35	105.46	1313.19	94.13	110.71	37.47	346.72
EWR8	VER	Control	682628.57	224701.81	32910.08	<LOD	7377.66	10730.52	<LOD	11190.42	818.49	<LOD	<LOD	300.90	-16.93	71.86	40.12	16.77	399.40	90.01	119.23	77.00	100.50	44.90	337.51
EWR9	VER	Control	684638.20	252793.49	32055.54	<LOD	8652.79	13905.31	332.42	12049.51	1167.98	<LOD	<LOD	344.66	-2.70	75.19	37.29	20.57	536.29	120.83	248.44	110.23	107.73	56.02	283.33
EWR10	VER	Control	653372.92	183909.35	30543.20	<LOD	7957.14	13167.02	<LOD	10901.75	1535.91	<LOD	<LOD	314.35	-4.47	66.98	44.93	19.00	884.39	106.62	898.98	89.84	98.15	26.25	320.22
EWR11	VER	Control	612372.88	193933.94	35145.37	<LOD	8236.98	11743.41	<LOD	10312.95	1508.96	<LOD	<LOD	336.26	-8.22	64.94	48.18	17.32	888.35	118.02	797.84	101.13	91.12	35.28	317.41
EWR12	VER	Control	644150.88	205098.19	38582.43	<LOD	7238.73	12407.12	<LOD	10528.46	1188.85	234.92	<LOD	310.15	-1.82	74.98	33.88	14.61	1058.32	93.61	825.07	83.13	85.83	39.66	344.95
EWR13	VER	Control	547247.45	181977.28	29091.16	<LOD	7084.74	17778.66	432.99	10835.01	3337.47	1059.99	<LOD	416.07	-14.26	68.78	22.21	20.29	6331.56	99.34	16376.85	82.32	98.04	96.80	269.91
EWR14	VER	Control	613169.26	172763.18	30850.06	<LOD	6837.10	13104.99	<LOD	9877.42	602.83	22.90	<LOD	329.67	-13.57	93.56	36.17	18.76	205.61	116.17	197.04	100.62	89.12	46.65	346.05
EWR15	VER	Control	663507.76	202155.12	28792.44	<LOD	8669.88	12275.00	<LOD	10743.11	1498.89	<LOD	<LOD	199.18	-9.10	80.06	18.84	20.17	3036.51	113.13	904.88	100.19	69.76	39.56	265.77
EWR16	VER	Control	609221.08	173476.15	36954.16	<LOD	8783.99	13616.69	<LOD	11141.14	1304.64	<LOD	<LOD	305.97	-11.10	86.76	25.86	20.71	1131.08	109.82	580.36	97.30	99.54	34.02	304.57
EWR17	VER	Control	625382.97	215815.93	41676.70	<LOD	10607.27	13595.29	<LOD	12048.99	4219.41	225.42	<LOD	376.94	-8.54	99.74	21.86	18.70	5773.88	90.23	2767.97	89.52	110.02	127.55	314.12
EWR18	VER	Control	697457.54	223082.60	37653.12	<LOD	8394.67	12617.10	<LOD	10990.22	1995.13	<LOD	<LOD	326.37	-12.01	70.64	41.90	17.76	1477.37	101.75	1123.02	87.66	90.96	39.29	389.83
EWR19	VER	Control	662388.86	212713.19	31459.86	<LOD	8008.74	13168.43	<LOD	10678.79	1190.44	14.95	<LOD	347.62	-15.35	72.50	23.63	18.40	426.49	108.41	586.80	103.50	87.82	39.53	284.95
EWR20	VER	Control	622186.74	194646.50	36296.06	<LOD	7954.55	12969.60	<LOD	11144.51	2551.05	1490.35	<LOD	387.62	3.34	80.13	20.53	15.91	5163.29	87.27	1601.94	83.45	86.26	46.42	274.34

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
EWR21	VER	Control	648891.67	187666.83	27624.61	<LOD	7707.09	13449.93	<LOD	9970.70	2324.91	<LOD	<LOD	343.18	-10.77	67.23	7.20	14.18	2064.00	90.36	1833.17	76.92	89.52	34.22	303.05
EWR22	VER	Control	696443.76	216882.95	26176.10	<LOD	5847.78	17855.46	<LOD	10202.19	895.21	<LOD	<LOD	387.67	-13.88	59.15	23.02	16.74	862.38	116.57	282.93	97.25	79.74	29.44	300.46
EWR23	VER	Control	487937.69	151563.99	24599.18	<LOD	8704.84	12903.84	437.87	9191.84	2010.23	19.39	<LOD	328.83	-8.73	77.22	16.07	16.22	1110.66	99.39	2003.14	77.76	74.26	51.41	314.55
EWR24	VER	Control	569151.32	157620.54	26804.97	<LOD	7552.49	12251.10	<LOD	9820.87	1079.46	46.27	<LOD	303.25	-5.23	70.04	25.07	17.28	5479.83	100.02	1204.10	84.43	85.66	93.94	339.18
EWR25	VER	Control	613274.22	191769.57	34243.31	<LOD	8378.17	13041.57	<LOD	10314.37	1469.07	<LOD	<LOD	306.52	-11.04	77.34	42.51	17.05	664.05	120.76	700.98	104.59	73.01	46.11	322.19
EWR26	VER	Control	695959.12	205774.12	23450.69	<LOD	7111.75	16873.61	1121.05	9956.95	2471.54	110.53	<LOD	359.43	-0.89	58.96	19.30	16.86	786.88	115.69	2357.44	112.03	123.81	41.74	357.09
EWR27	VER	Control	667363.45	171455.90	25697.57	<LOD	7552.88	12507.58	<LOD	9933.28	781.74	8.57	<LOD	338.27	-15.35	59.06	23.22	15.87	415.32	96.10	396.32	87.41	73.07	26.36	321.19
EWR28	VER	Control	596736.16	179271.67	35419.66	<LOD	7638.08	14351.44	289.69	11284.68	1395.52	<LOD	<LOD	368.00	-3.80	79.81	2.46	18.12	2022.99	87.92	1080.45	78.13	85.03	41.94	290.75
EWR29	VER	Control	657131.94	238228.39	38368.59	<LOD	7758.90	11863.46	<LOD	10188.33	545.81	<LOD	<LOD	332.92	-12.23	78.65	34.41	18.24	1304.83	117.01	364.03	101.27	67.69	41.96	309.39
EWR30	VER	Control	599925.18	199101.43	25833.48	<LOD	8869.63	13415.40	333.71	11647.41	2374.82	185.28	<LOD	358.87	-8.70	66.63	10.02	17.31	2256.80	87.97	3113.04	80.95	69.69	63.95	263.61
EWR31	VER	Control	646061.19	201946.52	30597.76	<LOD	8607.49	13501.20	<LOD	11107.98	1598.63	<LOD	<LOD	327.02	-4.70	71.87	27.28	18.92	1031.73	109.10	1078.27	97.77	79.31	37.89	321.88
EWR32	VER	Control	668730.85	222809.87	38458.76	<LOD	7623.83	14008.29	<LOD	11174.77	1079.74	52.75	<LOD	344.73	-7.56	72.05	33.96	17.52	786.58	111.16	596.06	101.03	113.11	37.07	295.41
EWR33	VER	Control	558964.23	151528.60	31972.24	<LOD	7835.80	11870.00	<LOD	9547.72	1122.49	262.39	<LOD	374.43	-2.51	72.51	9.57	18.77	6320.72	104.72	3518.95	85.31	73.14	46.95	336.67
EWR34	VER	Control	490847.54	152735.82	70690.30	<LOD	8888.14	11630.10	<LOD	8262.61	3965.75	118.04	<LOD	422.29	-6.43	96.08	-0.57	15.40	2507.56	109.28	1953.49	94.59	191.67	55.76	300.60
EWR35	VER	Control	622669.55	200332.51	33743.67	<LOD	6908.27	12109.26	<LOD	10953.51	1368.11	167.14	<LOD	312.45	2.73	70.02	12.71	16.95	4881.56	90.82	1844.55	78.06	63.35	53.46	339.56
EWR36	VER	Control	625324.46	188671.51	31676.01	<LOD	8250.57	11428.39	<LOD	10568.37	1329.75	<LOD	<LOD	265.91	-6.07	68.13	23.92	17.15	842.60	96.60	610.66	85.68	83.05	38.55	254.72
EWR37	VER	Control	612632.04	192707.29	28585.46	<LOD	7430.64	13136.91	299.35	10269.80	1746.08	<LOD	<LOD	383.32	-13.98	77.34	19.66	15.19	4638.03	103.40	1228.54	89.24	61.69	47.14	274.42
EWR38	VER	Control	696698.34	221555.00	36765.57	<LOD	8090.19	12756.85	<LOD	10892.63	1700.18	<LOD	<LOD	339.30	-15.48	86.29	69.61	20.09	847.30	126.13	668.32	110.64	105.93	64.64	330.42
EWR39	VER	Control	699703.63	230326.66	32435.19	<LOD	8309.60	11258.75	<LOD	10588.15	1689.67	<LOD	<LOD	304.88	-14.70	66.72	52.67	18.93	430.21	127.36	473.57	96.59	99.17	47.01	270.18
EWR40	VER	Control	696267.04	211499.22	28327.50	<LOD	6111.84	14694.04	<LOD	9750.06	1042.30	<LOD	<LOD	322.01	-14.55	71.24	16.20	18.24	3431.73	122.95	1296.64	107.62	83.06	40.72	328.41
EWR41	VER	Control	563554.69	161197.55	32227.37	<LOD	7481.94	13044.89	314.61	10592.91	1585.77	2018.15	<LOD	362.01	-16.06	80.61	20.77	16.34	990.74	95.72	831.49	76.14	86.72	47.80	300.39
EWR42	VER	Control	658663.07	208354.61	32553.70	<LOD	8020.58	11147.41	<LOD	9861.56	1677.70	<LOD	<LOD	283.03	-12.32	68.71	36.39	14.86	918.07	109.47	656.52	100.23	64.73	44.17	211.36
EWR43	VER	Control	694947.92	232530.57	37969.46	<LOD	7708.34	12887.20	<LOD	11250.76	1834.02	<LOD	<LOD	317.58	-8.12	81.23	55.85	18.11	1392.20	109.32	1122.79	105.93	105.19	50.87	349.12
EWR44	VER	Control	707977.40	208241.94	28382.49	<LOD	8029.10	13841.06	<LOD	10679.62	2264.08	22.49	<LOD	337.09	-11.53	64.01	36.20	18.83	827.22	104.91	1542.88	92.85	104.32	36.28	315.16
EWR45	VER	Control	738836.26	219548.75	31777.13	<LOD	7951.60	13147.80	<LOD	10717.25	1919.29	<LOD	<LOD	298.56	-7.74	59.50	41.96	18.62	1173.92	115.34	699.30	104.82	110.51	40.39	259.35
EWR46	VER	Control	682874.94	236567.37	34869.51	<LOD	7754.13	13661.09	371.92	11467.33	1759.37	18.68	<LOD	334.55	-0.20	83.65	28.44	20.32	2601.02	106.56	2052.80	101.40	104.96	52.59	360.36
EWR47	VER	Control	558346.86	142158.60	23075.21	<LOD	5045.10	10208.03	305.35	8798.08	3670.23	2156.76	<LOD	468.62	23.87	37.49	20.39	11.57	19777.83	93.27	18652.56	64.08	48.49	59.98	257.01
EWR48	VER	Control	653983.46	177914.26	26037.90	<LOD	6760.49	12579.11	<LOD	9833.07	551.96	<LOD	<LOD	299.91	-13.63	53.13	18.41	15.57	311.70	107.38	-121.27	93.00	88.89	30.64	316.41
EWR49	VER	Control	731569.45	255194.14	36605.19	<LOD	7821.66	12683.17	<LOD	11266.34	701.04	42.07	<LOD	315.38	-7.90	82.74	30.64	18.07	2252.90	109.12	616.12	97.42	122.41	33.71	301.49
EWR50	VER	Control	670363.01	234552.69	36887.46	<LOD	7134.54	11851.06	<LOD	9991.48	554.71	<LOD	<LOD	293.90	-7.95	65.56	38.03	16.79	1267.33	112.63	280.47	99.88	82.77	45.94	293.88
EDM1-1	VER	Control	567977.96	165337.06	41830.01	<LOD	8176.08	18975.90	138.33	9839.57	6076.78	27.30	-6.17	330.75	-5.83	99.45	56.51	13.73	3040.87	130.15	3315.30	77.63	128.16	399.22	301.03
EDM1-2	VER	Control	537637.13	162589.07	64196.01	<LOD	8066.62	17126.82	751.56	8178.78	1895.60	250.51	-5.00	299.44	0.35	64.23	66.93	14.87	3984.58	128.30	5895.40	78.46	130.09	57.64	330.35
EDM1-3	VER	Control	665322.03	206203.51	29557.03	<LOD	8218.47	19165.42	79.58	9712.20	668.31	3.61	6.97	335.47	-1.68	67.75	73.40	16.25	252.66	141.99	489.32	107.06	94.40	34.42	287.68
EDM1-4	VER	Control	705734.88	214716.76	33957.78	<LOD	9053.08	19101.18	89.91	10198.76	1159.02	2.31	5.33	361.38	-2.29	64.79	92.16	19.32	271.09	148.83	545.53	120.42	100.52	50.41	311.56
EDM1-5	VER	Control	723740.49	219740.57	44002.00	<LOD	8087.35	18805.17	164.72	9982.27	543.20	<LOD	-1.81	300.57	-1.53	79.32	81.20	19.00	960.14	144.95	-163.68	97.21	103.57	64.52	263.12
EDM1-6	VER	Control	634258.16	192707.03	37070.60	<LOD	7937.07	18540.03	<LOD	10313.60	2368.06	51.12	-8.05	388.44	-5.39	93.01	77.23	14.84	746.17	130.85	1364.51	108.27	107.50	71.17	274.36
EDM1-7	VER	Control	548532.47	145803.80	21264.69	<LOD	8942.79	24136.36	412.61	6850.66	2446.45	3608.81	43.90	563.41	21.53	53.26	69.28	10.29	21905.90	137.87	29512.48	80.69	37.28	254.42	249.83
EDM1-8	VER	Control	668568.30	210157.41	35294.17	<LOD	7639.34	18652.71	<LOD	9141.10	582.06	<LOD	-23.43	282.96	1.06	66.00	63.73	15.03	4410.62	142.18	1008.42	107.32	96.78	63.66	293.90
EDM1-9	VER	Control	515256.73	148214.48	31469.71	<LOD	7942.30	17337.04	<LOD	9371.60	2018.25	13.70	12.83	410.46	-3.40	92.00	62.91	13.90	1120.98	124.60	1183.84	87.70	90.76	50.25	252.63
EDM1-10	VER	Control	567639.77	163366.80	38074.51	<LOD	7911.18	18092.09	91.52	9679.71	2199.71	85.31	1.65	305.99	2.96	74.89	62.93	14.57	2772.53	119.82	3422.92	79.70	108.72	243.43	275.87
EDM1-11	VER	Control	617089.28	172422.55	37388.04	<LOD	7352.07	20749.02	116.30	10341.66	2844.97	23.08	18.08	390.23	-0.55	111.62	17.64	15.28	1316.52	137.45	1973.51	80.59	132.07	76.73	362.45
EDM1-12	VER	Control	634438.98	208045.65	35383.26	<LOD	8658.26	19126.92	100.74	9444.59	499.71	50.13	13.20	381.83	0.53	104.95	44.41	15.62	1231.91	143.26	1501.63	106.44	148.69	48.00	277.96
EDM1-13	VER	Control	689907.51	223152.46	30824.69	<LOD	8636.56	19605.95	<LOD	9638.85	1012.35	50.13	-3.87	334.77	-4.39	87.67	37.81	16.67	322.05	144.24	329.13	106.56	120.36	45.33	297.49
EDM1-14	VER	Control	466216.05	124106.54	38605.87	<LOD	7727.24	18910.39	245.55	8567.85	2138.94	208.05	2.81	313.01	1.04	105.55	35.44	13.28	3306.62	136.22	4262.85	98.28	105.62	45.16	327.85
EDM1-15	VER	Control	602454.85	186723.01	36194.09	<LOD	7213.45	19557.64	126.94	9462.39	3007.94	57.15	7.90	391.46	-3.63	89.69	40.57	14.95	1533.91	133.93	832.36	97.23	121.06	45.27	285.12
EDM1-16	VER	Control	641571.19	181834.95	35881.94	<LOD	7630.40	18798.44	93.30	9894.15	2612.78	4.72	-1.90	314.79	-2.17	75.12	38.17	17.15	1414.28	137.08	1633.51	107.68	94.97	60.74	257.49
EDM1-17	VER	Control	682175.22	210159.30	40648.90	<LOD	7696.77	19452.20	160.14	9903.61	667.79	4.99	-3.82	356.38	-0.28	104.10	43.02	17.02	136.48	146.47	146.61	110.57	154.94	46.98	291.72
EDM1-18	VER	Control	493938.13	144598.91	32116.86	<LOD	8495.89	23361.81	261.90	6287.75	2827.97	2284.81	34.15	440.83	14.58	69.07	18.93	9.45	16019.57	134.61	30157.92	85.07	122.09	117.21	271.92
EDM1-19	VER	Control	610808.76	173464.02	36051.52	<LOD	7331.32	20547.14	100.28	9193.62	873.33	17.00	3.27	335.44	0.58	97.62	34.58	14.84	919.35	137.15	2684.84	97.36	126.74	58.22	321.07
EDM1-20	VER	Control	645376.01	210940.33	41885.87	<LOD	7712.83	20132.00	<LOD	9804.13	931.67	15.10	-26.85	290.65	-6.18	97.54	42.83	15.69	292.70	145.89	383.76	125.51	142.74	52.65	279.78
EDM1-21	VER	Control	642823.41	196271.25	37088.17	<LOD	8431.63	20051.68	100.12	8979.09	2647.22	116.63	-3.96	329.03	-3.99	86.36	43.85	18.13	928.65	139.71	4155.30	92.72	152.78	-16.19	343.27
EDM1-22	VER	Control	658990.86	203202.85	28246.14	<LOD	7448.75	18783.65	35.86	9858.33	1312.02	2096.79	16.71	226.40	-1.61	77.03	23.96	15.91	13881.54	127.24	2519.69	82.72	71.63	37.34	273.62
EDM1-23	VER	Control	567169.72	171072.95	33478.95	<LOD	7838.34	18072.93	26.59	9147.77	273.50	111.84	4.79	376.54	-1.02	83.67	54.37	16.32	1322.17	134.05	1691.90	93.93	124.69	-37.20	290.35
EDM1-24	VER	Control	643209.44	222780.34	41842.72	<LOD	7789.84	20409.00	78.18	10805.53	1716.61	-1.44	4.61	396.98	-3.84	116.24	31.24	16.71	723.28	134.06	511.88	100.63	128.72	-6.34	306.12
EDM1-25	VER	Control	625726.34	180379.81	34964.89	<LOD	7553.69	18469.55	123.07	9694.06	1658.59	<LOD	-1.90	275.76	0.22	76.68	28.67	15.88	3699.02	124.47	3433.36	80.79	93.28	-27.37	277.19

Sample ID	Site Description	Sample Group	$*SiO_2$	$*Al_2O_3$	*FeO	*Mg	*CaO	$*K_2O$	*MnO	$*TiO_2$	$*P_2O_5$	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
EDM1-26	VER	Control	680234.61	204728.58	30948.63	<LOD	7650.35	19128.35	<LOD	9347.33	1062.83	35.26	9.17	433.96	-8.14	83.35	47.05	15.64	453.49	141.73	1995.57	91.05	113.56	-26.95	356.78
EDM1-27	VER	Control	667464.34	209180.45	39884.69	<LOD	8397.18	18447.12	470.28	10285.97	921.61	4180.58	18.45	221.71	-0.98	99.62	39.27	14.58	27815.24	125.80	2758.01	88.81	118.84	58.23	321.06
EDM1-28	VER	Control	529585.77	174524.10	39583.40	<LOD	7750.20	18842.58	185.72	9679.38	2000.29	1493.93	-7.39	370.06	1.84	85.67	38.89	12.85	2606.20	123.36	1744.23	83.25	100.52	89.72	282.85
EDM1-29	VER	Control	540722.43	169357.42	33045.02	<LOD	8277.60	19101.32	222.25	9345.09	3317.88	1074.36	-0.28	368.00	-2.97	88.11	42.89	15.14	9032.18	130.68	20350.81	89.59	135.52	-5.47	295.02
EDM1-30	VER	Control	579119.05	172667.75	42309.87	<LOD	8529.39	20200.03	165.51	9562.00	2719.11	880.95	22.50	375.54	9.66	82.41	57.31	15.94	8088.79	131.18	8437.52	84.87	98.37	430.12	284.62
EDM1-31	VER	Control	518906.88	151593.47	100842.36	<LOD	8683.38	18541.21	286.41	9093.58	2674.17	119.74	21.40	443.56	-1.58	190.12	39.49	14.98	5059.55	121.86	3741.05	90.47	139.84	107.93	302.72
EDM1-32	VER	Control	613095.99	175650.73	30506.87	<LOD	8292.35	20287.37	37.86	7989.15	626.40	12.90	-5.79	319.81	-4.84	103.28	28.84	12.78	1262.98	137.37	2109.87	87.05	74.24	61.15	330.14
EDM1-33	VER	Control	679057.74	216821.15	30940.23	<LOD	7993.84	18122.83	71.57	9430.24	558.53	9.80	4.02	302.55	-1.55	88.37	53.85	17.73	412.26	139.99	1153.11	110.83	98.73	66.03	335.74
EDM1-34	VER	Control	639907.89	202728.81	39338.49	<LOD	7793.43	20322.14	171.36	9975.01	1536.58	<LOD	-3.53	369.15	4.94	145.24	41.29	17.11	3116.33	133.17	2438.92	98.20	122.54	90.25	360.08
EDM1-35	VER	Control	529653.29	191769.44	32788.12	<LOD	8824.17	20574.46	294.00	7738.07	2224.96	255.58	11.70	422.93	4.92	130.52	<LOD	9.63	5992.71	132.50	8500.25	61.55	118.06	99.61	296.94
EDM1-36	VER	Control	589497.73	174048.46	29480.03	<LOD	7723.19	18507.24	150.24	8551.01	1998.53	6.79	1.91	311.95	2.99	104.13	58.50	15.27	3057.77	118.74	3388.28	71.19	75.43	80.61	345.25
EDM1-37	VER	Control	576961.40	166847.09	57924.91	<LOD	8897.40	17969.34	456.92	8534.27	7363.99	20.07	13.44	424.82	2.31	127.18	40.13	13.40	3590.70	121.38	3220.15	81.55	126.83	120.54	340.65
EDM1-38	VER	Control	534538.97	154686.62	37003.37	<LOD	9611.57	19027.00	208.83	7451.41	2114.52	1212.35	21.31	394.58	4.68	93.55	35.23	10.68	16778.48	133.96	15450.45	82.86	82.78	66.09	278.31
EDM1-39	VER	Control	587139.66	187590.30	42044.73	<LOD	7758.83	18823.96	225.59	10020.69	4014.67	215.18	1.17	383.10	2.64	113.27	34.63	15.42	2016.19	132.94	2320.10	85.17	110.49	219.09	315.10
EDM1-40	VER	Control	659134.03	212414.40	38145.93	<LOD	8761.87	19222.81	120.41	10663.76	1156.98	52.39	-15.52	274.93	4.78	104.99	47.35	18.24	971.24	130.78	3097.01	105.90	112.04	61.22	339.66
EDM1-41	VER	Control	631251.77	184726.09	36591.74	<LOD	7782.73	19754.83	266.34	9516.36	1952.12	71.98	-21.63	208.39	7.52	109.36	37.92	16.08	5994.57	131.64	4269.78	88.71	97.29	44.60	373.98
EDM1-42	VER	Control	529780.93	167550.55	50384.86	<LOD	8067.70	17659.27	1103.61	8805.33	1837.69	12.32	-5.01	359.70	-7.59	132.60	35.24	14.18	797.85	121.95	567.63	81.67	85.24	84.86	277.23
EDM1-43	VER	Control	683618.40	215139.13	39880.26	<LOD	7491.75	20311.61	100.24	10526.07	1010.63	<LOD	17.27	360.04	4.68	136.41	28.87	16.92	1941.01	135.21	1630.12	93.65	116.82	51.35	297.70
EDM1-44	VER	Control	677703.96	195923.82	29411.16	<LOD	8989.28	20234.18	<LOD	9968.05	1370.56	32.00	22.15	358.08	-3.87	98.95	56.08	18.64	442.33	145.97	1233.33	124.27	106.01	42.58	303.42
EDM1-45	VER	Control	645185.52	211400.69	29671.40	<LOD	10074.83	20672.39	58.83	8781.98	965.12	791.41	0.85	342.74	8.24	91.23	64.46	15.87	5950.04	144.20	3818.50	101.12	102.94	38.86	286.80
EDM1-46	VER	Control	559938.67	169124.03	51263.67	<LOD	7831.17	18970.01	192.51	9562.30	987.87	69.49	22.09	347.69	5.48	136.34	43.82	16.49	3967.53	130.27	4253.12	97.02	98.38	101.86	306.67
EDM1-47	VER	Control	578781.54	177552.17	39152.15	<LOD	9733.97	18460.05	73.96	8760.76	3049.39	<LOD	7.67	364.00	-1.39	123.81	42.02	15.79	1214.83	131.29	3227.14	98.09	80.51	49.76	273.84
EDM1-48	VER	Control	643780.68	206909.14	30683.26	<LOD	8686.89	19332.95	<LOD	9521.84	204.71	9.41	-0.40	340.65	-3.85	115.25	66.26	16.90	373.64	142.03	2709.10	103.20	109.05	32.40	281.27
EDM1-49	VER	Control	620764.12	192123.53	31705.97	<LOD	7797.19	18794.36	56.83	9179.54	692.76	18.57	19.46	371.47	-3.75	118.00	50.93	14.82	640.70	134.12	1946.92	95.11	77.30	35.70	280.91
EDM1-50	VER	Control	644546.15	181429.92	23924.11	<LOD	8121.79	17335.13	308.79	9107.91	921.97	4619.94	73.82	338.02	8.89	75.50	42.54	16.46	37063.70	127.83	1853.12	74.08	73.25	44.80	362.32
HAR1-1	VER	Control	648035.96	192512.32	27951.84	<LOD	10622.29	18095.11	41.47	9558.28	1471.82	1.85	-3.69	334.92	-5.88	105.82	72.00	19.43	137.22	136.45	621.51	105.32	110.18	53.31	279.24
HAR1-2	VER	Control	609632.16	181811.18	27248.17	<LOD	7438.02	17304.92	<LOD	9096.97	3395.03	89.55	-3.68	335.17	-3.59	76.12	50.57	14.24	1198.14	142.20	5054.69	86.81	247.74	39.28	269.52
HAR1-3	VER	Control	415455.37	110744.92	15301.52	<LOD	10888.87	16302.31	162.80	5332.52	6462.80	4429.88	13.35	426.53	18.23	23.25	53.50	10.90	19575.33	133.08	59436.66	92.36	429.81	50.91	241.13
HAR1-4	VER	Control	522082.14	148179.32	28564.00	<LOD	9670.41	16653.33	39.81	8187.46	5511.06	1097.87	0.81	328.13	-2.68	64.91	42.58	10.57	6064.61	133.15	20975.02	85.90	151.62	42.15	246.16
HAR1-5	VER	Control	577373.66	161153.33	28060.68	<LOD	10541.35	17183.80	210.94	8833.79	4552.81	5.42	0.39	369.24	-6.83	64.09	37.64	13.18	604.90	137.53	3051.15	93.49	92.80	49.18	262.45
HAR1-6	VER	Control	545708.02	160348.88	31452.02	<LOD	9547.91	17484.40	49.29	8680.07	3459.62	30.60	-7.44	364.92	-1.79	81.41	37.84	14.03	3474.37	138.22	5811.77	98.45	120.10	49.96	274.67
HAR1-7	VER	Control	614788.66	203557.57	28166.17	<LOD	11679.49	18426.64	64.90	9059.54	3737.39	62.68	-3.41	353.53	-1.68	79.65	50.00	15.75	2766.83	141.88	9883.61	95.49	381.74	37.33	308.74
HAR1-8	VER	Control	663801.19	201793.78	28427.04	<LOD	9671.72	17873.04	45.06	10393.24	2648.28	69.93	-0.33	368.98	-1.69	79.36	62.24	17.91	1081.02	142.55	1927.34	113.19	196.00	42.38	290.11
HAR1-9	VER	Control	591022.48	173547.40	25705.48	<LOD	9640.00	17679.89	31.96	8516.66	2963.92	553.25	-23.05	315.64	10.23	59.42	50.86	13.73	5161.00	138.05	6488.59	85.25	124.37	39.09	287.62
HAR1-10	VER	Control	562526.70	152626.82	15573.17	<LOD	9715.07	16745.92	338.18	7008.76	3723.23	7080.28	82.69	480.99	-2.30	46.21	60.63	16.27	42530.72	133.91	39037.44	75.39	40.57	71.27	258.86
HAR1-11	VER	Control	566077.53	163335.21	24516.66	<LOD	14826.29	17141.89	348.85	9437.13	4856.88	4271.77	7.48	385.13	3.89	79.22	68.10	16.73	966.53	137.86	3690.71	112.56	63.88	55.36	283.57
HAR1-12	VER	Control	587255.27	181029.87	28441.59	<LOD	10349.32	19743.90	218.93	9376.24	3432.70	1074.92	3.09	378.35	9.78	78.14	34.07	17.02	9872.79	141.62	13558.81	94.89	65.15	71.94	316.36
HAR1-13	VER	Control	546851.15	157340.15	24595.25	<LOD	8881.87	17390.79	87.65	8442.87	5685.69	894.66	-29.65	253.19	4.69	53.10	46.95	14.27	7777.08	136.49	7984.63	85.03	144.33	52.33	271.97
HAR1-14	VER	Control	638242.60	193782.36	27455.93	<LOD	7584.01	17651.95	83.74	9526.44	1520.77	54.76	-8.52	312.38	-0.78	57.85	47.90	16.49	461.99	141.05	2948.43	87.11	61.33	38.49	299.94
HAR1-15	VER	Control	607508.85	171332.91	24781.75	<LOD	9554.55	17795.93	137.47	8686.61	3102.05	149.76	-25.51	226.63	5.27	48.48	37.68	14.78	8697.08	134.74	10450.61	78.33	164.36	34.26	311.31
HAR1-16	VER	Control	633579.37	185205.59	23372.97	<LOD	9248.23	18463.96	124.31	8685.38	5097.39	515.35	12.37	308.08	3.16	49.90	52.73	15.08	4189.01	137.41	8710.61	89.30	69.57	30.92	296.71
HAR1-17	VER	Control	557478.49	159314.57	19015.31	<LOD	12271.31	18142.67	316.79	9440.08	6764.21	12.34	-13.54	310.36	4.33	63.54	29.74	16.54	3410.58	131.71	5575.43	84.01	111.60	138.97	298.74
HAR1-18	VER	Control	617948.76	172741.11	34868.22	<LOD	12637.78	22499.73	83.26	9006.32	4634.91	7.40	-14.88	308.31	0.76	86.34	45.33	15.48	1010.20	133.29	7726.11	99.42	76.25	73.33	313.57
HAR1-19	VER	Control	587009.25	166593.99	19681.44	<LOD	10491.22	17731.65	185.54	8871.57	4769.90	355.34	-34.97	277.01	3.22	54.16	28.73	16.77	5365.70	133.85	3917.78	78.37	96.58	95.85	283.42
HAR1-20	VER	Control	458754.73	143947.79	23996.76	<LOD	8909.21	16309.66	947.41	7126.26	15547.11	14771.40	508.77	418.62	9.63	64.54	109.09	14.01	158529.77	141.63	53270.61	83.86	579.47	59.59	257.55
HAR1-21	VER	Control	511764.37	144583.21	23543.51	<LOD	10685.49	17777.19	219.72	7150.19	5952.27	2759.09	44.05	400.64	0.89	52.02	46.92	9.91	18713.34	122.43	20877.23	71.91	48.73	91.41	207.64
HAR1-22	VER	Control	629029.65	179349.43	31020.32	<LOD	8583.48	18089.15	115.95	9214.80	1679.10	-5.12	1.87	319.49	0.36	88.36	53.11	14.83	241.02	138.47	290.20	98.27	101.17	42.70	264.03
HAR1-23	VER	Control	627665.94	209521.58	35804.78	<LOD	13496.99	18989.96	227.09	9635.46	4168.15	193.59	12.81	374.91	5.35	85.21	73.47	16.89	2428.64	153.13	10126.14	110.45	381.42	45.45	302.39
HAR1-24	VER	Control	531048.23	173205.36	29955.13	<LOD	10463.38	18547.68	88.95	7674.84	4289.02	1850.90	-14.03	280.61	-2.58	68.78	60.81	13.16	11826.66	139.52	21421.90	88.97	136.12	73.06	280.55
HAR1-25	VER	Control	650476.82	173888.55	26444.97	<LOD	9291.34	19037.33	<LOD	10206.66	2784.80	61.91	9.01	326.82	-0.63	68.53	47.61	17.78	1184.32	139.45	4149.56	115.11	141.71	36.77	297.28
HAR1-26	VER	Control	552123.07	162351.78	28198.16	<LOD	13341.91	17992.91	164.16	8444.34	7395.38	60.66	1.49	353.35	5.35	71.49	65.52	14.96	3372.78	140.34	6348.46	88.18	104.77	44.70	304.01
HAR1-27	VER	Control	607847.66	195706.59	34583.26	<LOD	12033.72	18458.55	493.15	9604.58	10044.73	119.28	21.61	467.05	1.79	88.60	74.38	16.07	1096.73	143.28	2999.60	109.53	87.79	277.58	249.00
HAR1-28	VER	Control	625475.86	206339.36	36801.79	<LOD	11529.36	18075.75	242.68	9343.57	6068.24	37.73	17.22	397.31	3.15	115.30	48.00	15.85	807.08	139.52	2786.35	110.81	108.47	207.52	273.22
HAR1-29	VER	Control	653468.51	175854.31	25468.34	<LOD	10032.38	19849.58	<LOD	9726.28	1938.08	<LOD	1.10	335.07	0.85	55.06	64.59	18.32	977.07	144.26	976.48	107.77	103.12	66.95	269.09
HAR1-30	VER	Control	638089.06	195765.03	27939.01	<LOD	11861.24	18532.65	<LOD	10377.60	6315.23	<LOD	-24.97	242.09	9.10	79.83	76.22	18.38	4299.50	140.39	4533.28	102.54	119.56	63.85	282.95

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
HAR1-31	VER	Control	567608.83	153622.00	29394.56	<LOD	10759.23	17151.91	278.06	8787.71	5971.49	5078.51	66.46	312.83	-4.34	89.39	64.31	14.12	33282.17	134.32	7909.17	82.25	100.76	59.20	281.93
HAR1-32	VER	Control	473144.96	134590.59	20865.71	<LOD	1638.29	14757.47	234.10	6226.71	5340.42	2882.50	35.11	466.64	27.49	30.18	57.51	9.98	18920.40	130.74	36376.49	78.90	61.59	63.01	205.56
HAR1-33	VER	Control	557262.56	193594.17	29985.46	<LOD	4462.03	19099.84	79.01	8708.63	5560.64	200.40	-1.67	366.56	7.88	90.75	59.04	16.61	8198.09	143.70	14558.45	97.15	174.28	69.69	261.11
HAR1-34	VER	Control	655492.47	189884.84	29203.02	<LOD	3366.28	18298.59	83.08	9188.15	2908.47	452.66	-21.20	303.44	0.81	84.55	51.78	19.22	2750.70	142.52	1614.02	96.07	84.91	72.72	266.10
HAR1-35	VER	Control	599553.32	173675.55	28232.36	<LOD	2216.20	17729.47	<LOD	9088.91	3191.25	1.14	-8.31	329.03	-9.65	84.09	57.76	14.70	512.59	144.34	2252.90	104.49	70.98	53.30	267.77
HAR1-36	VER	Control	621306.92	161498.64	27354.57	<LOD	1533.98	18552.80	<LOD	8589.79	6163.65	<LOD	-5.78	260.96	-2.84	69.73	44.98	13.34	3181.07	134.16	2569.34	81.49	69.25	79.55	270.08
HAR1-37	VER	Control	549958.68	178270.28	27442.35	<LOD	4104.82	18198.04	112.16	8875.42	5549.80	2324.22	7.12	352.28	-4.06	86.23	66.28	15.29	1005.37	143.39	33487.79	110.36	68.58	73.76	299.51
HAR1-38	VER	Control	614012.09	190364.60	32161.69	<LOD	1255.26	18482.13	85.26	9221.24	1444.03	12.42	-7.39	320.61	-4.43	97.63	43.57	13.35	865.68	136.79	2021.37	107.31	88.90	62.12	282.12
HAR1-39	VER	Control	641890.84	181231.73	28928.93	<LOD	2605.63	17206.35	49.54	9221.72	5917.03	3071.05	-7.43	267.60	6.90	51.56	47.26	15.08	3608.87	142.79	5390.30	88.49	137.29	46.11	269.60
HAR1-40	VER	Control	581359.04	154652.12	26936.08	<LOD	3645.35	18438.81	58.26	8603.72	8211.40	192.58	-28.68	291.93	-1.46	84.51	54.90	14.52	4560.85	136.92	15153.77	95.83	98.35	84.42	320.46
HAR1-41	VER	Control	518227.94	128976.16	65748.94	<LOD	14099.99	18898.09	3454.46	7355.87	52633.16	23.12	41.59	628.86	-10.27	118.64	<LOD	16.46	184.61	135.34	414.39	102.42	130.37	157.22	257.43
HAR1-42	VER	Control	680456.03	196815.95	30575.40	<LOD	9397.47	20036.30	<LOD	9477.84	2192.26	62.35	-10.72	343.80	-2.81	83.10	60.62	16.48	941.93	141.79	4939.68	92.17	104.92	56.73	269.42
HAR1-43	VER	Control	566018.87	156436.20	27319.24	<LOD	10342.40	19320.13	19.02	9395.63	6557.32	239.92	-0.03	335.82	2.43	100.73	39.02	16.48	4348.39	129.85	7565.22	91.66	126.31	176.58	301.60
HAR1-44	VER	Control	639611.09	197961.02	26278.78	<LOD	9545.86	17790.98	27.04	8889.70	391.33	71.67	-3.14	336.70	3.52	79.10	52.42	19.41	2650.95	134.82	1374.77	90.87	112.06	40.99	271.67
HAR1-45	VER	Control	626331.95	179050.26	30954.66	<LOD	8438.93	18904.65	29.32	9300.53	2848.75	29.44	0.05	365.63	-4.24	97.38	61.58	19.86	610.38	138.35	2252.32	91.42	126.96	51.13	275.57
HAR1-46	VER	Control	637911.04	175311.89	26634.39	<LOD	8099.94	17459.06	338.27	8891.90	-379.80	7681.81	138.05	212.03	-1.63	92.01	55.39	16.88	53994.65	143.39	1684.13	81.70	85.82	38.23	258.74
HAR1-47	VER	Control	612807.79	173432.54	31339.63	<LOD	9570.12	18998.68	5.68	9133.31	3862.11	152.29	7.49	380.81	-4.74	84.77	70.86	17.26	1136.38	141.65	4975.92	93.44	207.94	37.30	275.21
HAR1-48	VER	Control	673916.92	223388.70	36831.25	<LOD	11084.99	20123.34	77.46	9810.76	3353.30	36.27	13.13	388.10	-3.48	105.38	70.17	18.62	491.94	145.91	2861.94	121.91	173.94	72.53	285.72
HAR1-49	VER	Control	635451.07	187265.05	31786.75	<LOD	10588.07	19714.78	8.08	9689.54	5286.06	12.41	-0.20	373.78	-8.25	95.64	63.76	18.13	328.76	142.93	1936.85	96.81	104.11	42.73	303.63
HAR1-50	VER	Control	608577.21	173774.80	31907.14	<LOD	11593.56	19985.45	138.36	9237.41	3882.80	<LOD	8.50	407.53	-0.37	93.61	51.44	16.57	1150.40	140.40	3908.19	103.05	108.04	59.48	247.41
HOR1-1	VER	Control	606612.43	162348.00	39294.59	<LOD	8710.10	24920.07	243.11	7935.13	3244.44	74.28	27.32	446.43	-10.55	72.74	35.74	12.51	4556.20	143.73	5597.37	95.72	71.99	36.35	264.79
HOR1-2	VER	Control	610931.38	158346.71	40536.83	<LOD	8762.06	23676.79	284.54	8046.08	2125.52	50.24	-5.66	456.94	-4.78	80.90	74.33	12.14	551.85	145.29	1407.49	116.35	69.60	62.44	317.06
HOR1-3	VER	Control	493954.39	144560.15	32142.42	<LOD	9734.46	21919.35	243.57	6561.30	5631.61	1798.60	65.82	651.57	-4.98	68.57	41.06	6.42	15645.27	137.99	31013.84	81.73	186.61	105.18	206.62
HOR1-4	VER	Control	677108.61	220752.95	37709.27	<LOD	8028.08	25074.23	321.36	7899.99	1850.00	4241.09	35.80	545.28	-1.41	92.34	34.14	11.06	31447.39	146.26	10803.76	98.37	84.02	44.33	312.89
HOR1-6	VER	Control	552900.78	156068.35	37803.90	<LOD	9309.32	23250.62	472.41	7687.37	1355.14	3713.91	52.60	489.02	-8.59	82.71	47.33	11.20	29648.83	145.06	15119.24	89.02	64.84	37.22	239.18
HOR1-7	VER	Control	620723.15	175121.18	53837.05	<LOD	8366.12	26112.30	115.84	8129.26	1494.78	70.42	17.35	503.97	-7.24	122.70	38.49	12.65	599.36	152.22	5803.59	105.07	108.08	44.47	256.72
HOR1-8	VER	Control	625444.18	184059.76	45501.29	<LOD	12292.69	27858.88	95.04	8918.72	2776.99	100.71	7.09	449.45	-6.21	96.83	49.61	14.34	658.50	154.79	13522.70	107.92	106.36	54.01	269.12
HOR1-9	VER	Control	683807.58	158135.42	38755.84	<LOD	10221.86	25218.69	146.37	7105.22	1977.97	43.53	8.44	442.39	-5.59	68.07	53.42	13.59	699.35	152.24	2585.11	105.41	153.87	50.96	331.72
HOR1-10	VER	Control	747397.19	203869.20	38433.03	<LOD	10012.58	27746.16	372.16	8985.23	-80.31	1724.74	-31.13	329.84	-5.01	68.65	76.56	13.88	217.92	147.27	29481.56	101.14	83.25	42.56	273.10
HOR1-11	VER	Control	599643.38	170246.90	42301.75	<LOD	8248.15	23440.70	129.69	7922.96	538.00	1038.63	19.78	501.03	0.34	66.58	45.08	13.01	5130.36	148.35	22824.91	97.92	81.76	48.70	299.95
HOR1-12	VER	Control	643850.38	188219.03	36183.20	<LOD	10177.23	25801.82	34.37	8993.83	6080.40	246.81	7.65	432.04	-5.26	74.82	28.43	14.77	1996.31	149.87	10429.60	100.41	85.25	57.39	287.86
HOR1-13	VER	Control	664268.71	191211.26	37800.67	<LOD	13708.54	25354.57	17.69	8599.68	1253.93	23.75	-9.36	385.30	-7.25	77.73	49.97	13.39	209.89	146.98	680.47	98.77	72.81	46.42	256.86
HOR1-14	VER	Control	637887.10	185263.80	32875.48	<LOD	15446.88	25372.61	106.82	7437.12	4875.33	104.46	11.79	356.69	3.99	70.43	30.37	11.18	12000.89	143.50	15876.66	99.03	75.53	75.29	377.22
HOR1-15	VER	Control	643104.93	183363.36	41891.50	<LOD	9033.26	27178.07	57.50	8897.78	4774.73	44.20	-15.80	403.47	-2.39	83.51	18.85	13.64	2039.36	143.02	4124.92	89.57	168.32	95.43	276.19
HOR1-16	VER	Control	653947.66	184892.18	45331.47	<LOD	9668.53	26519.25	43.31	8876.09	7257.78	127.95	10.63	439.58	-6.00	101.41	27.50	15.43	1259.78	140.94	4015.64	95.06	140.95	66.74	322.27
HOR1-17	VER	Control	632921.17	182534.01	46161.13	<LOD	10322.75	35613.78	250.84	8572.68	11016.43	67.49	7.50	467.26	-7.56	78.53	36.62	15.00	821.21	151.73	5264.18	77.30	206.82	72.77	304.83
HOR1-18	VER	Control	599954.09	171454.55	25313.16	<LOD	7703.62	26160.86	<LOD	8704.88	2645.07	2046.69	-42.99	383.41	10.39	81.88	<LOD	14.20	11171.90	144.58	4055.38	135.08	108.32	161.74	314.08
HOR1-19	VER	Control	671396.67	202668.50	42921.00	<LOD	9344.83	23802.23	40.05	8960.60	2674.36	10.38	0.10	430.48	-4.67	87.46	50.03	12.83	735.70	145.46	2231.46	92.58	69.44	51.85	314.54
HOR1-20	VER	Control	641451.92	153785.76	45066.56	<LOD	10022.88	29180.50	159.44	9666.65	6411.61	57.73	4.55	457.43	-2.45	104.37	25.16	14.40	941.53	152.50	1064.13	108.53	128.15	113.27	310.77
HOR1-21	VER	Control	611088.59	147535.92	43605.70	<LOD	8622.18	25896.60	181.39	8911.81	#VALUE!	160.14	-4.34	397.56	-5.87	79.51	15.70	14.88	3152.52	149.81	1785.25	96.64	83.91	56.95	291.07
HOR1-22	VER	Control	647114.41	147576.28	26774.69	<LOD	9326.93	25200.23	<LOD	9420.09	6122.82	<LOD	-42.14	220.35	-7.08	44.91	12.69	16.66	1709.09	139.80	991.89	100.27	48.54	46.26	335.31
HOR1-23	VER	Control	637585.83	153658.03	25232.82	<LOD	8811.47	26893.09	232.68	10704.50	#VALUE!	23.20	-31.02	335.91	-6.81	71.13	34.57	18.54	4498.66	152.87	1747.00	154.22	60.92	81.67	316.14
HOR1-24	VER	Control	647552.19	154907.78	37876.00	<LOD	9388.52	27199.25	<LOD	9763.64	6531.79	118.87	-8.43	451.37	0.43	90.83	13.90	14.93	2904.52	141.05	1241.80	96.18	112.45	207.61	334.61
HOR1-25	VER	Control	648016.71	155630.89	59924.94	<LOD	8421.01	26329.05	165.28	9621.78	#VALUE!	67.33	4.91	429.57	-2.46	108.84	26.70	15.82	617.58	151.57	1005.45	102.77	140.07	51.43	270.38
HOR1-26	VER	Control	672404.59	159901.52	41414.21	<LOD	8506.88	26771.16	<LOD	9079.91	#VALUE!	61.96	-5.81	336.37	1.86	71.69	23.03	14.04	5210.37	144.98	2385.83	93.16	103.07	42.16	293.17
HOR1-27	VER	Control	668774.02	155934.95	26364.79	<LOD	9367.69	27592.74	137.10	9584.07	#VALUE!	<LOD	-13.58	416.24	5.90	74.28	294.63	17.19	11872.71	144.40	3327.05	242.20	93.52	114.22	277.05
HOR1-28	VER	Control	641460.31	152409.66	42692.29	<LOD	9070.16	27604.63	<LOD	9145.77	#VALUE!	169.06	-39.24	308.49	-2.50	88.98	<LOD	15.26	4049.82	150.89	2612.10	103.70	127.70	49.91	283.72
HOR1-29	VER	Control	619324.87	147228.88	31446.72	<LOD	9538.32	24935.01	173.84	8981.97	#VALUE!	786.68	-6.35	499.60	-1.64	82.73	62.68	16.21	11368.03	144.70	2864.37	128.58	82.58	66.09	262.04
HOR1-30	VER	Control	601179.52	177834.07	44515.49	<LOD	7420.87	26563.20	<LOD	8993.52	2594.82	<LOD	-11.11	417.39	-8.23	115.35	46.78	13.13	3037.89	145.19	2509.34	94.10	100.23	67.27	325.81
HOR1-31	VER	Control	678665.08	212987.24	42816.02	<LOD	7277.98	24152.95	152.64	10645.40	2707.58	73.16	-15.71	332.57	-3.15	105.25	35.02	17.49	2428.17	145.73	2058.10	95.45	103.57	57.58	392.36
HOR1-32	VER	Control	651375.62	189020.20	43853.66	<LOD	7410.94	25735.67	212.67	9616.93	1632.66	23.03	-1.71	407.44	-2.80	101.03	38.24	15.07	373.67	147.07	487.63	94.25	108.99	59.38	355.21
HOR1-33	VER	Control	648885.98	198177.52	45860.58	<LOD	7336.80	26364.49	135.71	9598.57	2227.03	49.23	2.75	438.31	-4.67	121.52	45.33	14.62	439.97	152.21	1502.86	111.11	143.02	50.20	302.08
HOR1-34	VER	Control	521761.17	166449.08	31752.80	<LOD	10339.09	20548.47	166.17	9621.01	3773.25	3436.33	10.36	494.08	<LOD	88.93	507.59	12.19	20658.53	143.32	46913.46	87.44	59.75	252.25	279.22
HOR1-35	VER	Control	674817.08	179670.21	42974.25	<LOD	7154.21	25447.16	141.69	9320.06	1717.30	59.58	-2.15	400.73	-6.22	93.90	54.70	14.37	1163.96	146.79	1495.83	101.64	117.41	43.08	283.41

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
HOR1-36	VER	Control	609727.06	163563.39	38548.30	<LOD	7387.37	26493.02	219.43	9082.53	3016.97	7.52	4.34	442.08	-7.18	108.35	<LOD	13.29	953.14	145.43	1032.81	88.80	110.16	43.05	289.97
HOR1-37	VER	Control	673924.36	188755.27	44741.93	<LOD	8045.47	25929.55	769.09	9075.16	3264.65	60.07	-6.40	439.47	-7.41	99.89	50.78	14.31	451.42	144.89	1801.56	114.70	109.44	67.51	325.96
HOR1-38	VER	Control	566621.49	166371.29	32743.75	<LOD	8087.96	23141.64	274.32	8038.56	2913.14	1460.24	-0.11	454.70	16.49	70.33	<LOD	10.66	18087.22	136.84	13941.59	80.95	89.39	126.90	257.53
HOR1-39	VER	Control	691487.78	231448.62	44574.03	<LOD	7849.12	29233.23	435.39	10699.43	4604.73	43.15	-12.92	478.74	0.16	126.92	48.83	16.51	2749.75	159.66	900.80	110.49	130.21	81.85	346.92
HOR1-40	VER	Control	576191.72	132927.61	37727.92	<LOD	11180.21	25053.83	388.35	7902.19	5989.07	<LOD	-16.08	385.42	2.34	186.82	<LOD	11.66	1037.67	137.20	1213.10	100.50	93.63	91.29	373.75
HOR1-41	VER	Control	624676.10	190356.68	46665.02	<LOD	9077.47	27811.90	44.90	8349.67	2972.06	33.18	-2.74	459.25	1.79	102.00	30.60	11.68	1670.15	141.29	593.15	95.54	94.92	76.71	232.96
HOR1-42	VER	Control	651407.32	197196.99	37856.08	<LOD	6910.09	24760.63	107.39	9356.35	2832.00	<LOD	-33.95	328.53	10.03	95.30	559.46	15.49	4883.26	148.93	2392.93	101.04	105.70	258.25	295.89
HOR1-43	VER	Control	687481.88	199703.58	38109.54	<LOD	7025.38	24383.91	51.24	9699.48	2172.26	48.95	-5.42	417.06	1.36	84.09	32.67	15.86	1285.56	145.23	1301.37	98.23	109.72	53.69	350.52
HOR1-44	VER	Control	647155.67	208448.91	41990.05	<LOD	8740.88	26929.52	42.11	9755.38	2211.05	<LOD	-17.33	426.76	9.39	129.59	32.18	14.76	2861.82	156.53	1316.60	102.14	115.40	55.87	295.60
HOR1-45	VER	Control	657328.18	190382.25	42779.79	<LOD	7628.41	26320.10	87.24	9215.06	549.05	54.08	9.51	456.37	3.28	116.00	27.93	15.04	6666.84	148.26	1512.81	105.38	92.77	48.37	289.09
HOR1-46	VER	Control	638355.62	201679.78	44426.61	<LOD	7417.89	25478.47	117.12	9037.93	2075.22	35.37	-4.02	426.96	1.52	99.63	32.59	14.82	492.98	149.83	2184.14	106.03	101.29	52.78	257.68
HOR1-47	VER	Control	636510.34	173154.10	30776.17	<LOD	6898.70	23839.00	14.09	10139.29	1590.97	67.84	-19.61	326.16	1.84	80.12	30.39	18.11	3490.64	140.68	5199.82	98.25	94.43	44.23	325.63
HOR1-48	VER	Control	612648.49	195470.23	37466.21	<LOD	9610.68	26757.77	316.43	8305.75	3804.55	26.89	-10.43	495.23	6.00	118.98	33.25	14.66	252.37	150.54	979.63	130.48	134.14	85.33	348.69
HOR1-49	VER	Control	626861.11	182627.80	38805.59	<LOD	7649.55	25230.93	110.43	8723.08	5190.40	270.24	-5.70	440.17	3.21	97.44	30.96	12.93	1604.61	145.87	7183.61	98.48	159.38	55.21	240.03
HOR1-50	VER	Control	643856.56	181951.87	46306.84	<LOD	7582.62	26170.29	111.15	9143.32	1846.10	5.60	-0.81	417.15	-4.06	95.28	31.55	14.07	873.05	148.72	1098.69	93.01	104.80	52.62	325.00
HOR2-1	VER	Control	598936.41	193920.61	51348.21	4995.89	7335.16	26437.74	48.83	9470.20	2026.32	70.32	8.76	465.62	-7.76	124.40	57.38	16.02	1127.80	154.26	3272.01	105.59	110.46	47.21	300.21
HOR2-2	VER	Control	646401.46	175707.83	44126.61	3793.02	7529.06	24117.88	151.07	8604.67	1374.96	20.42	7.84	428.90	-7.19	89.57	65.05	13.29	333.29	150.12	430.43	96.60	85.52	53.87	300.47
HOR2-3	VER	Control	711537.00	194094.17	29680.11	<LOD	7612.42	24578.90	10.74	9269.11	1206.13	<LOD	-15.82	322.38	-5.50	56.35	<LOD	16.95	637.38	140.24	-167.44	105.70	96.17	67.24	387.56
HOR2-4	VER	Control	657427.60	221770.95	64007.92	10058.34	8285.74	26479.26	72.67	10450.62	3043.39	250.27	-29.60	378.85	-12.17	146.38	34.57	16.79	1344.60	157.54	1293.72	112.66	123.18	62.75	348.39
HOR2-5	VER	Control	695937.79	199241.57	42142.97	7957.08	7591.65	27727.19	220.97	9352.02	273.82	27.02	30.23	444.84	2.77	61.75	52.65	15.02	216.30	146.84	-310.46	98.17	92.18	38.77	285.79
HOR2-6	VER	Control	576447.18	180525.41	47684.53	8736.46	7662.04	25973.05	108.13	8837.53	310.26	119.40	23.79	478.50	-1.19	93.26	54.32	17.24	907.22	160.05	3867.72	110.17	91.58	96.67	348.94
HOR2-7	VER	Control	620114.58	205102.16	50945.39	4731.73	8721.87	27093.67	111.49	9914.94	2946.23	10.74	-3.62	506.04	-4.32	144.06	36.74	16.50	379.68	156.19	147.47	96.36	99.79	85.83	355.85
HOR2-8	VER	Control	682258.10	209500.68	51236.40	6913.05	7861.83	25881.92	119.99	9761.02	2672.75	21.83	24.63	467.70	-5.15	100.44	51.84	16.22	173.28	157.02	161.10	111.47	121.53	59.83	381.11
HOR2-9	VER	Control	616439.90	203368.24	44029.93	4897.29	7484.14	26510.02	78.83	10181.99	3797.70	12.32	1.32	444.41	-4.86	111.94	26.39	16.07	1254.55	150.59	316.54	97.69	101.55	75.98	314.35
HOR2-10	VER	Control	648040.86	207528.61	44140.72	12476.58	8074.59	26539.49	65.28	10427.01	2016.03	9.50	18.45	510.67	-6.31	112.90	38.38	16.95	334.93	156.03	58.50	105.09	101.57	64.89	325.80
HOR2-11	VER	Control	638622.42	191713.68	44716.67	4755.85	7819.44	25121.83	159.16	9825.62	1781.41	15.95	-14.67	423.17	-3.87	127.80	19.99	15.33	266.30	144.11	-212.53	96.23	86.76	66.48	314.94
HOR2-12	VER	Control	649902.14	193825.61	48219.99	8428.33	7745.89	26147.39	69.77	9719.11	1427.30	<LOD	9.16	405.31	-2.39	115.20	29.60	15.21	3641.68	150.18	1617.53	102.57	61.47	48.99	343.68
HOR2-13	VER	Control	628311.61	200596.21	45462.97	6010.77	7034.96	25455.34	69.37	10105.85	2082.85	-6.45	12.19	520.12	-2.71	135.74	37.59	15.81	406.50	150.69	-80.13	101.38	94.62	53.71	293.05
HOR2-14	VER	Control	631745.84	200503.59	34646.35	7113.43	7119.47	25299.70	118.34	8833.97	1883.89	9.66	16.41	555.45	-1.40	122.67	<LOD	13.34	348.97	149.03	-397.01	106.73	133.28	59.80	303.43
HOR2-15	VER	Control	620568.83	201776.03	54480.29	4048.48	7357.56	26391.43	159.18	10432.78	2792.02	13.57	8.79	483.23	-1.38	154.05	29.57	16.32	549.73	151.72	-180.65	99.55	132.14	103.70	289.87
HOR2-16	VER	Control	661717.69	216927.90	49855.81	4140.34	7095.72	23078.13	345.75	10250.70	450.84	37.09	3.71	428.41	-0.93	111.39	62.74	16.16	682.25	145.83	374.32	90.03	93.28	65.31	314.62
HOR2-17	VER	Control	611193.24	198067.89	53079.10	8837.31	6873.63	25433.16	268.82	11054.09	1844.75	16.71	-24.31	417.75	-0.15	161.04	23.52	17.94	346.72	144.27	191.15	96.74	101.60	74.95	356.01
HOR2-18	VER	Control	666322.92	199437.87	54247.45	<LOD	7527.44	24550.33	165.56	9813.24	2563.57	44.84	2.75	454.61	-4.39	129.53	<LOD	14.61	1138.92	142.99	98.85	94.88	96.98	50.69	347.84
HOR2-19	VER	Control	602802.01	182945.77	44253.33	5829.92	7229.59	24052.94	61.39	10428.03	1759.39	-3.63	-12.14	415.47	-1.29	135.00	<LOD	15.81	746.15	145.29	-89.46	90.64	99.77	50.96	296.82
HOR2-20	VER	Control	672543.22	214555.01	52361.84	6400.56	7237.99	26729.94	148.44	9856.64	2460.89	3.27	2.31	483.53	0.67	164.74	54.87	16.96	307.76	156.71	-284.88	103.08	132.80	55.69	278.02
HOR2-21	VER	Control	576647.87	179801.09	48839.95	8206.63	7480.25	24692.69	183.25	9411.72	1964.27	14.80	6.28	447.63	-0.80	92.68	40.45	18.06	717.74	153.25	-7.50	107.29	62.39	56.25	358.64
HOR2-22	VER	Control	654381.21	209730.03	50271.28	<LOD	7404.78	25596.62	198.57	10127.56	1851.19	11.96	26.21	548.01	1.34	106.43	45.09	18.02	146.10	155.68	-81.32	104.99	106.31	50.57	313.65
HOR2-23	VER	Control	601544.03	158994.69	46839.26	8756.93	9350.53	24680.51	263.01	9673.32	2688.77	28.06	15.97	539.70	-2.48	93.63	31.08	18.50	178.94	152.81	513.76	99.45	113.87	68.74	345.99
HOR2-24	VER	Control	654085.70	218705.26	49907.44	5517.25	7513.32	26407.49	423.50	10210.70	2159.41	13.62	5.98	478.61	-0.42	113.98	38.32	18.23	278.65	154.88	236.58	106.01	86.78	40.91	397.69
HOR2-25	VER	Control	631607.23	205492.24	50807.87	<LOD	8753.05	27092.49	120.73	10199.64	2942.15	25.31	7.05	499.80	-5.21	112.87	29.48	16.63	536.80	148.58	-133.91	94.82	147.11	64.20	314.87
HOR2-26	VER	Control	609871.39	180017.01	48994.24	8287.79	7479.87	25551.88	104.06	10142.08	2562.72	39.01	5.72	460.28	1.45	127.78	30.56	17.66	672.11	147.93	477.45	103.56	91.26	48.65	329.50
HOR2-27	VER	Control	556165.00	186949.65	64231.77	4573.37	7816.19	21683.76	543.57	10848.63	2502.11	25.09	21.63	461.51	0.64	138.60	26.25	17.22	179.57	132.14	545.88	81.36	125.55	73.94	351.55
HOR2-28	VER	Control	589020.07	177791.08	50231.07	4826.38	9098.69	24279.80	312.20	9234.42	3712.41	279.86	10.16	504.27	2.41	100.56	33.39	14.75	4770.47	151.28	2594.78	97.80	85.72	81.22	320.71
HOR2-29	VER	Control	655644.71	215182.06	46038.37	7610.87	7663.28	25742.35	329.99	10425.19	2295.79	16.12	8.45	491.45	-3.24	105.39	33.17	17.43	244.01	150.41	298.90	101.81	101.80	77.02	329.25
HOR2-30	VER	Control	642065.92	205654.80	47819.95	5163.12	#VALUE!	25585.87	148.26	10287.15	2100.15	4.06	-10.35	408.25	-7.35	100.10	25.49	17.28	297.49	147.10	-425.04	102.36	76.18	68.03	324.21
HOR2-31	VER	Control	643487.80	190422.44	47264.14	<LOD	6948.05	24900.85	133.37	10182.67	1349.53	5.76	14.72	485.01	-9.93	108.51	24.76	17.53	315.67	151.71	37.14	99.90	124.53	68.03	307.81
HOR2-32	VER	Control	647398.75	206510.32	48996.98	5102.05	7396.92	25683.59	308.48	10607.93	3835.96	19.03	-0.80	448.17	-6.11	116.12	30.30	18.48	554.03	152.12	-132.98	99.44	135.61	91.46	345.88
HOR2-33	VER	Control	648093.58	199056.38	51508.86	7838.70	7375.41	25961.11	103.84	9839.22	1784.03	-0.94	11.64	467.74	-11.87	113.75	22.21	17.18	391.75	151.49	-359.39	102.62	109.98	58.44	351.07
HOR2-34	VER	Control	680522.98	230656.92	53018.68	9488.37	7124.60	26136.69	72.54	10631.52	1170.25	17.13	4.02	481.54	-6.49	126.05	18.59	17.84	391.41	155.92	-181.08	107.25	141.94	61.42	303.27
HOR2-35	VER	Control	656090.38	187169.80	43057.04	<LOD	8724.31	24195.67	155.50	9568.37	4028.72	2.60	-2.11	495.87	-11.28	103.25	15.98	15.61	295.86	138.92	-533.54	88.44	120.31	101.08	315.50
HOR2-36	VER	Control	660457.24	199812.81	49619.09	<LOD	7868.17	26052.97	168.38	10367.58	3691.97	30.31	-1.18	529.17	-8.01	98.31	22.52	15.89	679.08	150.57	227.81	96.93	116.95	76.24	282.41
HOR2-37	VER	Control	669310.56	208657.28	52279.06	5873.11	7322.06	26138.48	181.68	9980.68	2612.81	<LOD	6.75	463.65	-3.39	112.41	28.50	16.85	1262.12	155.61	52.02	116.69	146.99	86.65	320.17
HOR2-38	VER	Control	496921.52	157120.71	47101.05	<LOD	8375.99	27594.38	183.23	10018.57	4251.12	-3.59	23.09	568.73	-3.23	137.64	21.25	16.61	375.51	151.15	7212.46	95.51	118.33	99.44	282.37
HOR2-39	VER	Control	605655.81	182569.25	51136.75	11161.19	7185.43	25490.36	169.20	10048.12	1302.42	10.01	3.82	424.19	-9.49	104.06	31.83	17.34	280.46	147.90	-363.02	105.11	108.24	64.75	358.93
HOR2-40	VER	Control	599556.21	157894.93	45345.54	5560.25	8959.82	25358.83	199.82	9019.68	2602.06	19.11	42.57	534.52	-8.36	118.39	52.50	14.29	195.02	151.01	616.00	108.92	121.43	44.53	300.93

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
HOR2-41	VER	Control	571140.45	165409.37	49808.66	5475.81	10058.22	24172.66	189.11	9251.14	5623.79	8.51	16.68	539.26	-5.14	125.55	56.29	14.44	984.45	145.42	922.37	85.42	118.85	260.95	318.56
HOR2-42	VER	Control	667679.88	199629.73	49029.33	6322.25	8258.33	25821.59	109.35	10348.22	2475.21	12.18	18.98	488.74	-5.07	119.62	38.78	18.17	419.64	155.29	1107.74	105.62	129.90	54.63	389.96
HOR2-43	VER	Control	555571.69	181128.60	53067.67	6469.23	8372.10	26553.08	<LOD	9938.45	571.07	86.56	1.27	371.76	-6.42	143.64	46.32	17.42	914.73	164.69	205.84	116.22	109.04	63.83	389.67
HOR2-44	VER	Control	596029.46	192199.30	57606.89	6658.05	8192.26	25651.42	184.32	10168.41	1596.61	5.94	42.30	548.66	-8.43	146.67	55.64	17.00	315.56	153.71	158.66	108.88	124.69	58.99	304.92
HOR2-45	VER	Control	605816.45	196399.69	53235.04	<LOD	<LOD	26474.08	124.90	9899.71	1380.99	83.64	17.75	461.47	-8.04	120.40	66.97	15.69	1405.90	153.22	1759.12	105.21	115.46	56.49	322.49
HOR2-46	VER	Control	620432.26	206884.29	58476.81	<LOD	8933.47	24883.17	272.75	10055.76	2213.25	5.13	13.50	502.99	-3.06	128.29	46.69	15.95	1070.76	153.01	1098.29	105.17	146.62	84.84	323.13
HOR2-47	VER	Control	653156.12	202115.56	48279.90	<LOD	8556.81	24396.80	214.63	9848.92	2628.55	<LOD	30.13	444.67	-0.93	109.91	51.81	17.00	3240.66	147.12	2354.20	99.36	96.34	76.93	404.13
HOR2-48	VER	Control	619746.52	173856.15	51614.03	<LOD	<LOD	24283.81	88.50	9757.02	2369.87	34.18	30.74	503.67	-4.56	121.98	48.74	15.97	302.47	148.43	1266.45	100.74	125.26	57.63	344.85
HOR2-49	VER	Control	657479.63	189522.83	42537.17	<LOD	12205.31	25997.73	136.25	9948.49	3130.39	62.89	21.60	490.65	-4.22	99.16	169.32	15.23	409.98	152.01	796.35	100.97	109.84	65.17	340.07
HOR2-50	VER	Control	605704.50	207849.15	51803.84	<LOD	8201.05	26326.09	846.97	10629.57	4632.51	68.49	15.22	489.80	-5.48	137.76	38.42	17.25	829.31	148.24	2603.70	93.31	136.38	108.55	315.12
PLC1	WARC	Control	594862.32	192065.11	25323.37	9706.09	13799.81	34386.71	<LOD	7553.02	8376.03	23.21	<LOD	213.79	-4.03	14.33	20.32	10.11	124.47	147.59	419.77	133.87	126.03	131.19	187.25
PLC2	WARC	Control	499993.51	126010.42	20973.41	8094.72	10274.36	24955.99	126.66	5364.01	8970.22	1409.70	-36.29	341.69	18.75	12.89	38.56	7.73	8214.79	144.39	21251.39	122.15	69.47	93.32	173.13
PLC3	WARC	Control	540289.27	162740.38	15864.23	40188.47	8600.56	20586.82	113.36	8349.97	11288.93	1289.57	-17.60	399.01	30.28	12.69	88.45	14.76	8925.11	139.04	8364.43	133.62	73.79	54.17	238.10
PLC4	WARC	Control	534366.21	160536.88	21200.60	17330.54	9769.76	25943.21	544.72	5782.07	6341.35	5158.07	-22.21	448.07	46.30	92.38	137.80	7.18	37362.68	142.75	15660.76	105.95	65.96	117.98	159.15
PLC5	WARC	Control	517126.70	150528.08	22000.30	5784.22	9220.66	24102.22	172.69	6208.93	6431.88	1312.94	-10.11	440.43	30.50	11.74	76.12	9.04	9093.33	143.54	26882.08	101.14	54.57	108.13	173.95
PLC6	WARC	Control	444260.41	112765.11	19741.88	14573.08	17236.76	20209.47	229.34	4905.48	35461.92	2004.55	-24.40	327.58	22.59	12.38	76.55	6.82	11561.46	144.15	33008.01	114.18	43.83	106.41	169.31
PLC7	WARC	Control	332184.30	90469.71	15394.77	12347.02	17716.70	16215.10	292.05	4029.34	37989.58	2587.17	-11.42	451.43	<LOD	9.81	54.63	3.26	15717.98	137.16	41074.84	103.99	45.73	114.72	136.68
PLC8	WARC	Control	569664.52	139327.43	20648.39	24512.99	9656.33	23335.37	164.88	5570.28	7405.80	281.88	-25.12	341.48	-8.25	30.42	71.14	6.90	2843.37	140.57	1536.06	104.90	46.06	97.78	167.08
PLC9	WARC	Control	451237.37	118463.01	15426.17	14631.95	12378.48	28814.81	192.39	4971.15	13764.78	3699.49	-17.62	542.66	<LOD	8.27	141.54	9.53	21680.56	135.66	38855.08	173.85	43.83	128.26	194.22
PLC10	WARC	Control	542041.77	153870.39	13065.73	28791.68	7816.56	18504.44	110.63	8111.15	9288.29	175.19	-15.08	274.08	-4.33	40.47	112.02	13.14	6705.94	128.61	3861.33	110.17	68.05	41.11	185.41
PLC11	WARC	Control	579362.74	139538.28	23634.80	5111.33	12396.98	26119.97	427.34	5127.29	3925.70	1568.49	10.33	482.54	9.02	38.74	109.30	6.70	15197.73	144.33	13205.71	118.38	49.70	424.46	162.44
PLC12	WARC	Control	398788.89	106183.61	16301.53	13663.13	10553.72	18973.32	196.02	4571.83	11646.20	2126.25	-26.46	462.19	-14.12	8.81	37.50	6.02	13151.71	138.51	36326.83	104.77	43.02	76.50	156.88
PLC13	WARC	Control	583197.82	166877.59	16710.01	7427.26	9981.42	22776.63	<LOD	9386.17	9298.33	378.09	-24.52	352.69	-10.36	50.15	43.13	14.58	1873.32	132.48	5457.57	127.18	100.48	36.35	232.01
PLC14	WARC	Control	500558.95	169605.78	24757.03	9190.55	13484.36	32008.67	119.01	6744.87	21786.08	631.11	-21.34	243.62	-9.30	77.11	43.97	9.58	2341.07	143.56	22843.44	130.31	115.98	161.73	184.67
PLC15	WARC	Control	522646.10	137997.09	16706.31	8010.98	11112.33	19806.11	108.93	7468.54	13403.08	1199.67	-28.42	312.61	-6.50	50.16	38.61	16.54	7373.72	137.67	24107.74	103.40	92.04	36.78	231.08
PLC16	WARC	Control	595228.03	166516.46	22927.88	<LOD	13156.60	23602.16	567.89	6496.93	13655.70	12.02	<LOD	380.79	-7.55	53.15	23.89	10.08	113.27	135.44	22.89	118.90	100.48	117.11	183.24
PLC17	WARC	Control	489789.36	160388.20	15722.87	8537.45	10667.70	38344.44	117.84	8964.60	16190.38	761.39	3.67	228.79	-4.25	51.25	64.03	16.69	3649.01	139.35	20381.51	132.20	92.33	34.95	236.24
PLC18	WARC	Control	613442.76	168783.92	23754.11	6117.37	12630.10	24506.32	120.24	6731.86	6970.85	0.49	-4.03	369.64	-7.47	48.94	25.95	9.85	94.94	139.70	-120.40	147.91	87.89	63.24	187.90
PLC19	WARC	Control	404933.70	113762.94	15842.45	21533.88	12108.06	16316.37	205.38	4710.28	10880.14	3612.29	-10.87	359.07	5.06	0.63	59.66	7.53	14911.10	134.84	49879.19	131.80	150.53	209.61	164.21
PLC20	WARC	Control	461845.90	127214.31	13369.19	12717.45	9626.18	18673.26	119.05	6174.29	10386.43	2673.95	-0.26	284.12	-2.90	-4.91	110.72	9.95	12444.04	128.54	42173.66	99.99	32.03	42.37	191.26
PLC21	WARC	Control	538172.59	174756.19	22899.66	20455.59	11398.46	28146.25	128.00	6229.97	8420.95	1367.94	<LOD	215.36	-2.14	50.23	23.84	10.47	5943.29	148.42	32761.90	110.59	147.30	181.91	187.00
PLC22	WARC	Control	496161.42	132155.80	17024.88	15392.66	8107.19	21264.37	156.30	5146.68	8743.39	1717.58	33.48	238.62	<LOD	14.53	32.98	3.79	7747.26	135.56	43993.30	94.89	208.21	176.35	153.50
PLC23	WARC	Control	536911.65	150598.73	20845.41	4771.58	8750.25	22611.13	172.52	6130.11	6388.00	1576.45	-24.98	195.91	<LOD	36.22	35.59	7.32	6912.00	142.87	17615.59	98.59	155.18	199.74	175.40
PLC24	WARC	Control	550570.74	154608.28	19745.51	52769.31	8526.39	24320.10	491.39	6171.10	3928.79	160.36	-15.38	363.83	2.57	36.64	90.71	7.62	5486.18	134.74	462.49	98.03	52.18	85.01	172.43
PLC25	WARC	Control	574264.61	165974.46	25974.75	6346.52	12106.59	26637.80	<LOD	6951.70	3325.05	3.01	-9.65	300.61	-7.76	69.17	42.03	8.79	52.65	138.91	-387.57	101.41	95.66	118.84	173.54
PLC26	WARC	Control	646988.10	201843.17	22622.82	6595.61	10167.93	26504.32	121.01	6772.13	5540.50	4.47	-11.83	359.72	-4.33	51.02	37.77	9.68	72.60	148.04	-414.66	131.96	108.25	225.45	195.98
PLC27	WARC	Control	510445.42	125107.45	44637.11	24074.22	11710.37	27104.03	268.23	6765.04	6566.14	170.13	3.59	344.94	-3.62	86.80	62.49	14.46	2345.42	145.32	1894.49	93.30	112.60	135.49	304.95
PLC28	WARC	Control	553682.94	149756.07	22350.09	19767.23	7658.02	24721.77	246.74	6133.98	1164.02	6316.63	-4.77	349.68	19.47	7.20	87.34	9.68	38778.28	141.51	2620.64	88.87	63.22	86.56	177.29
PLC29	WARC	Control	528700.82	137917.58	21912.04	7674.13	10191.93	25626.91	697.84	5656.95	9310.27	1535.54	-17.32	329.84	-6.81	23.92	41.38	6.88	8860.97	141.43	24734.56	109.90	36.02	176.79	167.69
PLC30	WARC	Control	564685.16	195311.25	25267.67	<LOD	10411.75	26425.21	84.64	6281.42	2333.81	29.03	-34.22	328.59	-5.09	55.74	91.09	9.34	156.93	149.36	1154.30	148.41	84.83	139.59	182.49
PLC31	WARC	Control	476533.69	119353.13	19601.93	8989.87	14582.54	23041.56	263.39	5012.11	7443.09	3220.07	-28.42	387.45	-10.74	23.45	48.49	5.42	15738.76	139.40	35624.20	122.99	22.42	144.00	159.12
PLC32	WARC	Control	457077.95	117545.83	17855.13	12917.90	9398.64	18535.19	306.50	4497.98	5526.59	3011.41	14.73	524.78	-5.93	20.35	326.63	7.15	17975.98	138.85	37959.46	98.14	11.15	122.17	143.97
PLC33	WARC	Control	607572.20	195238.99	24902.50	9746.31	11676.50	28806.55	<LOD	6495.38	13695.58	288.82	-30.43	249.91	-2.19	76.44	42.64	8.82	1461.91	146.47	14047.44	123.67	87.82	150.10	185.04
PLC34	WARC	Control	546919.93	182138.02	26697.72	9133.23	9568.96	33330.47	185.94	7100.43	5116.87	166.81	-17.12	191.99	-8.18	82.31	50.30	9.35	982.48	151.76	5627.34	118.51	131.57	186.63	163.63
PLC35	WARC	Control	545112.57	186396.27	26158.72	12733.06	10086.51	28872.81	595.20	6536.36	7249.67	778.71	<LOD	259.77	-4.12	76.22	39.80	9.93	2852.59	149.57	34248.33	136.04	101.81	166.64	168.42
PLC36	WARC	Control	610161.14	166548.34	11886.13	<LOD	6866.07	23305.40	76.40	9532.72	9663.65	-0.75	-7.22	369.76	-0.97	50.96	89.74	16.88	150.46	144.34	40.39	98.62	72.28	92.61	197.15
PLC37	WARC	Control	612024.35	177891.45	33169.46	5064.54	8488.25	25204.11	72.27	7038.98	2521.49	-1.72	6.19	458.51	-5.11	89.96	37.19	13.87	193.07	150.02	414.65	119.11	110.33	91.91	172.50
PLC38	WARC	Control	592128.43	138892.74	25560.49	<LOD	8734.30	24394.46	70.93	6299.43	6757.22	6.01	-16.48	367.54	-8.53	56.98	<LOD	10.06	89.07	145.97	-462.63	131.50	69.04	176.13	162.99
PLC39	WARC	Control	641102.65	206309.28	32837.48	5723.27	8674.21	27525.37	165.89	7810.75	8524.20	144.49	-8.74	358.00	-9.96	86.27	39.76	11.85	798.24	148.44	3714.64	126.39	136.20	90.45	190.13
PLC40	WARC	Control	558321.94	129031.92	23105.68	27981.34	11590.86	24807.13	192.03	6164.96	8866.19	5135.34	-5.66	344.95	13.91	24.22	59.11	8.26	33059.03	140.97	2576.06	132.18	88.45	176.12	181.60
PLC41	WARC	Control	576045.13	154252.86	17032.57	<LOD	8564.88	19686.27	110.01	8714.61	9530.86	13.13	-19.65	293.91	-6.81	53.79	<LOD	14.14	529.32	131.71	824.93	99.22	73.00	59.08	207.02
PLC42	WARC	Control	494970.96	125009.78	17383.71	14182.86	17758.79	21361.37	162.62	5094.37	9548.48	1707.48	-13.71	447.78	<LOD	17.09	66.24	9.45	17101.41	137.33	25335.73	107.60	19.57	237.60	128.23
PLC43	WARC	Control	548617.21	160029.31	25335.78	5342.67	9274.47	27867.11	9.61	7066.61	5325.20	785.57	<LOD	240.97	-7.32	60.29	32.14	8.87	5173.20	140.71	12116.72	103.21	160.32	110.77	167.22
PLC44	WARC	Control	558645.74	177677.96	16436.97	<LOD	7532.35	19519.32	<LOD	11108.85	1265.07	41.07	-10.84	267.84	-4.92	60.73	36.69	21.51	1630.92	132.63	798.86	82.94	55.37	28.22	239.91
PLC45	WARC	Control	458511.32	142666.14	13217.34	16504.08	34717.65	17434.14	144.88	7045.81	8764.13	2277.53	15.42	460.68	19.88	14.02	67.38	11.66	26155.87	126.77	25921.85	69.52	96.21	38.13	184.76

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
PLC46	WARC	Control	594061.58	186077.93	21502.53	30091.38	11954.10	27857.57	348.29	6919.53	6819.45	7433.50	-18.92	256.44	12.45	55.37	94.36	8.43	39335.47	140.02	8907.35	89.64	83.91	105.17	161.64
PLC47	WARC	Control	515382.36	149698.98	26487.28	5487.88	9627.78	30544.39	48.54	7374.22	4738.14	382.86	7.36	175.18	-6.87	86.38	26.78	11.77	1786.18	148.16	13225.03	125.95	127.95	193.37	179.35
PLC48	WARC	Control	629437.82	183180.35	15721.49	3923.65	10743.08	21334.60	52.11	8016.15	5853.85	352.13	<LOD	230.59	-9.96	5.88	27.86	10.74	2040.31	128.96	15438.50	91.09	34.21	52.45	213.45
PLC49	WARC	Control	608466.82	192309.52	16519.10	14951.81	9699.90	21682.98	84.65	8932.57	10056.72	1612.89	-17.37	301.07	3.15	35.98	44.64	15.52	6735.23	137.14	825.39	126.00	122.32	38.05	242.08
PLC50	WARC	Control	616217.10	217333.96	17747.90	33684.48	9914.92	22667.95	118.33	9859.90	5803.14	5399.74	<LOD	286.11	11.41	59.55	81.98	16.45	22324.52	136.18	3308.97	114.96	102.04	40.68	230.83
PLF1	DWW	Control	587186.79	193979.09	20148.36	6846.79	9122.55	20811.95	<LOD	11306.67	4933.64	54.37	-30.83	234.21	-8.16	72.17	41.08	19.92	1835.01	137.04	1289.51	85.96	68.15	67.36	245.32
PLF2	DWW	Control	508727.61	141217.76	14556.11	4682.22	13324.10	22528.27	215.70	7039.31	15669.40	633.16	-11.03	443.69	-6.99	66.47	107.06	12.55	3834.93	146.94	19787.34	144.36	142.58	47.95	202.01
PLF3	DWW	Control	489219.50	169994.86	14003.00	5823.76	10504.60	29008.62	<LOD	8460.28	7724.95	585.96	<LOD	249.52	-9.76	79.14	53.85	13.27	3305.23	143.98	20636.35	80.68	106.61	31.59	219.43
PLF4	DWW	Control	457869.78	149276.42	15939.89	9203.65	9695.82	22309.11	79.32	9347.66	7523.58	563.32	-18.88	349.52	-8.36	82.06	76.34	16.24	2205.29	130.30	22288.87	110.04	77.39	41.29	198.79
PLF5	DWW	Control	495952.95	189930.24	15274.14	12456.73	9835.87	22796.97	121.26	8719.35	9152.82	676.72	-36.19	377.87	-5.23	64.33	33.15	14.38	3125.68	141.31	41308.23	144.18	83.10	44.51	216.62
PLF6	DWW	Control	572243.26	180206.47	14864.96	19163.77	10864.06	21327.27	90.36	8393.52	9003.17	39.57	-25.61	329.50	-7.51	52.57	261.56	13.19	797.71	138.84	1537.92	104.70	74.55	38.34	209.43
PLF7	DWW	Control	459901.42	188970.53	16754.83	30753.72	9336.87	21890.43	227.81	8685.58	6465.09	423.30	-22.64	221.06	-8.29	58.75	35.73	15.08	2781.00	142.18	6580.95	104.33	234.14	40.48	219.84
PLF8	DWW	Control	509250.86	174531.49	15818.08	14425.25	9998.62	21674.91	<LOD	7789.78	10216.89	1297.13	<LOD	231.29	-12.81	64.34	38.54	12.77	5089.91	142.09	44031.81	106.34	69.59	38.31	212.12
PLF9	DWW	Control	572619.40	200112.61	15041.96	<LOD	10441.93	20273.24	133.07	11686.34	3120.06	582.94	-21.01	298.27	-2.70	71.84	41.69	20.95	1822.52	135.95	1695.15	86.22	55.68	46.50	242.47
PLF10	DWW	Control	724756.65	161634.17	14697.14	4351.41	7696.88	22193.82	<LOD	9200.71	4470.96	5.93	-32.01	266.24	-7.81	35.31	45.34	15.64	311.42	132.24	27.83	96.56	60.88	41.49	241.32
PLF11	DWW	Control	550318.25	180557.52	17253.36	11823.69	11792.28	19968.20	36.44	9113.98	9147.55	641.89	-14.79	245.49	-12.76	62.12	<LOD	15.73	2386.70	133.60	20429.22	131.85	100.60	37.56	225.97
PLF12	DWW	Control	584402.69	160711.53	17873.57	<LOD	7438.09	19972.68	58.27	10192.68	2365.50	40.41	-18.91	300.85	-4.71	78.03	127.54	16.90	1873.60	129.61	164.76	75.14	97.18	126.59	238.22
PLF13	DWW	Control	556553.47	217223.50	19786.83	6468.31	9704.97	21406.18	40.75	11213.52	9257.27	226.16	-15.30	365.52	-4.71	70.26	57.26	21.62	2425.64	145.02	5655.73	98.66	133.96	40.15	249.80
PLF14	DWW	Control	586024.83	187421.52	16394.46	<LOD	12895.84	24941.68	<LOD	10055.36	4148.24	299.93	-26.38	237.33	-7.32	61.94	85.67	18.64	5604.17	135.86	4267.39	85.15	114.29	166.48	225.05
PLF15	DWW	Control	508948.97	157609.03	16798.34	4874.08	8175.73	24212.53	163.82	9011.27	3750.77	752.51	-5.69	488.82	-2.88	72.33	114.51	16.11	10769.61	149.68	4321.71	109.13	114.78	47.95	220.50
PLF16	DWW	Control	507880.82	158040.61	16019.24	11412.36	9670.00	21544.21	82.37	8826.32	8788.21	774.82	7.11	392.85	-13.25	68.38	122.07	15.22	3884.32	128.79	18860.83	103.20	223.16	45.90	208.46
PLF17	DWW	Control	504731.29	146972.80	13389.58	18388.69	8699.09	21575.39	<LOD	7522.15	6582.20	2066.99	-2.29	386.81	<LOD	21.37	168.13	16.30	9313.10	142.03	53039.16	91.33	139.57	114.22	214.47
PLF18	DWW	Control	559947.53	179999.74	17682.10	<LOD	7538.51	27785.28	<LOD	10199.46	3994.26	405.51	-2.57	265.55	-8.16	73.65	54.32	18.23	1215.14	144.45	1344.32	90.17	113.77	72.68	243.62
PLF19	DWW	Control	563099.54	158574.83	15738.98	5728.45	8293.00	22012.84	11.04	8369.06	9021.16	122.44	3.83	302.88	-9.33	62.20	42.16	15.49	968.21	132.51	2913.04	125.28	93.85	40.39	224.58
PLF20	DWW	Control	424921.41	146480.17	13846.37	10652.53	9920.52	17014.90	59.72	7016.29	4611.13	3083.13	-10.23	413.08	-14.46	25.15	66.80	13.04	18601.40	132.13	40964.15	78.13	33.94	50.21	222.76
PLF21	DWW	Control	606751.98	188569.48	17788.42	<LOD	8347.70	22624.14	<LOD	10324.30	1253.86	289.88	-26.18	382.43	-8.55	73.64	53.51	18.69	1001.14	148.68	704.49	111.19	117.37	40.04	270.65
PLF22	DWW	Control	585237.39	164306.70	16517.12	<LOD	8437.79	20191.97	58.57	9064.25	3022.99	10.04	-40.98	335.87	-12.69	40.84	130.87	14.61	876.17	131.99	887.85	93.52	81.18	39.94	236.59
PLF23	DWW	Control	602102.64	214155.39	17062.32	4945.47	7460.90	21315.69	28.78	9919.28	2803.20	147.87	-20.72	414.47	-10.94	52.13	233.60	19.31	8645.62	144.99	2571.42	93.59	100.04	204.98	268.08
PLF24	DWW	Control	605699.77	212250.71	17481.28	<LOD	7924.19	22263.61	36.85	10647.60	1731.09	218.58	-24.67	390.07	-10.42	64.50	142.62	18.96	2925.22	144.07	1604.93	93.57	90.08	69.62	257.19
PLF25	DWW	Control	532771.41	152266.83	17014.43	17444.50	7637.79	20615.56	90.17	8636.04	6532.29	8.13	-34.75	274.80	-10.60	59.71	<LOD	13.78	1403.40	135.11	1148.33	111.40	69.74	33.09	211.04
PLF26	DWW	Control	588074.72	194178.95	17969.93	4088.29	12551.53	25693.28	78.31	10189.65	2316.73	580.10	-22.83	322.17	5.77	35.58	31.29	19.59	7142.74	140.55	4186.38	90.03	71.15	90.65	226.08
PLF27	DWW	Control	607233.92	185716.51	19609.37	<LOD	12574.31	25727.78	70.45	9105.41	4334.51	134.96	-0.83	386.00	-3.41	62.69	133.31	17.34	4975.78	143.34	3961.36	103.65	150.52	130.11	217.61
PLF28	DWW	Control	582221.66	185976.52	15561.05	3746.20	10262.98	19524.70	64.05	10735.97	7462.65	1212.08	-6.54	270.23	5.69	54.38	30.82	17.96	9445.76	135.93	7173.71	80.96	94.87	53.25	221.20
PLF29	DWW	Control	531610.40	176515.37	14513.80	14172.49	11837.69	19591.35	139.72	7816.94	10709.54	1928.06	4.48	343.03	6.36	31.09	75.09	13.22	12902.84	132.29	36393.12	109.46	153.97	44.24	188.50
PLF30	DWW	Control	510190.13	153345.19	17140.95	5061.75	9129.55	21235.62	145.90	7270.20	3484.53	3864.82	-17.13	481.17	13.18	40.33	116.07	15.14	19425.05	156.33	32636.52	90.79	77.62	57.12	229.65
PLF31	DWW	Control	664342.18	229825.81	18802.33	5567.86	9102.49	22810.71	86.55	14762.49	4771.34	1006.80	-3.37	33.40	-2.74	95.45	44.48	27.40	4930.75	138.48	2191.70	88.31	126.73	34.42	241.35
PLF32	DWW	Control	677922.18	209660.40	15202.14	<LOD	11199.62	24129.97	<LOD	9175.72	1720.65	40.33	-8.34	395.83	4.74	45.75	28.13	17.46	10094.57	151.28	5936.01	114.71	72.38	35.30	216.63
PLF33	DWW	Control	685620.34	226309.64	17952.17	5196.96	7494.72	24448.59	101.87	10135.97	3277.80	814.30	-13.72	312.05	2.48	57.57	31.19	17.10	5306.03	149.22	2071.13	92.56	102.75	28.38	234.33
PLF34	DWW	Control	653649.63	207856.29	16099.37	5206.24	8293.94	23560.11	<LOD	9581.74	4314.05	957.69	-25.91	404.07	3.52	44.90	28.71	16.90	4726.69	147.28	6745.29	100.23	138.97	29.15	217.97
PLF35	DWW	Control	547024.29	193795.02	13836.37	7962.86	8084.02	16780.70	84.61	10506.81	7358.28	885.69	-22.78	264.39	-2.19	20.74	20.61	20.20	4873.81	135.35	28164.07	84.64	102.25	33.31	241.32
PLF36	DWW	Control	561683.44	190029.61	14912.49	5943.62	10635.49	24056.35	<LOD	8779.35	3079.00	1650.41	-29.95	418.28	8.93	22.01	26.25	13.28	10880.23	145.36	9526.22	97.22	178.70	46.49	215.87
PLF37	DWW	Control	623981.76	210479.37	16154.94	4483.55	8769.56	23665.90	<LOD	9627.47	2507.43	1101.72	-37.73	347.30	0.78	39.98	82.80	16.37	4577.41	147.81	2552.35	102.35	112.58	29.08	256.74
PLF38	DWW	Control	583420.85	188252.76	16022.17	6363.55	10196.33	24400.65	<LOD	9518.05	2910.53	438.78	-17.35	413.64	16.47	24.68	45.75	16.56	9127.28	149.24	6351.45	101.57	101.47	58.15	239.41
PLF39	DWW	Control	568105.62	180425.91	14551.05	15654.42	9904.47	22093.22	213.33	8760.58	8695.23	4063.96	21.93	325.67	18.45	69.81	220.57	16.20	27590.30	135.16	23571.46	99.80	93.23	66.50	179.20
PLF40	DWW	Control	554176.06	181028.53	17564.35	4756.31	11047.31	43295.13	156.56	8642.90	10967.85	79.51	-8.88	320.28	3.17	39.16	133.95	15.62	3591.44	155.02	2658.90	135.30	130.82	49.69	225.12
PLF41	DWW	Control	582479.80	179040.32	13826.67	8193.86	8461.12	27646.31	145.65	8175.66	5876.33	542.67	-28.16	439.56	9.36	18.96	29.20	12.59	3886.82	149.48	6428.00	116.15	188.88	28.15	219.28
PLF42	DWW	Control	495771.83	147697.44	14104.49	11368.66	12171.79	24400.12	357.75	6768.03	13028.18	2751.60	-28.12	408.32	6.66	18.29	130.20	13.04	11606.98	142.52	29615.62	201.76	104.62	57.59	212.76
PLF43	DWW	Control	439283.74	115460.06	15773.35	10953.77	10912.96	20479.83	161.71	6786.35	13394.53	2435.87	-16.09	313.13	28.43	-14.21	43.49	13.20	10523.04	140.22	34998.05	137.51	61.99	44.65	229.38
PLF44	DWW	Control	599957.81	209879.54	18242.78	<LOD	10445.71	23866.53	<LOD	9617.66	5967.00	48.45	-25.95	391.31	0.16	51.45	30.57	16.51	1884.64	150.26	208.76	186.68	102.81	34.46	239.77
PLF45	DWW	Control	526269.76	174116.71	15538.98	11647.06	9103.28	19966.23	347.56	7963.52	6097.45	4415.90	-5.67	331.42	6.54	38.72	404.00	13.77	33560.34	133.37	20226.73	111.18	49.71	42.60	191.59
PLF46	DWW	Control	443056.94	127222.91	15078.93	5082.05	14154.15	20741.70	283.22	8045.32	26252.30	683.82	-4.12	336.66	-6.83	51.04	<LOD	12.78	3555.15	129.15	17020.62	146.21	145.12	36.69	199.29
PLF47	DWW	Control	533996.46	161633.09	14831.25	11586.79	11442.73	25257.54	133.77	8381.47	17362.25	1012.58	-12.55	302.19	6.57	32.64	29.02	15.59	7498.79	140.49	26867.62	130.06	106.02	43.53	226.95
PLF48	DWW	Control	569391.87	183483.25	17121.56	5831.74	10877.40	21509.55	<LOD	9278.08	11671.50	32.29	-13.03	365.86	-9.76	69.96	<LOD	14.33	407.98	138.32	1527.50	126.88	100.84	37.71	226.14
PLF49	DWW	Control	452393.70	139981.84	10850.45	12116.08	9405.09	19057.03	125.91	5513.90	13374.43	4678.41	-0.56	530.35	7.30	18.08	77.06	10.68	22684.75	133.92	52034.58	116.14	120.84	34.35	187.57
PLF50	DWW	Control	464171.30	146643.34	15412.50	13831.74	9556.71	25548.82	<LOD	8247.44	9605.10	1618.50	<LOD	152.08	-10.14	47.64	28.26	14.89	6484.93	140.06	44082.04	119.96	141.00	42.19	212.75

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
HER-1	WDSW	Control	641277.09	145432.74	60954.91	<LOD	11066.71	26378.39	460.66	8499.10	<LOD	155.51	8.95	312.71	-14.11	149.90	<LOD	13.58	1040.18	139.09	1818.80	79.91	129.08	114.95	245.32
HER-2	WDSW	Control	648266.59	152854.14	52188.94	<LOD	11912.78	31924.34	460.66	8724.94	<LOD	<LOD	-35.16	313.02	-7.48	136.52	<LOD	17.03	2571.31	157.44	1175.75	101.25	144.36	117.28	238.57
HER-3	WDSW	Control	635661.03	148763.38	60155.32	<LOD	9781.93	24138.52	229.52	10080.49	<LOD	244.81	16.56	360.17	-4.89	156.40	<LOD	18.22	3298.32	135.75	1715.63	67.81	151.16	171.19	281.91
HER-4	WDSW	Control	650961.78	150419.64	56048.99	<LOD	9467.06	28243.42	260.77	8255.40	<LOD	8.84	12.56	348.54	-11.93	120.67	<LOD	17.58	128.64	145.60	944.42	82.25	130.44	137.79	292.92
HER-5	WDSW	Control	659946.57	153202.74	61763.45	<LOD	9898.97	28030.95	554.44	9403.19	<LOD	52.29	15.18	460.54	-6.82	140.15	45.20	20.36	1121.32	151.10	1029.51	93.08	147.71	154.73	303.74
HER-6	WDSW	Control	605663.92	140708.79	38722.90	<LOD	9361.09	23602.44	295.36	6823.02	<LOD	15.72	0.81	244.17	-18.70	81.20	<LOD	10.08	98.93	123.69	<LOD	68.09	58.89	97.17	338.33
HER-7	WDSW	Control	628482.61	152791.13	57111.94	<LOD	10697.75	23762.74	549.74	10991.04	<LOD	178.91	12.80	364.24	-9.22	174.86	<LOD	18.30	1651.60	137.93	1827.66	79.18	207.01	181.11	276.92
HER-8	WDSW	Control	616448.33	151967.35	56773.73	<LOD	9760.55	25327.47	248.09	10379.07	<LOD	124.14	13.42	335.52	-10.50	168.18	<LOD	18.95	1214.98	141.97	1307.43	78.03	191.71	181.08	302.02
HER-9	WDSW	Control	628607.55	165010.40	60651.04	<LOD	9513.71	24965.63	227.74	11849.99	<LOD	57.59	5.67	317.27	-9.97	203.67	<LOD	18.95	629.50	141.35	877.49	79.16	238.97	187.36	291.09
HER-10	WDSW	Control	602644.70	151651.50	63709.89	<LOD	9138.28	24629.65	507.24	10069.71	7861.88	104.40	23.49	448.53	-5.35	152.98	667.71	17.45	954.77	142.25	945.14	79.37	166.52	190.55	279.80
HER-11	WDSW	Control	643580.15	159299.37	64310.81	<LOD	8699.72	24699.24	352.53	11217.97	<LOD	79.02	-8.58	335.04	-5.08	160.73	<LOD	17.48	744.77	141.35	659.09	76.26	226.35	194.69	267.56
HER-12	WDSW	Control	658586.22	153367.26	53271.00	<LOD	8345.44	30276.68	278.80	8059.98	<LOD	2.67	-30.10	269.01	-7.59	91.50	<LOD	14.85	464.57	148.66	<LOD	81.73	127.06	117.08	254.03
HER-13	WDSW	Control	647258.15	151952.57	59772.17	<LOD	9762.46	24344.84	186.73	10061.90	7579.64	237.84	32.74	431.23	-1.92	125.46	26.77	15.55	2405.40	138.51	1688.43	76.89	170.24	204.31	308.68
HER-14	WDSW	Control	645709.20	153350.53	55985.58	<LOD	10557.78	26601.93	105.56	11665.35	11140.11	150.77	-24.65	279.84	-0.78	143.82	<LOD	16.73	1515.89	137.46	1127.06	66.86	195.45	199.26	285.34
HER-15	WDSW	Control	660631.45	158079.34	77787.36	<LOD	10112.28	30557.10	267.84	9025.42	40695.34	22.86	-14.63	386.97	-5.50	115.82	<LOD	21.65	355.16	162.21	1960.50	101.35	170.04	162.17	288.46
HER-16	WDSW	Control	629667.33	144381.94	45121.27	<LOD	8041.41	21405.29	376.86	7192.28	10281.79	-2.54	-4.45	516.72	-8.88	61.92	<LOD	9.00	19.35	129.30	599.99	82.61	87.13	158.00	164.08
HER-17	WDSW	Control	642681.32	147557.79	55049.44	<LOD	9891.06	24456.75	730.78	9352.88	<LOD	89.76	8.92	355.91	-5.69	102.87	<LOD	13.04	975.76	122.52	773.03	54.96	139.88	103.39	270.71
HER-18	WDSW	Control	659806.52	157485.95	54389.98	<LOD	9693.79	26709.88	186.43	10474.86	<LOD	102.57	-29.24	289.20	1.71	114.19	<LOD	19.31	1381.60	146.58	1042.36	85.02	193.17	146.73	289.47
HER-19	WDSW	Control	664277.69	155585.87	56292.92	<LOD	9244.16	30830.19	285.73	8859.47	<LOD	5.05	11.84	348.99	-5.01	108.08	<LOD	15.66	897.40	138.65	953.50	70.33	121.99	125.23	284.27
HER-20	WDSW	Control	606912.52	148274.19	53291.79	<LOD	10414.19	24555.27	206.31	9076.81	<LOD	98.67	-1.34	343.65	-5.20	116.24	<LOD	15.01	1274.59	138.05	2267.83	84.17	169.42	158.08	282.58
HER-21	WDSW	Control	597624.99	148285.51	59278.24	<LOD	8504.01	26075.78	162.10	10896.33	<LOD	93.06	-7.59	321.57	-6.20	176.62	<LOD	15.71	963.70	141.13	1248.59	73.72	172.90	143.02	256.20
HER-22	WDSW	Control	606653.72	154213.18	61482.79	<LOD	8533.00	25442.38	500.15	10065.21	<LOD	523.46	-18.40	304.01	46.75	115.21	<LOD	18.60	14596.86	133.08	2010.20	70.91	78.74	244.70	313.01
HER-23	WDSW	Control	585181.15	145267.83	57189.58	<LOD	8427.24	24205.07	189.64	10192.48	28990.34	80.46	-3.81	306.06	-5.98	164.04	<LOD	15.69	1815.81	132.02	2466.99	71.70	186.78	135.31	288.57
HER-24	WDSW	Control	628410.25	156091.71	59447.88	<LOD	8573.21	25524.33	239.36	10551.71	<LOD	197.13	-0.04	301.33	1.03	160.72	<LOD	16.92	1870.22	141.66	1658.00	77.77	194.21	149.97	279.27
HER-25	WDSW	Control	636065.76	153820.92	55292.64	<LOD	12538.50	27156.80	306.28	9747.57	<LOD	30.69	1.76	311.54	-6.37	126.97	<LOD	15.48	829.43	141.27	784.57	77.38	142.10	148.47	271.36
HER-26	WDSW	Control	626170.32	160161.68	60866.15	<LOD	9745.51	26835.27	224.53	10970.38	<LOD	40.58	-2.64	346.87	-6.46	171.29	<LOD	18.02	465.70	144.59	745.21	83.98	208.10	151.49	263.56
HER-27	WDSW	Control	620530.67	147327.61	54509.48	<LOD	13669.25	29874.20	225.77	9229.93	<LOD	37.93	-16.32	319.35	-7.12	150.94	<LOD	16.95	329.07	149.10	706.07	93.19	140.10	112.42	250.01
HER-28	WDSW	Control	613624.22	153042.74	70094.67	<LOD	9001.11	25516.61	224.04	10600.32	<LOD	92.29	-34.70	293.41	-4.40	182.48	<LOD	20.47	2558.41	148.72	868.76	81.00	192.71	264.56	245.48
HER-29	WDSW	Control	597407.76	147549.57	66644.45	<LOD	9131.43	24056.15	197.20	9269.27	<LOD	31.13	-14.16	326.75	-5.09	153.63	<LOD	14.05	755.02	130.54	<LOD	63.52	121.04	380.50	295.58
HER-30	WDSW	Control	606719.16	147817.10	65481.77	<LOD	10679.78	23548.22	475.12	9122.79	2620.03	80.10	-29.80	332.17	-7.18	153.83	45.21	16.22	1259.09	130.15	1075.74	61.27	143.85	404.78	286.21
HER-31	WDSW	Control	624346.61	160150.48	66190.14	<LOD	10364.60	27316.29	228.61	10694.52	<LOD	93.83	6.84	341.65	-4.59	191.34	<LOD	17.39	1383.05	143.16	1312.91	75.58	166.03	172.21	267.90
HER-32	WDSW	Control	651494.70	158300.04	54492.20	<LOD	8507.80	25298.51	262.77	10388.25	<LOD	37.67	1.78	303.55	-8.32	161.46	<LOD	15.79	525.58	133.19	867.15	69.41	176.77	141.18	378.73
HER-33	WDSW	Control	640937.62	156160.90	63126.62	<LOD	9198.73	27671.12	245.92	10809.02	<LOD	127.71	-31.64	326.54	-3.11	158.11	<LOD	20.13	1488.27	148.30	1319.27	79.09	158.19	191.42	275.09
HER-34	WDSW	Control	635041.00	152930.37	61678.40	<LOD	9372.06	25894.61	314.88	9070.05	<LOD	7.58	0.73	364.58	-9.36	147.93	<LOD	18.70	633.58	142.53	<LOD	80.40	130.84	147.39	308.78
HER-35	WDSW	Control	622004.12	151964.91	64197.04	<LOD	11062.94	26822.64	598.40	8427.84	<LOD	<LOD	7.94	440.51	-1.21	134.27	<LOD	18.12	3590.55	135.47	1266.35	69.31	112.74	118.48	289.04
HER-36	WDSW	Control	647352.30	161756.89	59372.67	<LOD	9627.12	26156.39	226.30	10499.52	<LOD	64.14	-9.70	338.63	-4.26	168.65	<LOD	18.47	852.93	148.09	1093.21	81.02	191.96	174.98	274.66
HER-37	WDSW	Control	648883.97	152544.74	56017.47	<LOD	10513.87	26360.84	360.86	8049.84	<LOD	<LOD	15.74	426.97	3.58	123.20	<LOD	14.14	3101.00	136.09	1731.03	63.17	127.33	189.72	242.77
HER-38	WDSW	Control	604485.76	145130.61	65528.43	<LOD	9710.87	23354.00	385.89	8613.35	<LOD	28.91	2.84	261.62	-4.12	139.39	<LOD	14.90	597.39	127.41	1061.75	63.96	115.71	130.27	339.64
HER-39	WDSW	Control	645141.94	150984.75	51032.63	<LOD	9153.89	28823.44	239.34	8874.97	<LOD	114.68	17.26	314.38	-1.40	117.02	<LOD	13.91	1528.49	135.70	1486.91	67.58	88.69	125.12	338.44
HER-40	WDSW	Control	603458.24	146905.93	54228.19	<LOD	9403.87	25790.34	147.23	7836.70	<LOD	4.49	6.81	361.10	5.43	114.87	<LOD	15.57	1126.52	136.05	1727.38	67.31	120.21	117.00	253.68
HER-41	WDSW	Control	607422.38	145854.97	59435.96	<LOD	9987.70	25347.61	160.64	8986.93	<LOD	106.59	-12.46	378.03	18.16	143.51	<LOD	16.62	6214.20	137.14	2291.68	60.44	125.47	120.07	266.70
HER-42	WDSW	Control	608868.62	152066.03	60317.23	<LOD	9071.78	26480.03	241.47	10798.94	10462.64	81.34	-10.00	314.06	0.56	179.99	<LOD	16.42	889.86	148.27	781.69	83.42	198.28	173.47	269.13
HER-43	WDSW	Control	623312.48	151802.28	58300.30	<LOD	9356.67	29591.90	164.30	8363.52	<LOD	54.40	6.04	374.10	-1.27	119.06	<LOD	17.36	771.44	151.73	930.18	91.04	121.36	149.67	277.40
HER-44	WDSW	Control	626194.35	152250.51	62581.53	<LOD	10078.56	27473.24	182.19	10499.69	8205.50	83.48	-1.58	304.23	0.19	161.55	<LOD	17.40	745.36	145.45	944.28	80.75	149.75	151.14	276.86
HER-45	WDSW	Control	610488.06	154462.75	70305.55	<LOD	9124.84	25397.58	197.26	10239.90	<LOD	164.87	-12.51	383.28	7.16	144.16	<LOD	17.89	1364.94	146.98	989.05	81.92	157.97	222.35	288.39
HER-46	WDSW	Control	618237.87	145937.67	49718.72	<LOD	8563.11	25863.56	101.10	8654.64	<LOD	271.29	-11.18	310.08	11.23	118.12	<LOD	13.84	3619.58	139.74	1731.43	74.69	120.24	142.31	247.31
HER-47	WDSW	Control	638877.61	156542.29	60140.77	<LOD	10259.32	27370.93	245.99	9739.95	34115.32	87.75	16.90	383.08	-0.92	135.92	<LOD	17.70	590.79	149.66	1262.32	85.31	160.93	191.65	238.22
HER-48	WDSW	Control	614263.96	155835.39	69865.88	<LOD	10461.67	27335.52	441.68	9566.84	<LOD	166.89	57.50	427.69	12.48	158.29	<LOD	18.10	4975.57	138.39	1515.56	71.44	135.68	220.67	263.69
HER-49	WDSW	Control	617839.07	146762.93	58918.12	<LOD	9188.11	27147.24	370.64	7953.63	<LOD	99.77	20.66	308.52	1.60	127.29	<LOD	15.51	2732.73	144.94	5255.95	75.23	96.46	159.60	247.61
HER-50	WDSW	Control	593476.16	147016.27	53552.14	<LOD	9384.05	25053.04	274.90	9136.99	<LOD	180.16	22.20	379.84	6.18	156.70	<LOD	16.05	4333.52	132.90	1406.75	59.61	150.49	154.05	244.03
X1	Christchurch	Unprovenanced	616906.86	148160.10	27202.39	<LOD	10019.90	25819.99	<LOD	6501.92	27364.64	0.46	-6.79	337.47	-8.87	62.23	89.28	8.39	103.92	135.85	1254.09	117.45	114.06	97.97	179.76
X2	Christchurch	Unprovenanced	581078.83	139820.63	31348.41	<LOD	12964.80	28232.56	<LOD	7397.36	13914.50	9.36	-34.25	316.40	-8.42	64.77	21.41	10.12	102.04	147.29	956.28	266.28	104.00	145.53	197.12
X3	Christchurch	Unprovenanced	665977.32	146441.94	23797.26	<LOD	11297.35	25736.80	89.46	8675.23	9818.73	-5.78	-4.80	353.76	-8.28	35.13	<LOD	16.01	222.06	141.65	<LOD	94.89	101.32	42.06	295.56
X4	Christchurch	Unprovenanced	648796.64	151028.76	37433.76	<LOD	9660.26	25746.57	266.80	8259.49	8093.43	3.48	-12.48	425.27	-8.46	52.90	20.85	13.30	107.25	153.59	<LOD	128.18	102.11	110.35	223.49
X5	Christchurch	Unprovenanced	656656.03	153572.15	31993.80	<LOD	11067.04	21047.43	85.80	8855.81	7812.23	<LOD	-14.06	259.66	-4.92	68.82	21.58	14.54	2722.20	138.74	1606.11	105.49	114.38	51.05	334.77

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
X6	Christchurch	Unprovenanced	639252.68	148687.84	33384.67	<LOD	19635.78	20520.34	357.20	8182.67	22374.58	<LOD	-4.85	324.23	-6.78	45.88	47.76	15.28	716.06	139.64	758.63	121.37	86.27	88.04	332.06
X7	Christchurch	Unprovenanced	631575.01	145710.54	24125.42	<LOD	20374.54	20819.16	534.74	7909.95	18458.44	-0.21	-24.33	339.86	-9.88	41.58	33.08	14.39	80.16	134.53	872.23	121.26	91.51	84.40	352.76
X8	Christchurch	Unprovenanced	657520.60	144749.29	22323.72	<LOD	15724.70	20091.19	346.59	8574.85	14826.80	0.52	-2.20	243.53	-11.23	28.23	<LOD	9.32	51.59	117.77	1076.44	170.13	47.04	82.15	202.73
X9	Christchurch	Unprovenanced	665027.44	145975.50	29409.74	<LOD	19547.76	21351.54	429.74	7810.00	13900.06	-1.17	0.46	287.16	-12.75	12.58	72.07	10.35	67.04	120.80	905.52	186.38	62.93	121.90	223.14
X10	Christchurch	Unprovenanced	673932.88	144304.90	50675.96	<LOD	9992.11	25375.69	122.02	8096.97	10439.87	-1.19	10.31	360.55	-7.82	72.00	<LOD	14.52	43.87	140.53	794.71	79.24	99.62	73.60	280.07
X11	Christchurch	Unprovenanced	626814.68	145077.29	40516.57	<LOD	24009.45	20312.45	1130.18	7250.65	16384.62	9.11	-16.67	418.73	-10.01	58.31	35.60	13.25	809.10	130.54	1091.40	236.88	74.22	311.43	213.39
X12	Christchurch	Unprovenanced	649241.89	149294.63	34479.03	<LOD	10707.33	27756.66	305.92	7654.61	-1847.52	-1.95	-23.94	358.56	-10.73	76.58	31.32	12.66	74.57	147.93	<LOD	104.79	117.66	95.08	196.49
DOR1	Dorchester	Unprovenanced	614792.04	137525.42	35347.84	<LOD	27232.26	22973.32	282.64	6109.00	19147.61	1.40	-0.02	299.28	-9.22	51.44	<LOD	11.69	24.69	125.48	737.48	105.10	47.55	100.11	267.47
DOR2	Dorchester	Unprovenanced	585516.15	132585.46	30287.25	<LOD	30785.13	19904.78	492.63	5966.82	40260.74	11.98	10.31	402.78	-11.41	43.24	74.18	11.01	324.31	120.21	1653.67	224.13	22.52	509.98	234.37
DOR3	Dorchester	Unprovenanced	560452.59	135358.94	20215.52	<LOD	30675.99	23502.25	728.44	5406.35	31956.17	-3.92	<LOD	330.79	-9.59	35.60	42.40	8.03	99.40	126.23	<LOD	495.95	14.37	763.28	160.01
DOR4	Dorchester	Unprovenanced	578292.76	138537.93	20342.06	<LOD	28447.15	21531.29	436.79	6180.56	9577.54	-10.59	13.94	431.84	-10.84	30.79	24.70	8.31	68.66	125.05	<LOD	188.22	33.32	93.13	179.39
DOR5	Dorchester	Unprovenanced	613227.30	133801.09	26965.22	<LOD	18674.03	22420.09	247.61	6838.24	25056.43	5.63	6.24	564.77	-5.44	37.05	143.99	10.88	1237.19	111.14	<LOD	257.63	5.10	510.12	244.47
DOR6	Dorchester	Unprovenanced	612064.89	139949.51	44958.61	<LOD	16677.20	24854.05	310.35	6475.04	5800.67	10.92	-26.64	330.97	-7.52	54.39	<LOD	13.55	126.84	138.31	<LOD	89.03	68.39	92.88	303.57
DOR7	Dorchester	Unprovenanced	609744.39	138519.46	49051.83	<LOD	57606.08	25998.91	255.60	6928.36	13036.84	2.43	-33.09	330.86	-7.81	101.88	<LOD	16.79	40.51	145.34	<LOD	117.22	77.38	126.01	238.34
DOR8	Dorchester	Unprovenanced	569821.12	133716.76	35242.14	<LOD	29279.21	23975.45	493.61	6240.43	19039.27	-7.96	49.27	476.63	-9.02	74.78	<LOD	11.96	48.28	133.34	<LOD	92.65	53.64	82.16	230.32
EWO1	East Worth	Unprovenanced	582291.57	163627.25	14313.37	<LOD	6076.42	10154.98	<LOD	10560.01	3461.30	33.15	<LOD	213.98	-7.11	65.32	-5.96	13.86	41.95	74.00	230.06	56.26	106.78	86.68	233.80
EWO2	East Worth	Unprovenanced	620758.23	208549.13	29620.26	<LOD	5856.35	10440.23	<LOD	8994.75	851.26	5.75	<LOD	243.56	-18.33	67.49	-8.55	11.50	54.26	82.98	-50.13	66.44	84.49	90.96	208.30
EWO3	East Worth	Unprovenanced	627061.05	208999.15	22798.76	<LOD	5928.58	6873.51	<LOD	6992.92	693.85	2.20	<LOD	257.92	-20.45	48.49	-8.55	6.99	22.01	54.48	81.70	68.09	69.89	34.06	190.47
EWO4	East Worth	Unprovenanced	494042.98	150952.46	31941.26	<LOD	9458.99	6948.99	<LOD	7868.45	1390.13	31.70	<LOD	244.53	-18.63	57.80	-2.98	7.84	21.61	50.28	8.50	51.14	68.75	35.69	161.66
EWO5	East Worth	Unprovenanced	628931.79	191607.00	24148.57	<LOD	5273.72	18176.90	<LOD	7519.16	705.00	<LOD	<LOD	307.49	-24.99	48.88	158.06	13.05	4856.94	110.15	479.18	91.58	77.36	130.41	177.65
EWO6	East Worth	Unprovenanced	574817.98	273522.97	28116.89	<LOD	4651.65	22965.94	<LOD	11334.65	1724.15	22.49	<LOD	290.08	-12.17	94.58	1.79	13.65	204.77	86.59	477.50	62.16	62.73	211.47	240.43
EWO7	East Worth	Unprovenanced	510431.15	157920.19	48714.64	<LOD	10733.24	11682.58	<LOD	10420.25	4627.03	41.84	<LOD	343.36	-21.13	95.47	15.94	15.28	386.79	76.71	759.73	68.80	96.44	76.11	248.93
EWO8	East Worth	Unprovenanced	544245.80	176009.42	63922.65	<LOD	7005.19	10195.54	<LOD	9480.16	4315.01	52.67	<LOD	313.80	<LOD	102.54	7.87	11.20	1481.08	43.01	966.69	31.91	191.11	86.83	252.05
EWO9	East Worth	Unprovenanced	503684.09	123704.87	34084.97	<LOD	4826.73	13319.35	<LOD	10327.60	4584.68	<LOD	<LOD	262.55	-20.03	93.34	8.16	13.92	2023.46	65.93	1300.77	53.96	163.63	97.39	391.59
EWO10	East Worth	Unprovenanced	600194.66	183914.53	39723.70	<LOD	5373.63	13591.62	437.32	13128.73	2573.46	32.71	<LOD	291.47	-11.04	98.54	22.35	16.66	441.66	65.00	671.30	67.67	127.89	209.36	319.31
FOR-1	Fordingbridge	Unprovenanced	587676.71	139089.24	25150.38	<LOD	68900.26	19309.48	1108.17	6530.80	32065.96	50.47	-36.28	208.62	-10.17	30.95	39.27	14.01	1176.74	131.12	1591.15	109.84	67.42	250.27	237.77
FOR-2	Fordingbridge	Unprovenanced	649665.70	145635.79	22797.93	<LOD	16933.02	25113.13	<LOD	9033.26	#VALUE!	-3.99	-13.71	357.93	-11.51	50.45	<LOD	16.88	461.81	137.24	1346.06	88.97	101.60	28.34	265.26
FOR-3	Fordingbridge	Unprovenanced	651383.19	147713.92	34167.82	<LOD	16642.80	20958.90	488.38	7051.29	223.16	-4.38	-3.46	299.34	-14.36	47.80	27.01	10.16	41.50	117.07	<LOD	159.48	61.53	163.43	176.18
FOR-4	Fordingbridge	Unprovenanced	633506.96	147181.17	28281.73	<LOD	12441.54	18084.93	332.36	7796.16	-6462.96	-12.93	-28.18	207.23	-14.22	62.65	<LOD	11.97	17.01	112.10	<LOD	104.77	64.08	42.91	196.20
FOR-5	Fordingbridge	Unprovenanced	668565.07	156921.42	29416.23	<LOD	11765.58	19678.21	193.17	9042.54	-5370.00	-9.12	-10.73	310.27	-8.63	76.51	60.27	16.40	83.31	141.58	4759.50	102.52	120.75	51.69	261.75
FOR-6	Fordingbridge	Unprovenanced	656218.87	150716.12	34269.27	<LOD	10921.15	21601.85	504.81	8236.74	-5542.33	-8.93	-28.19	347.15	-7.56	69.56	40.64	14.93	65.93	140.95	<LOD	126.93	107.30	69.47	222.84
FOR-7	Fordingbridge	Unprovenanced	661764.50	154959.25	32662.39	<LOD	11933.57	20004.04	237.87	8696.91	-5014.58	<LOD	-38.97	244.88	-5.17	52.54	39.62	16.65	1639.96	137.05	965.39	106.02	121.61	49.53	276.89
FOR-8	Fordingbridge	Unprovenanced	655223.40	153389.21	31509.01	<LOD	11085.77	20068.59	146.96	8280.93	-6132.92	-7.93	-30.31	282.81	-7.56	49.97	54.67	15.24	110.52	141.05	847.33	104.27	99.05	47.24	258.00
FOR-9	Fordingbridge	Unprovenanced	628469.47	145962.31	23508.81	<LOD	12026.55	17309.02	83.54	7189.67	6451.25	<LOD	-44.15	91.21	-9.29	43.21	38.61	10.83	2128.16	111.02	1109.51	85.47	38.62	58.68	229.41
FOR-10	Fordingbridge	Unprovenanced	618056.88	143132.39	25041.83	<LOD	10438.73	19843.93	146.06	8388.08	7714.57	<LOD	-37.12	211.49	-8.27	71.56	47.60	12.73	241.18	133.57	<LOD	83.07	69.18	54.08	293.94
FOR-11	Fordingbridge	Unprovenanced	607364.01	145429.55	24574.73	<LOD	9058.43	18561.98	665.43	8079.69	6488.53	253.57	-36.98	162.08	-0.18	58.73	<LOD	13.71	6085.34	125.65	1622.96	83.64	49.61	44.31	271.64
FOR-12	Fordingbridge	Unprovenanced	653653.69	154385.09	26734.50	<LOD	9628.76	19907.43	258.09	8944.71	7249.85	<LOD	-25.91	260.30	-6.14	72.86	58.71	14.42	127.83	133.02	<LOD	90.20	100.86	48.70	309.74
GIL1	Gillingham	Unprovenanced	573695.23	150071.73	25444.57	<LOD	9217.02	6888.42	<LOD	7372.87	1365.66	7.07	<LOD	263.06	-16.92	52.80	-6.46	6.35	25.40	36.10	79.79	83.09	75.17	36.57	143.44
GIL2	Gillingham	Unprovenanced	601433.70	190542.15	22819.49	<LOD	7945.26	6814.07	<LOD	8466.32	1004.12	3.52	<LOD	224.22	-15.00	56.21	-11.87	9.37	18.67	62.77	29.69	82.36	61.61	49.69	188.27
GIL3	Gillingham	Unprovenanced	663510.30	218383.08	29420.32	<LOD	7938.03	10504.34	280.46	9069.50	1812.44	<LOD	<LOD	255.00	-6.06	51.59	24.23	14.16	5276.68	101.94	1043.42	94.10	85.95	36.65	222.55
GIL4	Gillingham	Unprovenanced	609925.96	249010.55	32783.58	<LOD	5452.86	14582.17	<LOD	8055.26	917.02	7.37	<LOD	342.72	-12.21	59.75	-2.45	12.76	67.14	100.98	-42.45	83.06	97.18	123.73	227.51
GIL5	Gillingham	Unprovenanced	641761.45	270396.15	33710.14	<LOD	5258.95	13771.42	<LOD	10499.12	1203.13	4.41	<LOD	316.12	-12.69	80.08	-5.16	11.92	139.34	95.74	110.87	76.47	131.20	124.97	219.12
GIL6	Gillingham	Unprovenanced	605493.34	159878.69	32535.96	<LOD	11046.87	7730.90	<LOD	8154.34	1924.83	<LOD	<LOD	308.46	-13.11	54.06	3.26	8.64	862.16	60.19	391.16	58.63	77.30	173.29	189.70
GIL7	Gillingham	Unprovenanced	553837.66	188149.01	28005.73	<LOD	12713.77	20263.95	227.17	6885.69	6937.30	765.84	<LOD	492.06	-16.06	68.00	8.36	8.62	3571.08	111.94	8198.34	123.54	90.39	97.50	318.80
GIL8	Gillingham	Unprovenanced	594958.60	235694.46	51842.78	<LOD	6213.11	20953.55	<LOD	10801.29	1419.00	5.31	<LOD	499.61	-17.36	91.72	13.01	14.64	280.82	135.65	111.08	94.94	116.00	60.92	321.78
GIL9	Gillingham	Unprovenanced	591650.05	146488.75	34880.57	<LOD	14882.20	10157.81	<LOD	9140.08	1873.74	<LOD	<LOD	236.72	-16.06	69.49	4.78	10.19	1055.77	69.28	424.52	82.18	75.41	204.85	242.47
GIL10	Gillingham	Unprovenanced	667630.40	183886.09	32280.04	<LOD	11642.50	20956.52	<LOD	9995.83	2623.16	6.46	<LOD	410.95	-23.11	77.32	-8.70	16.68	147.07	99.29	291.28	62.78	100.50	109.01	349.91
GIL11	Gillingham	Unprovenanced	665461.54	282275.69	59624.97	<LOD	8965.39	19460.15	284.10	13018.40	1963.21	<LOD	<LOD	438.93	-13.89	107.02	8.73	19.19	481.32	125.01	464.42	90.61	147.49	169.17	341.00
H2WCW-1	Horton	Unprovenanced	661208.39	226308.19	48792.37	6375.61	7700.65	26461.95	303.12	10626.65	3600.43	18.19	17.04	468.44	-3.45	111.30	44.56	18.76	307.99	156.55	377.00	106.20	126.61	75.11	322.12
H2WCW-2	Horton	Unprovenanced	576600.29	153475.71	61602.32	<LOD	9414.23	17382.74	354.66	7612.60	3130.32	4.58	-19.71	275.68	-12.26	107.76	24.67	10.75	56.00	113.85	-282.07	66.74	87.40	82.78	204.17
H2WCW-3	Horton	Unprovenanced	545700.32	168086.83	29412.67	<LOD	8424.06	25415.03	681.31	7287.04	4772.79	-3.88	-22.40	307.04	-6.76	100.74	17.78	10.23	24.74	131.62	-177.09	71.40	90.11	103.36	196.91
H2WCW-4	Horton	Unprovenanced	594198.28	169411.72	29542.98	<LOD	7906.17	24694.46	556.15	7930.14	2319.46	-3.63	<LOD	240.89	-9.31	83.90	16.16	9.14	59.84	134.40	-207.90	101.17	95.27	154.03	193.67
H2WCW-5	Horton	Unprovenanced	570449.52	195113.53	25749.84	<LOD	7492.39	26576.12	86.19	8552.53	4708.74	-4.00	-16.07	327.24	-2.09	89.66	18.12	12.58	33.62	140.52	-216.28	89.47	126.26	177.84	209.44

Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
H2WCW-6	Horton	Unprovenanced	658179.18	173506.53	33878.77	<LOD	7777.59	16269.71	292.94	8127.52	1242.66	-10.09	-16.07	223.85	-10.16	81.12	<LOD	10.25	20.46	117.42	-266.99	85.55	81.64	64.94	207.33
H2WCW-7	Horton	Unprovenanced	609153.60	184722.14	32618.38	<LOD	7769.34	21786.92	73.79	8292.79	2526.90	-9.01	-17.21	386.43	-8.21	75.31	18.95	10.11	51.25	131.55	-223.30	96.82	51.13	122.08	245.90
H2WCW-8	Horton	Unprovenanced	567746.22	147680.11	42853.35	<LOD	9400.66	15845.74	349.29	8318.52	3975.19	-1.64	-43.98	185.76	-11.42	90.71	<LOD	9.57	36.28	105.15	-341.40	71.08	50.85	98.86	207.05
H2WCW-9	Horton	Unprovenanced	566416.68	176112.32	26461.55	<LOD	7974.14	23163.48	320.77	7008.81	1919.70	2.78	-20.73	245.72	-6.84	56.69	26.89	8.53	540.47	131.48	35.44	69.15	73.68	95.43	196.51
H2WCW-10	Horton	Unprovenanced	555188.07	151619.39	71295.44	<LOD	8562.86	20938.65	1195.78	7084.08	5982.31	2.18	9.42	332.52	-11.79	146.31	24.76	9.17	45.83	119.12	-250.42	49.04	115.79	128.80	189.66
LYM-1	Lymington	Unprovenanced	579568.13	150404.49	47724.42	<LOD	25352.72	26161.05	364.35	7270.66	39412.46	41.87	-20.43	505.86	-3.73	89.38	35.49	17.32	175.09	133.83	1062.63	148.31	97.79	118.06	246.85
LYM-2	Lymington	Unprovenanced	542748.13	125547.09	43017.65	<LOD	24815.32	26437.14	242.57	7438.34	37145.29	164.81	-18.34	349.06	31.24	96.04	20.17	14.24	13460.44	137.53	6318.69	88.45	60.84	119.04	292.44
LYM-3	Lymington	Unprovenanced	595021.81	133280.11	39316.71	<LOD	11572.12	23776.41	319.22	6940.82	8417.17	24.53	-16.53	316.86	-6.57	66.23	16.30	14.23	432.81	142.51	4175.87	89.52	56.14	84.45	244.87
LYM-4	Lymington	Unprovenanced	590626.21	172946.01	26419.33	<LOD	21104.28	28883.35	389.95	9190.94	31190.32	3.56	-7.45	530.69	5.40	82.94	31.08	24.09	294.28	164.51	10994.21	114.03	126.49	112.39	299.01
LYM-5	Lymington	Unprovenanced	624872.19	132829.56	45454.04	<LOD	19842.21	25192.74	770.02	7451.84	27409.09	-1.14	15.10	388.60	-5.11	77.34	12.65	12.85	62.58	142.18	944.65	109.87	52.38	122.43	239.17
LYM-6	Lymington	Unprovenanced	521756.08	132646.37	88870.35	<LOD	21090.02	20856.90	3242.67	9072.59	41334.66	19.18	7.96	347.02	-7.84	1070.68	31.54	14.24	632.26	126.76	2540.72	114.07	95.80	112.02	247.79
LYM-7	Lymington	Unprovenanced	603323.37	129644.93	53223.69	<LOD	19391.04	25509.48	1110.13	7644.59	40546.53	-1.20	-24.92	394.62	-7.01	89.45	21.20	13.46	194.62	142.30	780.60	152.52	84.60	126.90	207.60
LYM-8	Lymington	Unprovenanced	560599.20	136857.78	39006.59	<LOD	16837.77	28700.06	325.03	8125.39	34961.94	48.36	-22.11	374.46	1.13	99.65	19.52	15.64	438.28	152.63	4848.51	137.70	98.95	130.85	280.44
POO-1	Poole	Unprovenanced	539206.83	133379.10	52166.66	<LOD	26941.75	20806.64	183.42	5907.66	48900.56	<LOD	-39.79	293.07	-5.92	78.06	50.95	11.37	3801.79	138.07	2453.39	178.69	72.35	78.76	213.87
POO-2	Poole	Unprovenanced	593840.84	145801.18	33046.05	<LOD	12366.06	25887.53	122.72	6654.62	10430.65	<LOD	-43.83	281.77	-10.38	65.93	37.45	9.96	2335.33	151.21	1895.60	179.05	84.79	117.41	202.11
POO-3	Poole	Unprovenanced	615094.89	148168.02	24629.28	<LOD	11336.96	25190.25	189.27	6655.76	9112.43	-3.44	-11.58	329.51	-7.51	85.56	27.20	8.87	40.89	145.12	646.38	138.05	80.11	84.88	155.16
POO-4	Poole	Unprovenanced	608333.97	143735.39	24507.80	<LOD	12871.02	24390.11	145.91	6161.62	7307.25	1.29	-39.75	277.50	-7.59	58.48	31.13	7.27	38.62	139.99	<LOD	147.94	72.02	125.36	175.54
POO-5	Poole	Unprovenanced	651663.77	149973.87	18906.31	<LOD	9436.19	25166.45	<LOD	9179.59	7465.52	<LOD	-34.79	307.81	-0.39	62.39	32.81	20.24	1385.70	145.15	851.01	102.90	88.74	50.95	358.60
POO-6	Poole	Unprovenanced	656315.06	147546.73	46546.43	<LOD	18002.25	28502.23	529.63	7470.36	11463.37	<LOD	-19.54	346.05	-6.75	99.86	<LOD	13.59	736.10	142.15	1958.58	113.24	101.08	108.88	298.46
POO-7	Poole	Unprovenanced	634243.93	151039.32	47423.84	<LOD	9946.86	26558.36	194.14	8973.43	7641.80	41.53	-43.77	342.37	5.77	98.24	262.43	15.13	6501.54	157.72	855.04	125.18	113.72	111.18	203.34
POO-8	Poole	Unprovenanced	647573.92	151577.79	38036.27	<LOD	7713.20	24936.91	<LOD	8164.41	6199.67	7.78	-30.99	342.82	-4.11	88.86	<LOD	12.12	261.39	146.61	<LOD	116.29	76.91	55.71	199.85
POO-9	Poole	Unprovenanced	618344.22	148351.02	26646.53	<LOD	9597.53	26095.59	156.54	6518.19	8693.26	681.06	-35.63	330.87	4.51	79.21	38.89	7.74	5155.20	144.12	906.04	120.07	72.00	72.98	172.07
POO-10	Poole	Unprovenanced	635261.31	148276.38	40667.11	<LOD	11462.22	24261.92	316.84	7339.28	10741.07	4.85	-12.72	396.50	-8.46	85.52	29.17	8.49	285.73	134.14	775.81	158.84	81.55	70.54	168.68
POO-11	Poole	Unprovenanced	571016.37	139474.85	42624.96	<LOD	24579.66	22895.41	969.91	6884.53	41751.21	32.47	-19.93	404.42	-7.65	80.24	49.25	11.66	205.48	141.94	2074.42	193.58	71.15	76.77	207.93
POO-12	Poole	Unprovenanced	601403.62	143617.61	66459.83	<LOD	17879.53	23493.61	186.92	7274.78	21755.51	16.88	-25.49	356.03	-8.80	110.00	26.76	12.08	136.42	144.80	1917.96	131.73	95.13	65.02	209.14
SAL-1	Salisbury	Unprovenanced	544522.87	131860.61	28169.51	<LOD	32219.36	18544.58	625.95	7379.78	52486.44	1.89	-37.94	244.25	-5.76	54.51	46.67	11.86	270.78	129.97	816.19	167.30	68.03	130.14	252.28
SAL-2	Salisbury	Unprovenanced	607487.84	138252.25	21772.24	<LOD	21567.70	18154.14	-14.82	8231.30	10100.09	868.57	-14.64	267.11	-8.38	47.62	22.61	11.42	108.15	127.79	935.82	74.00	62.64	40.51	240.70
SAL-3	Salisbury	Unprovenanced	597167.18	147788.17	21322.02	<LOD	36897.54	23581.33	40.35	8700.98	7460.89	-12.24	-13.19	381.37	-7.28	59.65	<LOD	16.79	61.99	138.05	-147.01	94.01	74.09	38.84	284.77
SAL-4	Salisbury	Unprovenanced	594851.20	168936.00	23349.12	<LOD	34995.91	18238.75	202.56	8484.55	6950.32	8.56	-15.82	326.30	-7.53	60.71	29.57	15.33	165.95	133.97	-56.15	100.21	84.44	57.65	328.25
SAL-5	Salisbury	Unprovenanced	616825.29	153815.60	22584.61	<LOD	26669.48	17578.40	2430.81	8167.67	12360.19	1.51	-10.25	349.00	-6.80	54.92	45.68	12.22	203.53	126.71	23.43	126.57	88.35	64.23	254.43
SAL-6	Salisbury	Unprovenanced	554216.71	152849.68	27048.02	<LOD	15330.90	16308.43	157.58	8116.49	3298.47	1108.35	-23.52	243.51	-0.05	59.84	47.87	12.61	4952.90	127.78	201.83	93.78	69.06	45.30	266.67
SAL-7	Salisbury	Unprovenanced	636429.43	137011.19	16736.25	<LOD	16045.94	24318.34	<LOD	8419.53	7094.52	-3.08	-33.63	304.79	-9.32	46.33	83.20	15.39	685.47	131.17	2009.37	77.91	42.94	39.09	379.06
SAL-8	Salisbury	Unprovenanced	581015.50	138057.10	28036.61	<LOD	20460.83	17598.93	428.43	7507.62	8672.93	-10.21	-43.50	290.31	-11.79	92.45	24.68	10.85	18.04	110.03	-134.64	131.94	61.25	85.90	202.73
SAL-9	Salisbury	Unprovenanced	628237.18	168181.21	41476.60	<LOD	14574.83	26051.35	154.06	7657.68	7471.27	<LOD	56.36	748.58	-0.97	81.89	365.81	14.63	8487.87	133.04	2943.54	268.96	105.40	97.58	239.27
SAL-10	Salisbury	Unprovenanced	565709.04	139875.44	26222.88	<LOD	33808.64	16865.67	<LOD	7070.70	3290.01	<LOD	15.80	654.43	-6.91	50.11	36.55	12.99	737.44	132.30	-100.94	98.90	68.29	45.18	279.43
SAL-11	Salisbury	Unprovenanced	584801.77	160853.41	28713.70	<LOD	45583.45	17210.86	82.15	7756.56	4366.15	-5.04	49.92	746.75	-5.84	55.78	59.57	14.87	28.07	140.74	1357.30	110.55	79.06	45.34	274.57
SAL-12	Salisbury	Unprovenanced	577870.53	156014.97	23798.66	<LOD	31219.29	17073.59	<LOD	7814.46	2771.95	<LOD	21.76	627.20	-3.16	42.30	45.91	13.86	3888.33	131.40	1164.39	100.38	90.93	38.88	293.01
SHA1	Shaftesbury	Unprovenanced	701567.57	185217.23	23465.73	<LOD	7709.17	21955.77	<LOD	10383.76	7542.67	43.38	<LOD	410.99	-22.49	53.67	-12.03	19.06	1334.32	113.45	1157.29	120.18	85.47	42.69	265.21
SHA2	Shaftesbury	Unprovenanced	586371.90	140829.24	24715.48	<LOD	13893.48	6645.35	285.16	6565.11	8655.20	-1.46	<LOD	168.04	-23.20	38.37	-9.23	6.39	25.39	51.54	-50.14	180.49	37.12	59.32	174.19
SHA3	Shaftesbury	Unprovenanced	683196.51	161345.93	21179.10	<LOD	11416.06	10413.33	234.91	7085.98	3422.91	-4.30	<LOD	254.41	-22.80	38.78	18.87	13.05	47.28	81.10	4.81	91.79	58.33	39.77	184.88
SHA4	Shaftesbury	Unprovenanced	648631.52	195675.60	34342.42	<LOD	14934.87	24050.79	344.11	6706.33	5867.69	<LOD	<LOD	453.88	-21.73	61.16	30.51	12.38	1604.11	151.16	168.21	186.47	74.47	116.98	166.36
SHA5	Shaftesbury	Unprovenanced	696665.97	202979.40	25706.18	<LOD	7802.13	22255.12	505.78	6351.32	2890.89	0.96	<LOD	385.46	-18.19	46.68	25.09	11.00	87.81	132.36	50.89	147.13	71.22	86.53	184.54
SHA6	Shaftesbury	Unprovenanced	682512.13	147859.69	18431.89	<LOD	4932.57	9349.33	<LOD	6590.88	1677.48	-4.24	<LOD	220.22	-24.71	24.66	2.18	10.09	70.45	74.90	56.27	55.96	47.27	33.46	195.36
SHA7	Shaftesbury	Unprovenanced	749120.59	159707.60	30938.79	<LOD	10267.46	19100.61	448.02	7909.38	3452.89	-0.78	<LOD	327.92	-24.69	47.00	-6.30	12.39	168.17	97.89	202.36	80.68	72.04	39.70	238.11
SHA8	Shaftesbury	Unprovenanced	683018.47	240155.60	35706.12	<LOD	10853.91	31685.91	991.44	8866.19	8511.04	114.37	<LOD	532.88	-17.11	59.03	34.44	16.05	879.82	177.38	370.29	198.07	98.99	306.92	198.76
SHA9	Shaftesbury	Unprovenanced	742928.55	207799.83	22384.53	<LOD	7492.07	20466.47	290.62	9910.25	4411.16	<LOD	<LOD	264.01	<LOD	48.31	317.73	18.75	6312.73	107.97	1750.93	80.03	90.46	31.99	278.87
SHA10	Shaftesbury	Unprovenanced	652993.97	156578.63	20562.95	<LOD	8538.26	18975.12	519.79	9042.17	5601.13	416.60	<LOD	455.57	<LOD	51.26	42.28	18.13	6417.14	107.89	1224.41	122.99	80.09	67.97	249.34
SHA11	Shaftesbury	Unprovenanced	681009.73	191592.15	29018.60	<LOD	14036.31	12497.63	231.49	8414.96	4793.84	<LOD	<LOD	294.54	-12.82	60.48	0.46	12.92	902.84	103.17	204.87	122.73	76.46	76.26	205.50
SHA12	Shaftesbury	Unprovenanced	615971.57	164911.17	26050.83	<LOD	12374.12	19622.97	275.34	5684.68	5949.43	11.48	<LOD	455.44	-17.28	57.10	35.96	5.96	44.95	109.07	-31.55	174.89	79.29	79.87	145.49
SHA13	Shaftesbury	Unprovenanced	711832.56	184441.44	28347.83	<LOD	11227.98	8778.01	228.07	7012.07	4044.90	5.06	<LOD	206.29	-18.43	48.38	2.10	9.33	28.90	51.12	-18.99	92.74	73.54	63.74	174.08
SHA14	Shaftesbury	Unprovenanced	579835.10	170202.18	33814.02	<LOD	21991.96	21796.33	1041.56	7207.20	22442.27	23.89	<LOD	431.23	-20.21	71.05	9.27	9.44	174.83	93.38	228.88	312.64	99.09	192.52	165.96

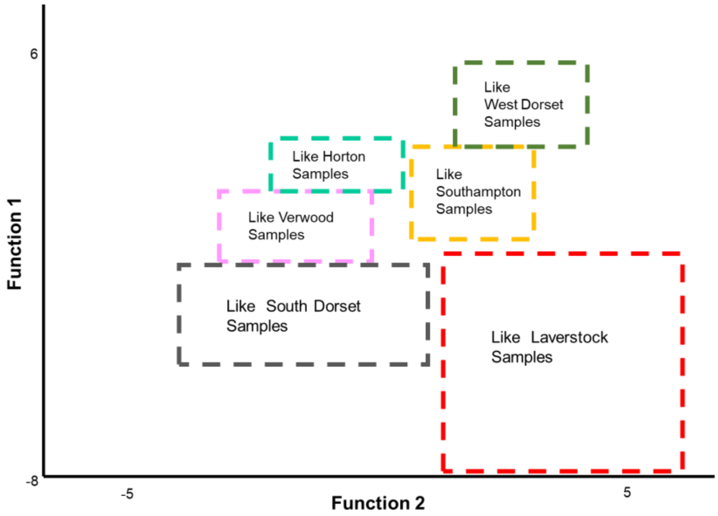
Sample ID	Site Description	Sample Group	*SiO_2	*Al_2O_3	*FeO	*Mg	*CaO	*K_2O	*MnO	*TiO_2	*P_2O_5	*As	*Ag	*Ba	*Bi	*Cr	*Cu	*Nb	*Pb	*Rb	*S	*Sr	*V	*Zn	*Zr
SOU1	Southampton	Unprovenanced	662117.26	164724.35	31625.87	<LOD	15229.59	25129.16	194.80	8743.96	6506.29	27.60	-25.13	295.80	-4.72	83.09	89.87	15.62	683.17	138.79	6756.71	83.57	75.48	45.26	297.46
SOU2	Southampton	Unprovenanced	578350.75	146994.89	40977.83	<LOD	20499.87	24951.02	314.73	6806.52	19705.24	6.00	-35.81	625.17	-6.65	81.59	22.53	9.68	39.48	132.77	1075.46	219.26	66.51	102.36	150.16
SOU3	Southampton	Unprovenanced	517792.32	135256.04	18621.78	<LOD	11403.93	24078.18	194.32	8574.25	10655.92	44.38	-16.13	463.19	-4.38	64.44	23.11	17.01	812.39	145.26	6894.08	133.78	76.46	66.59	203.70
SOU4	Southampton	Unprovenanced	665462.37	158644.93	25687.27	<LOD	16455.57	17581.84	85.91	7166.42	6141.81	41.37	-16.03	156.61	-7.49	37.83	45.59	9.13	204.78	123.47	3330.95	90.16	25.13	39.67	194.17
SOU5	Southampton	Unprovenanced	634845.78	156949.50	52756.37	<LOD	11252.77	26721.24	371.10	7887.56	5631.88	5.20	5.46	406.43	-1.54	82.59	<LOD	14.54	84.09	150.83	912.10	80.37	67.12	112.16	243.32
SOU6	Southampton	Unprovenanced	605767.91	127497.30	38414.59	<LOD	9354.46	26925.84	140.99	6803.70	4678.86	0.34	8.51	374.71	-9.68	81.47	26.73	8.82	49.87	132.06	-43.47	85.42	68.61	69.12	192.18
SOU7	Southampton	Unprovenanced	672227.09	146962.18	48212.95	<LOD	13245.54	25494.30	305.92	7629.72	5913.64	1.75	-19.83	358.77	-2.53	88.04	<LOD	12.56	34.47	147.32	1155.83	80.75	67.59	96.33	223.08
SOU8	Southampton	Unprovenanced	611011.23	173482.31	31870.31	<LOD	10578.25	25294.69	93.32	9307.90	8787.34	47.59	-23.28	383.79	4.81	85.88	19.01	16.48	1122.29	154.06	441.31	93.77	97.97	64.58	201.75
SOU9	Southampton	Unprovenanced	663939.14	164173.88	51895.54	<LOD	10379.35	26965.07	477.85	8376.60	5988.59	4.94	-15.42	393.48	-0.19	103.98	45.17	14.06	144.31	149.42	-11.11	85.01	96.05	102.31	237.62
SOU10	Southampton	Unprovenanced	661228.08	177857.82	36477.78	<LOD	11860.36	27459.49	526.10	8273.99	4207.59	8.62	-25.07	400.57	-1.36	72.48	<LOD	15.41	295.54	155.69	963.26	86.89	88.08	94.25	209.49
SOU11	Southampton	Unprovenanced	561847.46	124180.29	24299.73	<LOD	24082.26	17838.11	51.97	7193.09	32561.57	-8.62	-17.97	218.92	-7.85	73.89	69.22	7.60	20.19	116.26	936.21	186.92	54.21	213.25	183.47
SOU12	Southampton	Unprovenanced	549066.41	127353.51	38638.77	<LOD	17053.77	28539.80	221.96	6720.81	9133.23	810.81	2.29	365.15	1.15	89.06	<LOD	15.34	14914.93	124.86	23103.39	78.03	88.27	60.67	251.92
SOU13	Southampton	Unprovenanced	669817.01	146531.98	41219.04	<LOD	12499.84	27438.52	163.51	6798.51	7508.02	-2.19	11.94	338.41	-6.09	87.95	<LOD	8.28	69.45	133.06	-333.72	113.45	70.35	79.04	232.40
SOU14	Southampton	Unprovenanced	617068.02	159880.39	34891.57	<LOD	18946.60	24515.84	94.26	7371.50	3210.64	9.03	-9.10	359.15	-5.06	74.52	71.24	10.74	117.61	138.84	23610.88	132.92	68.54	54.38	252.31
STN-1	Stratton	Unprovenanced	574475.93	156816.59	31225.93	<LOD	7997.68	24393.81	69.16	7333.76	1981.89	-4.11	-22.65	421.11	-11.67	96.96	<LOD	9.82	74.55	148.98	1656.92	118.43	117.30	116.54	205.56
STN-2	Stratton	Unprovenanced	583336.25	149335.82	23960.72	<LOD	16888.99	24255.05	347.48	7263.01	18365.41	6.48	-26.24	460.33	-8.97	82.24	24.96	8.87	39.00	135.03	-160.01	168.63	110.15	244.37	197.08
STN-3	Stratton	Unprovenanced	577537.38	149448.95	29652.82	<LOD	19807.06	22937.68	1697.18	6940.57	20660.26	-6.33	-0.12	579.35	-12.17	73.25	37.48	8.76	30.95	136.13	<LOD	161.23	92.49	262.90	199.26
STN-4	Stratton	Unprovenanced	558746.07	132805.40	21288.40	<LOD	16000.39	22891.71	585.34	6538.69	9500.45	<LOD	-28.43	359.20	<LOD	54.00	18.32	9.02	5372.14	137.39	362.38	167.75	81.83	169.39	185.61
STN-5	Stratton	Unprovenanced	645264.40	152031.06	25479.53	<LOD	12069.32	17969.10	1461.38	7559.24	6828.67	-8.25	-10.51	269.22	-10.65	55.91	<LOD	11.47	24.87	127.40	-270.84	83.09	71.71	98.05	255.89
STN-6	Stratton	Unprovenanced	633732.28	205802.91	17555.79	<LOD	15206.95	21592.41	280.31	9543.48	11425.27	<LOD	-5.41	281.38	-9.28	58.80	21.76	15.98	1143.27	137.24	178.03	95.14	92.41	84.26	274.76
STN-7	Stratton	Unprovenanced	585584.51	173417.93	29328.04	<LOD	9465.78	25474.11	180.98	7113.78	2202.83	<LOD	-28.11	520.84	-10.69	72.27	<LOD	10.55	3587.26	154.29	1570.99	112.76	68.19	92.63	190.36
STN-8	Stratton	Unprovenanced	598950.55	161610.63	17903.33	<LOD	8874.00	20593.28	879.63	7909.28	4020.06	<LOD	-30.78	317.01	-9.39	38.25	27.88	13.04	846.78	134.43	249.20	84.31	74.29	59.93	232.65
STN-9	Stratton	Unprovenanced	628252.11	156087.40	26381.58	<LOD	9568.10	16841.21	<LOD	7165.74	2748.89	-9.18	-38.95	189.46	-14.74	41.52	<LOD	9.25	19.19	121.85	<LOD	79.57	47.64	97.23	219.40
STN-10	Stratton	Unprovenanced	630310.04	155045.24	23051.86	<LOD	7704.94	22059.09	128.93	9321.20	3073.02	25.91	-35.49	324.06	-11.25	68.85	130.18	16.88	526.48	154.55	971.49	87.11	59.46	84.55	380.85
STN-11	Stratton	Unprovenanced	568791.80	218599.83	28455.08	<LOD	7900.53	18277.24	262.07	10827.20	5835.09	<LOD	-32.71	379.40	-2.34	99.43	<LOD	17.31	531.85	124.46	-125.04	89.54	61.40	113.02	232.58
STN-12	Stratton	Unprovenanced	597297.04	187252.54	19692.44	<LOD	9845.73	21059.19	149.94	11921.84	3349.82	57.42	<LOD	334.21	3.68	76.60	<LOD	21.54	1901.26	135.90	138.79	108.00	83.68	73.80	252.50
WIL-1	Wilton	Unprovenanced	553385.88	130008.09	29178.41	<LOD	35407.27	19214.48	373.41	6796.46	11967.69	75.03	<LOD	353.02	-9.35	59.18	<LOD	9.46	1956.96	121.43	-133.75	162.25	21.24	113.38	171.90
WIL-2	Wilton	Unprovenanced	614589.61	150643.85	30519.11	<LOD	53184.43	17775.11	300.16	7318.29	8605.91	64.36	45.47	269.51	-3.75	77.34	14.83	12.40	1956.13	123.38	-204.18	126.09	38.08	55.34	201.35
WIL-3	Wilton	Unprovenanced	574566.43	142378.48	26014.93	<LOD	45798.55	17927.04	274.83	7223.15	11995.39	211.94	<LOD	247.36	-1.13	52.62	19.01	13.30	2954.26	135.15	232.56	97.22	44.02	54.22	236.48
WIL-4	Wilton	Unprovenanced	653893.13	148876.50	22781.52	<LOD	38898.82	23506.15	308.31	8485.14	9096.94	71.40	36.42	342.46	-6.26	64.38	<LOD	15.55	2123.58	137.98	431.61	91.47	61.63	42.88	264.62
WIL-5	Wilton	Unprovenanced	661317.03	166041.05	20404.75	<LOD	17440.75	23550.81	231.16	9176.04	6892.67	<LOD	26.29	308.25	1.12	58.83	12.38	15.79	3516.89	131.11	441.97	96.97	51.29	44.58	286.80
WIL-6	Wilton	Unprovenanced	610039.88	169300.15	25339.10	<LOD	19194.69	18441.94	223.06	8750.92	7342.56	147.87	19.13	325.46	0.18	90.06	12.38	15.35	4159.76	135.50	-107.91	111.15	49.81	54.03	316.06
WIL-7	Wilton	Unprovenanced	669790.21	194549.31	27027.43	<LOD	24457.62	18590.58	460.66	9427.25	5300.80	65.40	38.07	288.84	-1.89	89.40	12.38	15.85	2121.89	137.37	-55.73	104.63	72.91	43.68	284.53
WIL-8	Wilton	Unprovenanced	651407.86	150904.94	51889.25	<LOD	36138.68	27485.14	460.66	7978.51	12938.65	<LOD	53.03	383.04	3.23	106.83	<LOD	18.55	3851.78	142.60	361.45	111.75	85.93	74.36	373.86
WIM-1	Wimborne	Unprovenanced	609217.36	139298.03	27106.34	<LOD	18056.79	23889.83	21.27	7101.23	18970.00	-7.84	-23.30	477.10	-10.80	63.85	32.34	8.94	100.17	129.81	-170.55	238.09	51.32	159.41	182.76
WIM-2	Wimborne	Unprovenanced	598534.55	135468.76	30819.54	<LOD	16136.15	22726.62	221.19	6855.84	10560.55	-7.66	-12.90	341.72	-12.14	59.95	<LOD	8.78	50.83	129.14	-2.97	115.34	51.21	63.94	177.28
WIM-3	Wimborne	Unprovenanced	558025.98	121549.86	55400.17	<LOD	22934.78	21270.35	287.09	6527.56	25901.78	5.16	10.19	413.25	-11.12	98.15	<LOD	12.49	70.02	128.68	-153.96	243.41	65.50	167.38	192.68
WIM-4	Wimborne	Unprovenanced	591436.41	129839.79	37998.59	<LOD	12331.63	25791.62	110.81	6998.27	6962.30	40.71	-27.47	326.70	-7.24	72.79	<LOD	13.22	376.31	149.23	-33.77	82.23	37.08	68.98	296.58
WIM-5	Wimborne	Unprovenanced	660175.33	189312.94	60447.84	<LOD	13450.65	26871.82	252.15	9918.03	2842.68	2.52	4.80	446.60	-6.63	115.30	<LOD	18.28	84.87	146.79	461.47	101.57	107.17	63.01	311.06
WIM-6	Wimborne	Unprovenanced	632577.72	185664.11	41826.33	<LOD	9454.30	23217.92	244.38	7579.06	2840.96	10.38	2.75	467.89	-4.34	72.25	34.72	14.52	97.26	151.84	-233.55	120.16	55.47	72.24	268.38
WIM-7	Wimborne	Unprovenanced	591719.56	149012.17	34831.48	<LOD	17636.44	24390.28	305.53	6463.03	29270.89	-5.31	4.38	424.16	-10.29	49.01	<LOD	8.91	44.42	132.78	-63.53	162.34	38.43	161.44	186.95
WIM-8	Wimborne	Unprovenanced	528292.37	136130.65	39150.08	<LOD	29660.57	19825.38	357.32	6025.37	19422.53	-5.82	-9.05	308.80	-12.20	59.27	<LOD	9.35	40.41	131.39	2669.56	109.75	33.93	93.44	180.53
WIM-9	Wimborne	Unprovenanced	544955.90	106930.79	51025.72	<LOD	20470.68	21522.80	2336.30	6406.70	41009.12	3.79	0.46	404.10	-11.26	70.05	<LOD	11.36	45.43	122.24	31.39	155.55	26.68	167.57	188.05
WIM-10	Wimborne	Unprovenanced	513160.53	152749.22	33198.62	<LOD	10136.77	22380.23	103.74	7749.92	12934.78	1245.51	-3.74	385.84	-11.82	62.67	32.14	11.95	5319.12	138.26	41823.96	109.39	27.52	74.84	230.14

Appendix X:

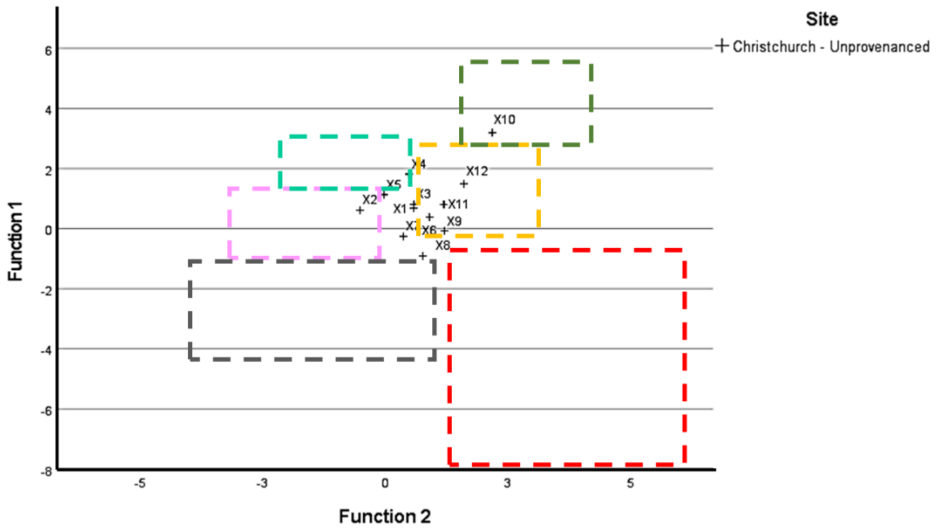
Plots of function scores for Discriminant Function Analysis 3 in Chapter 5

Plot of Discriminant Scores from functions 1 and 2 for unprovenaced samples DFA 3

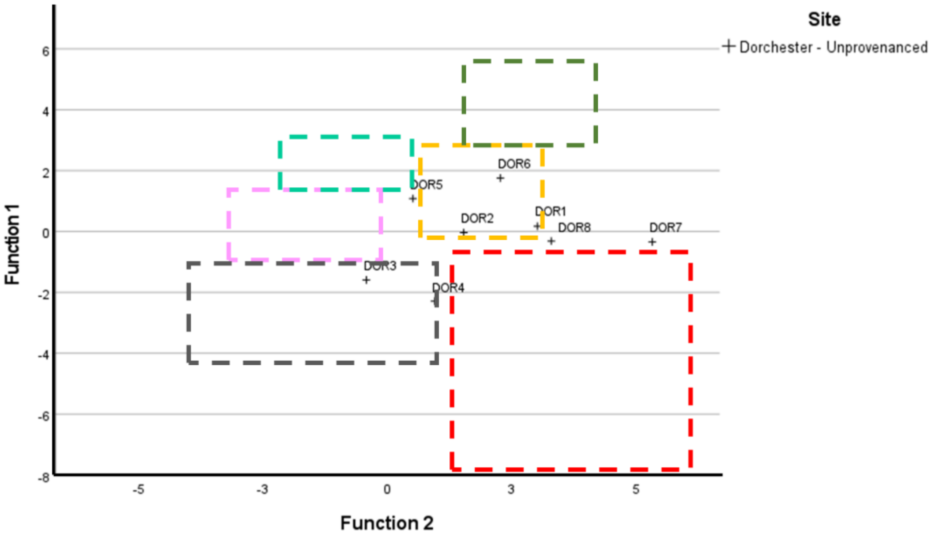
Plot of Sample Similarity



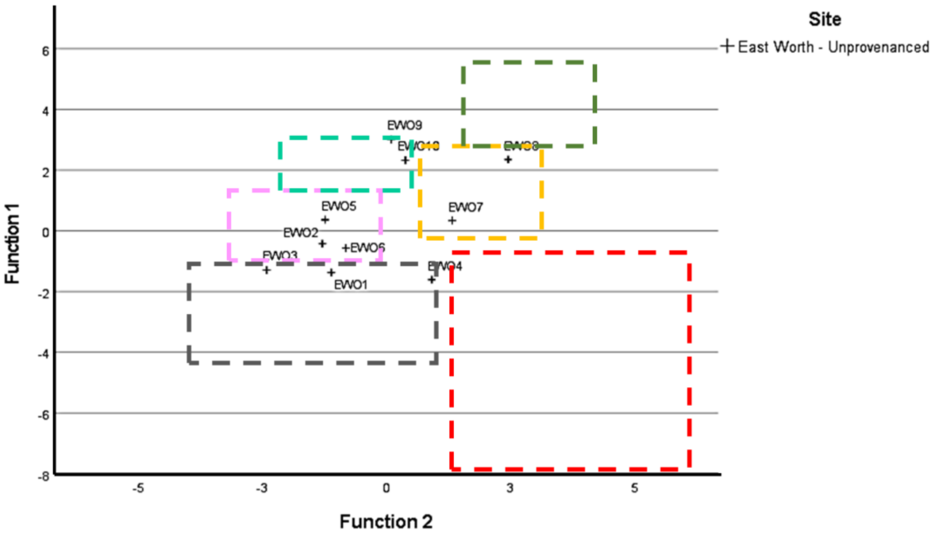
Christchurch



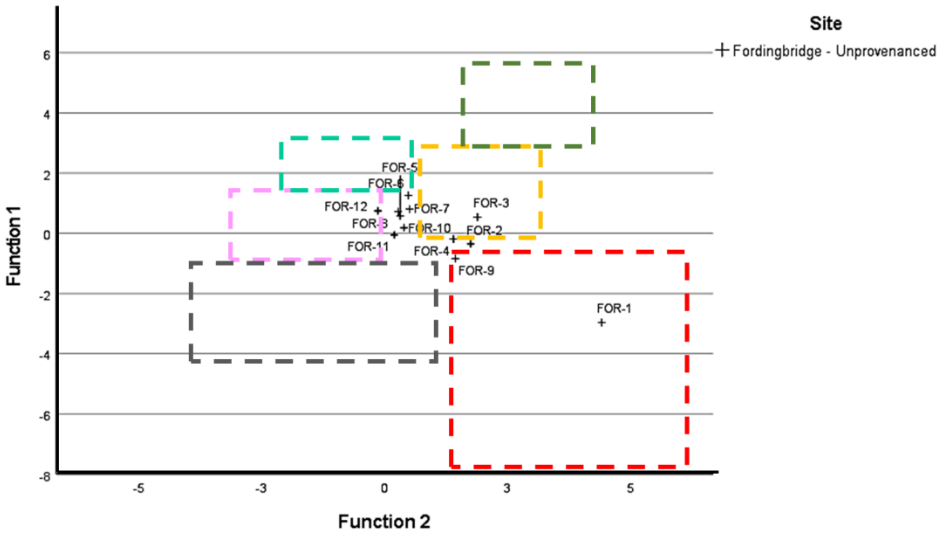
Dorchester



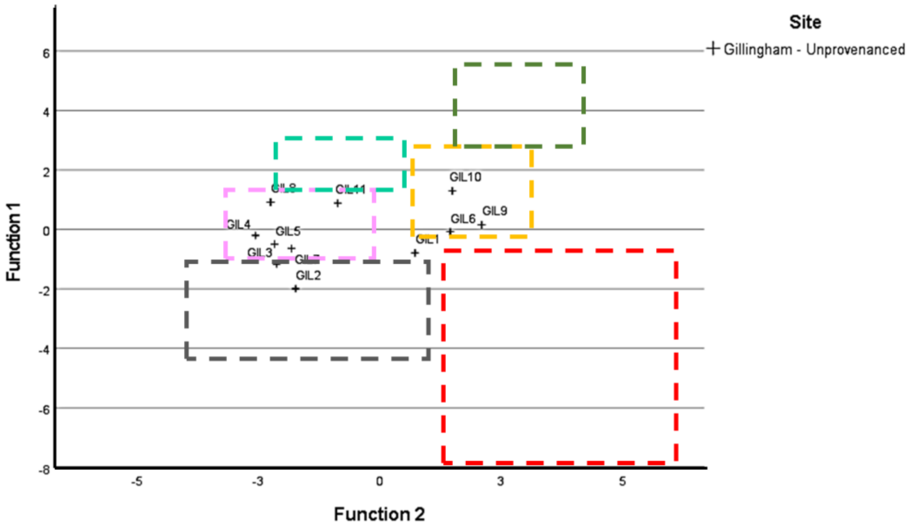
East Worth



Fordingbridge



Gillingham



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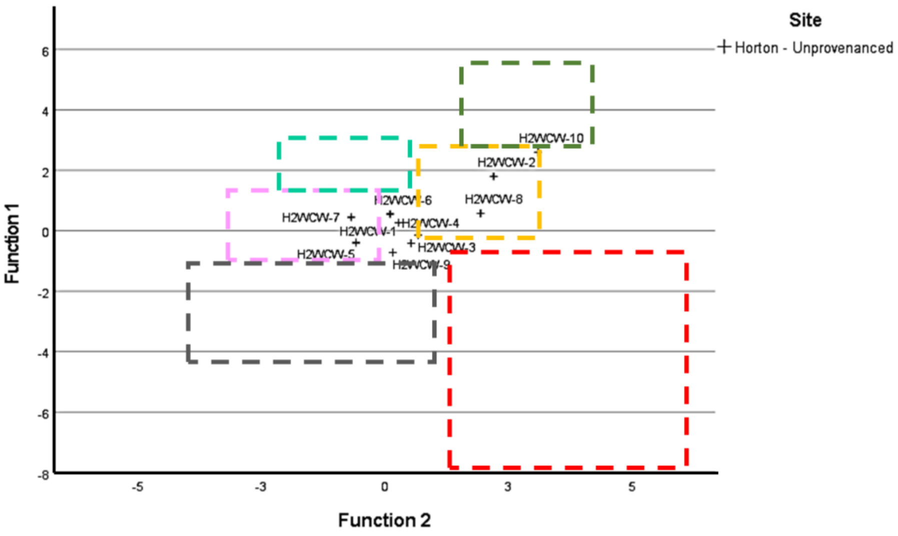

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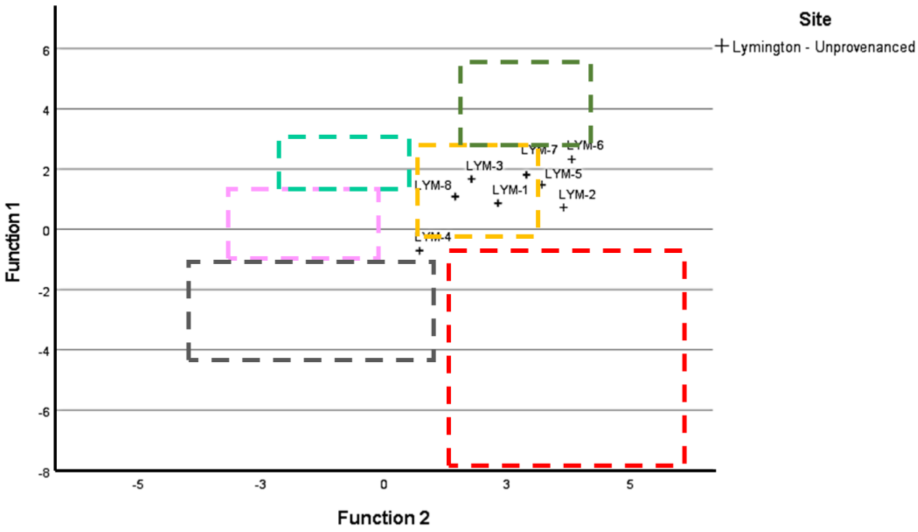

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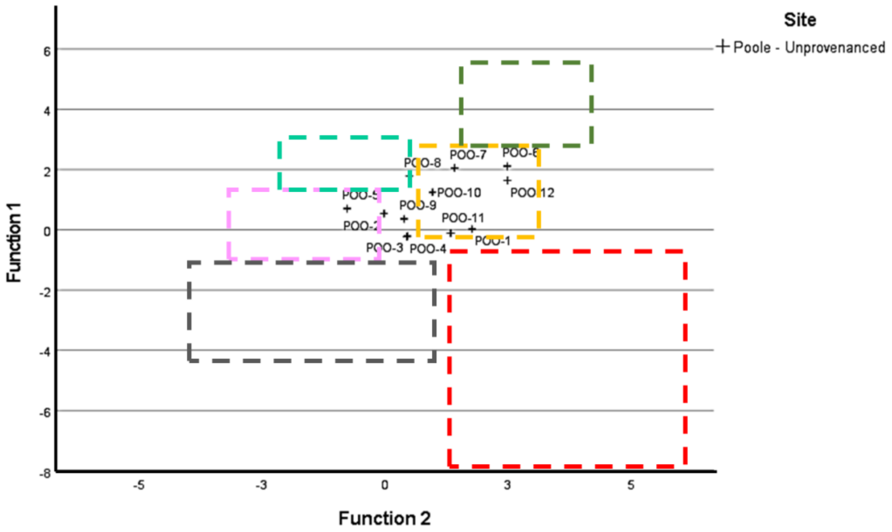
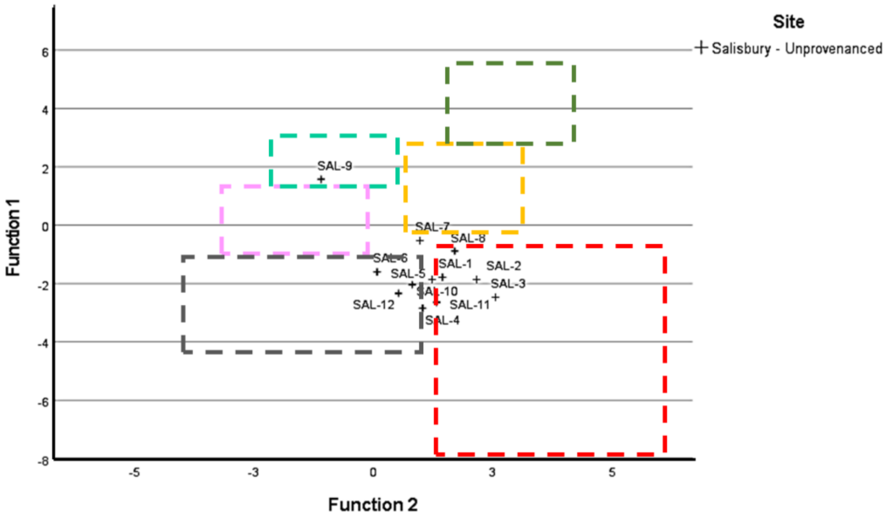


Salisbury



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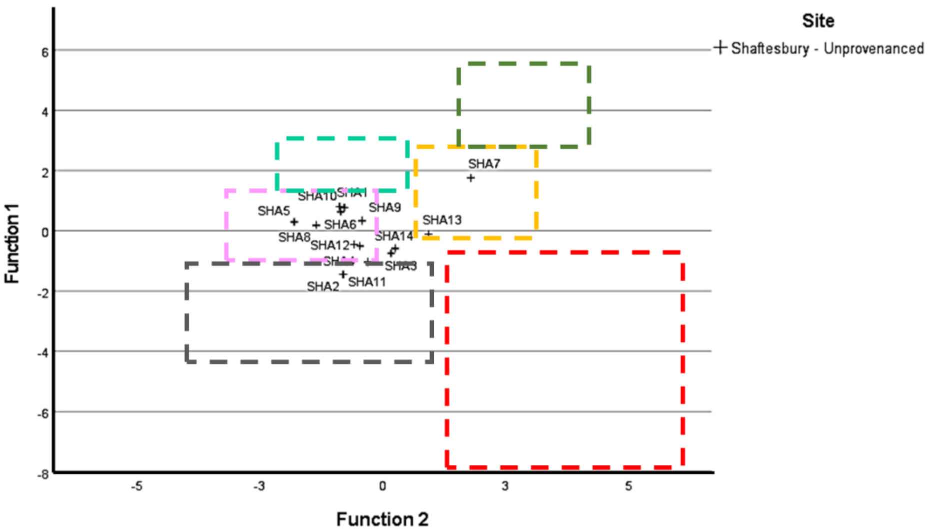

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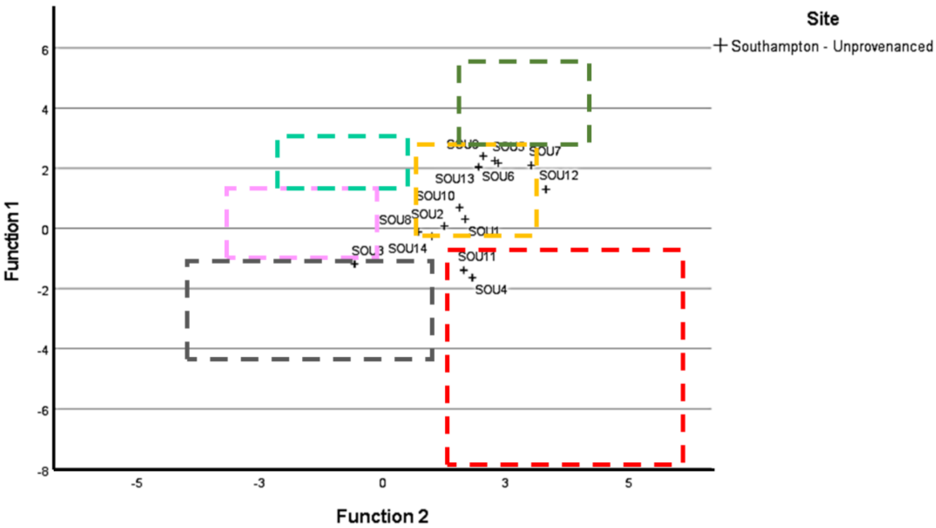

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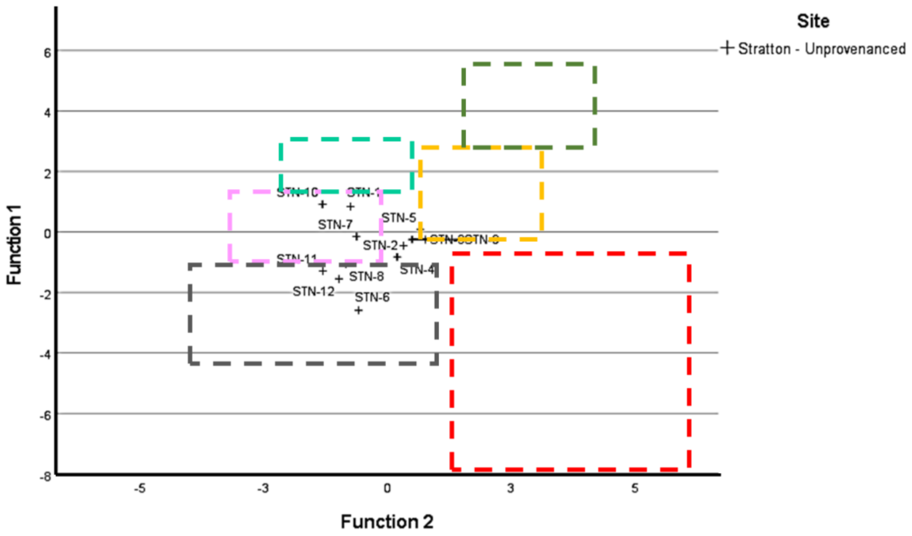
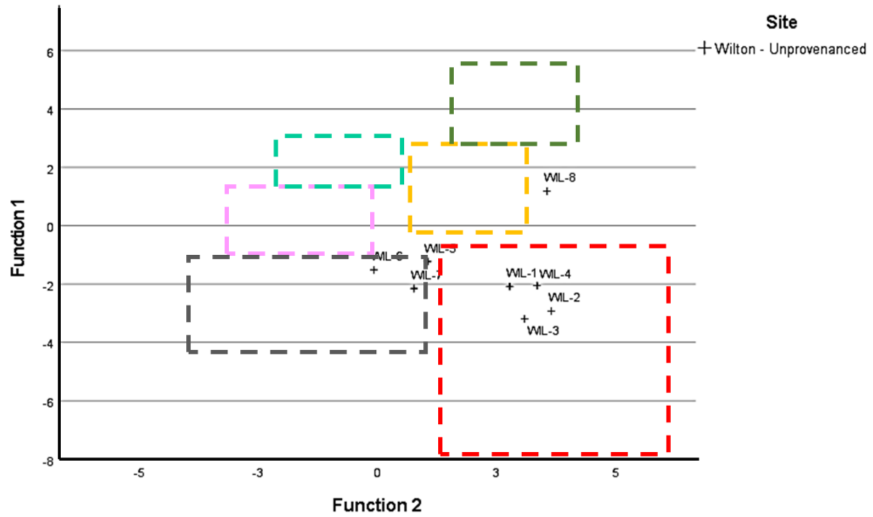
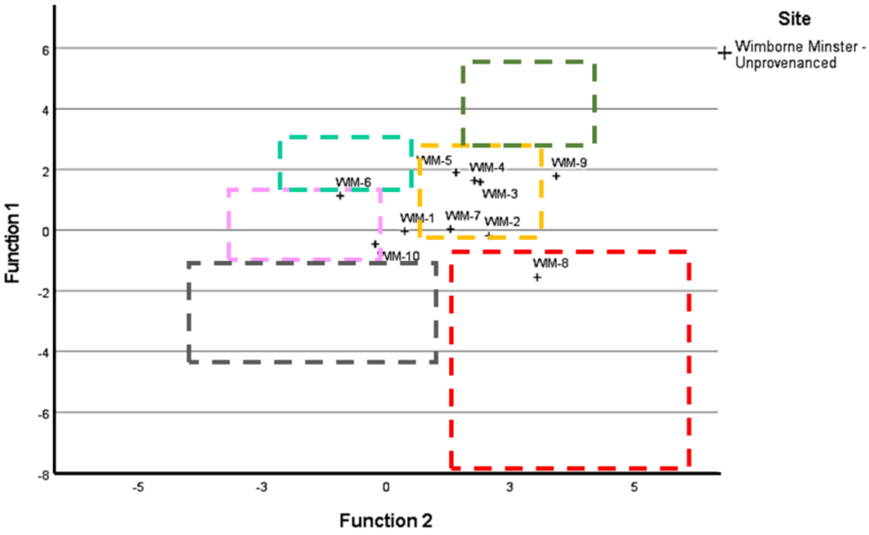


Wilton

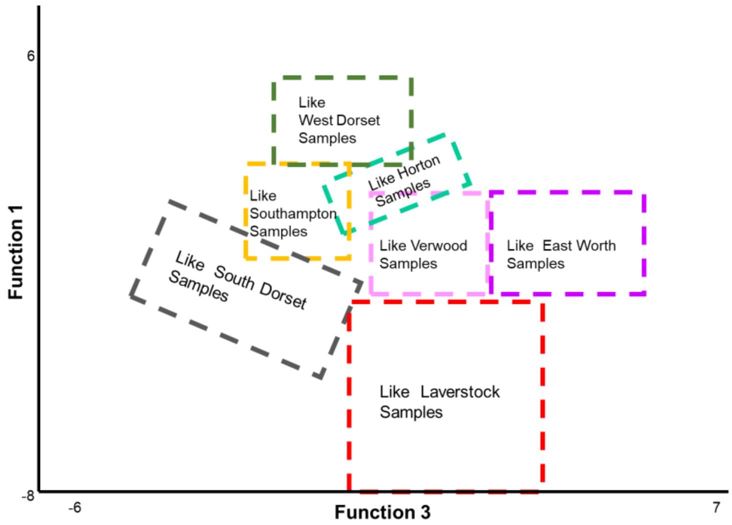


Wimborne Minster

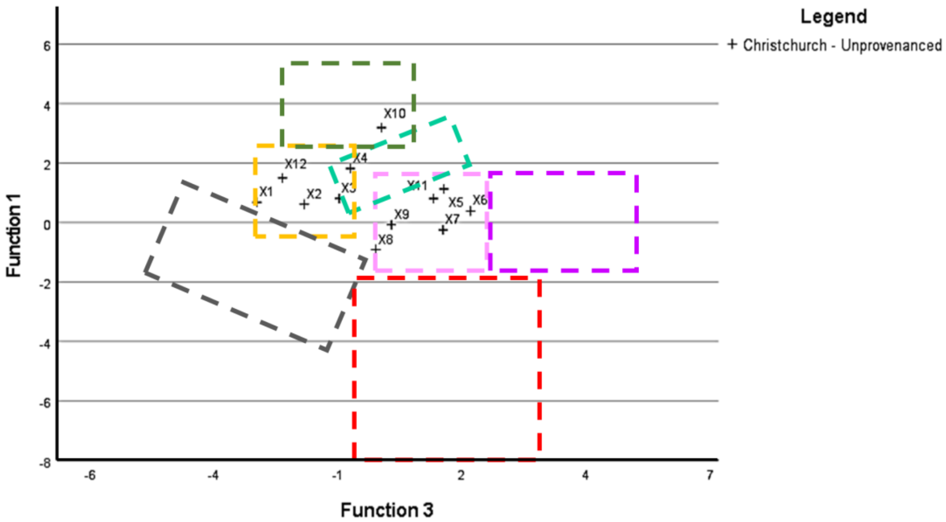


Plot of Discriminant Scores from functions 1 and 3 for unprovenaced samples DFA 3

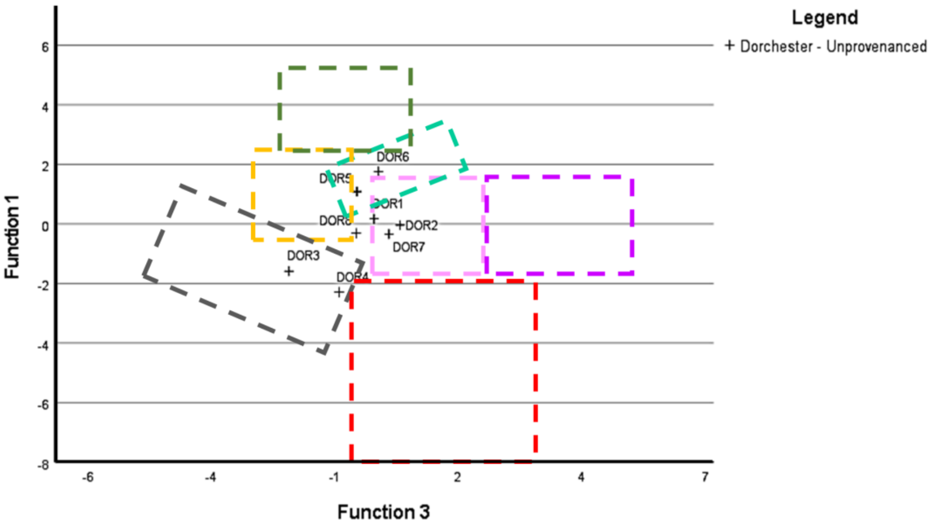
Plot of Sample Similarity



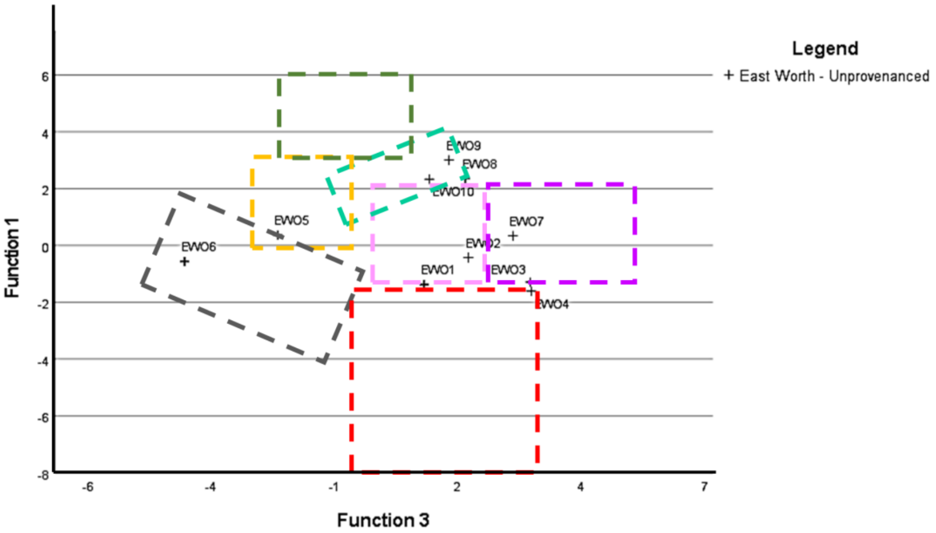
Christchurch



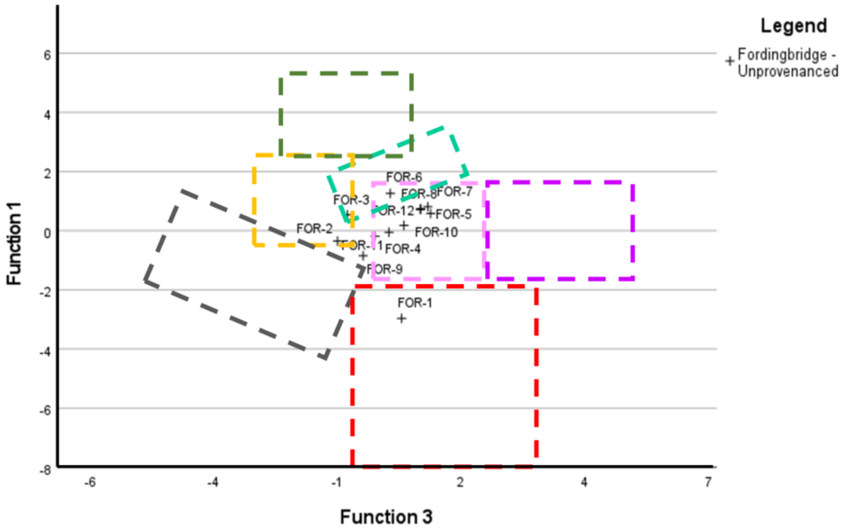
Dorchester



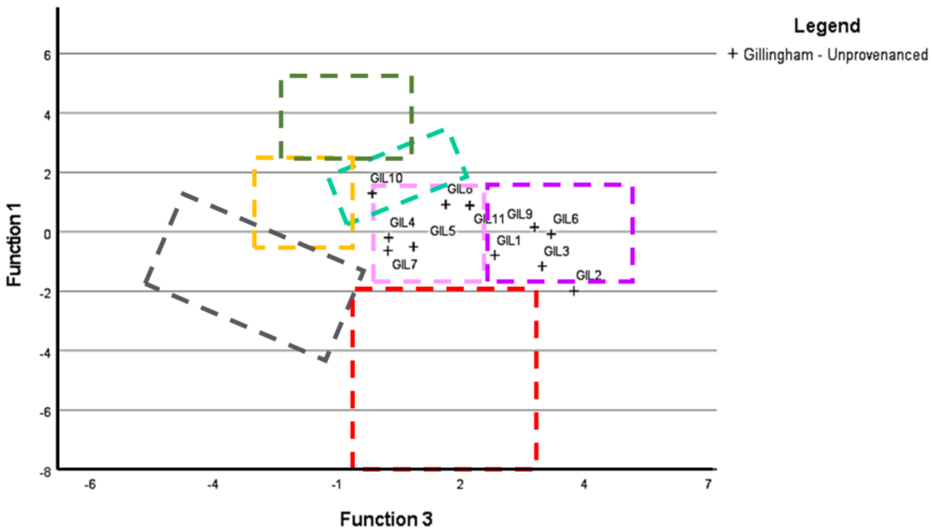
East Worth



Fordingbridge



Gillingham



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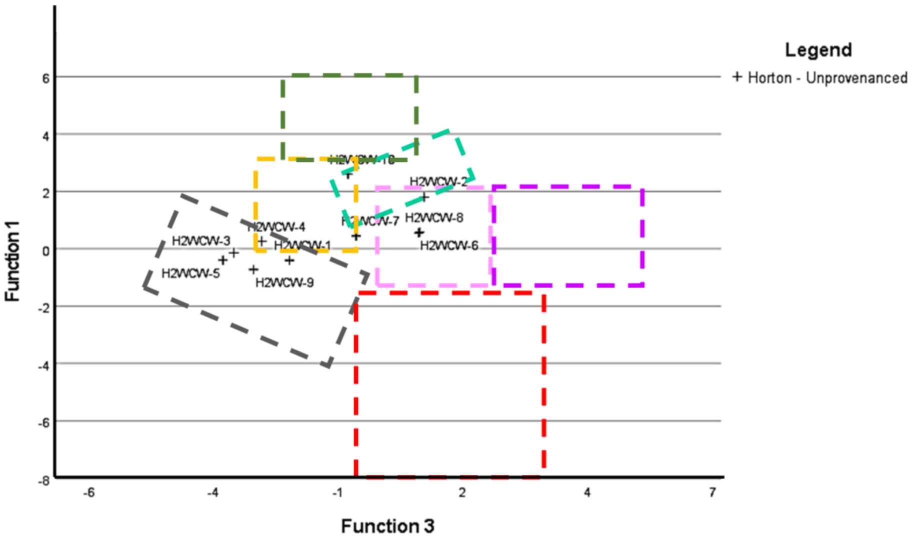

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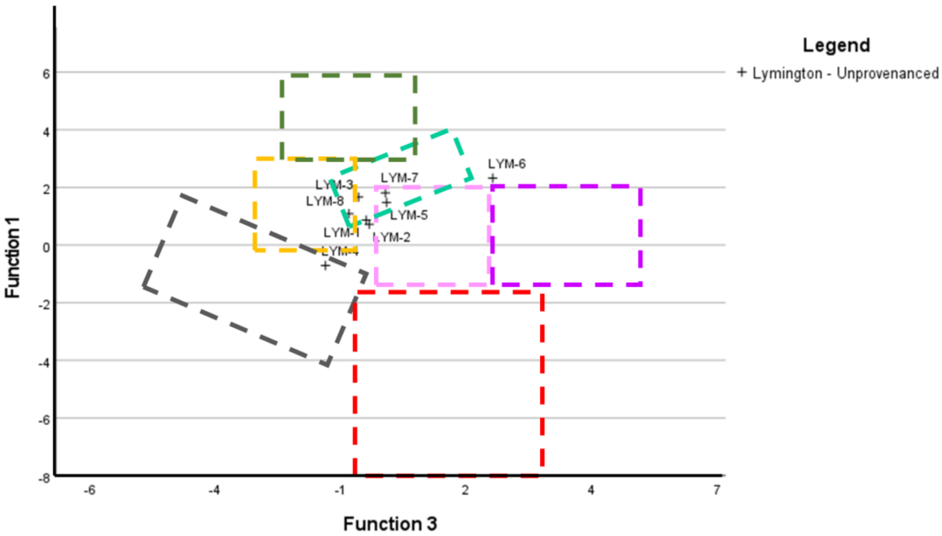
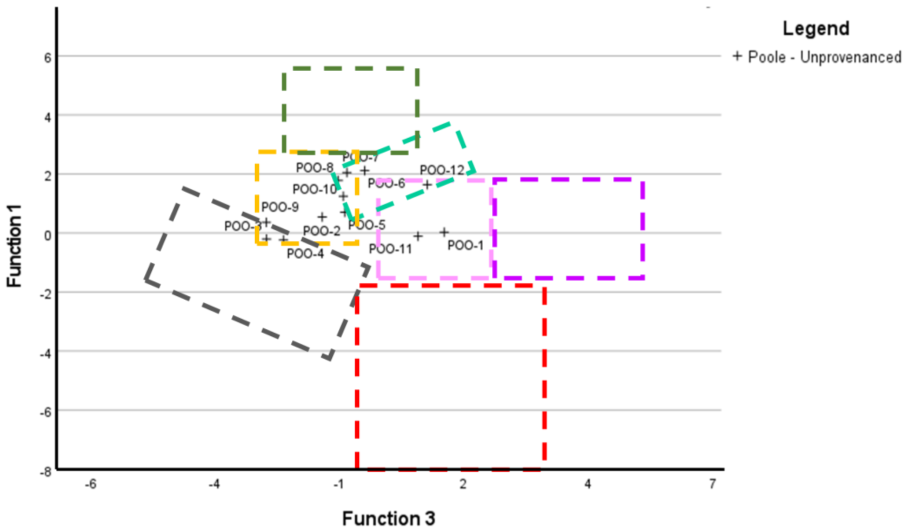


Poole



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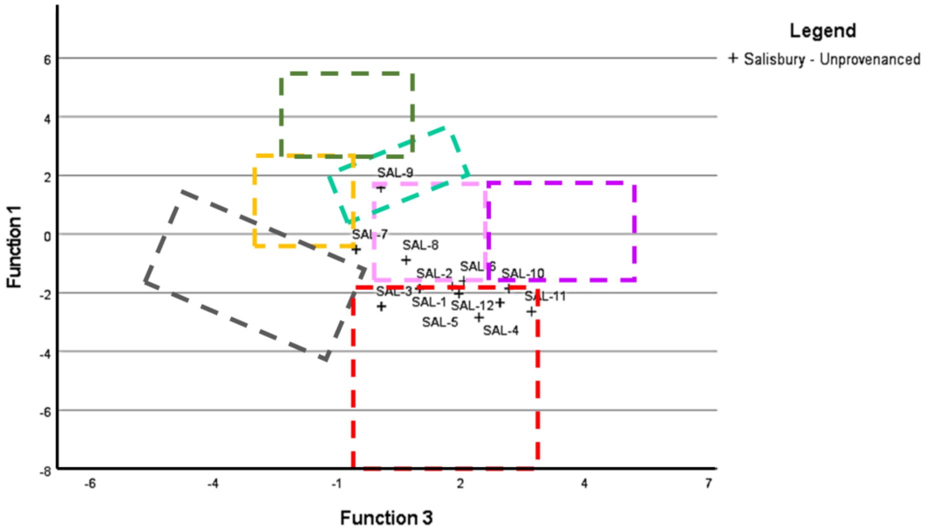
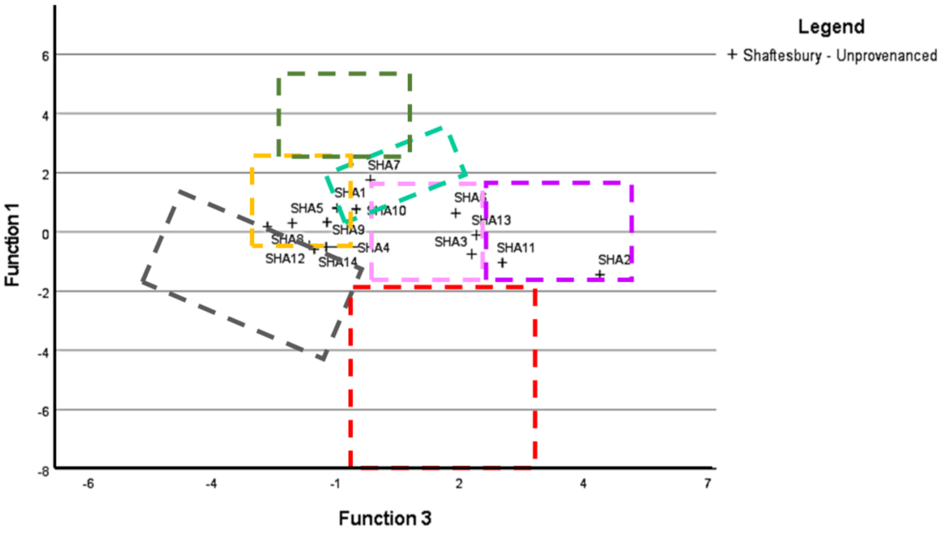


Shaftesbury



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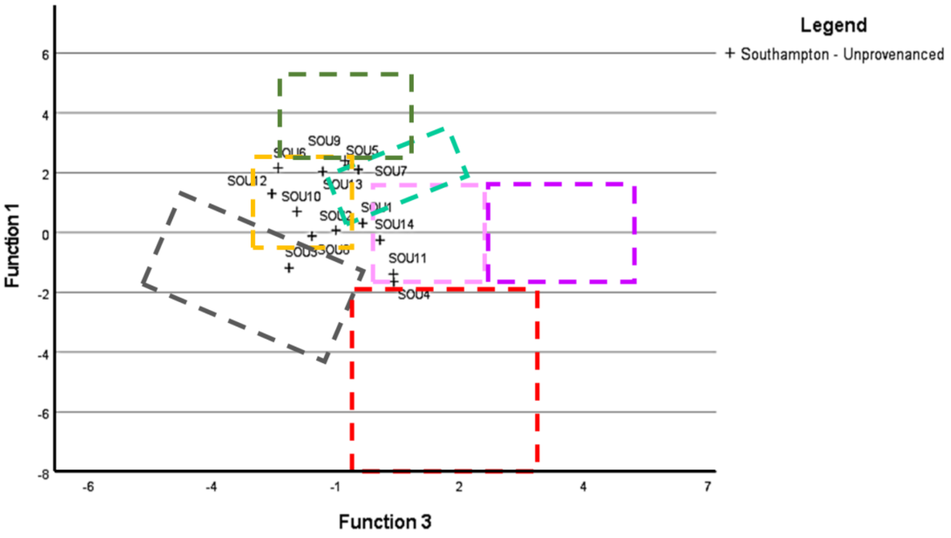

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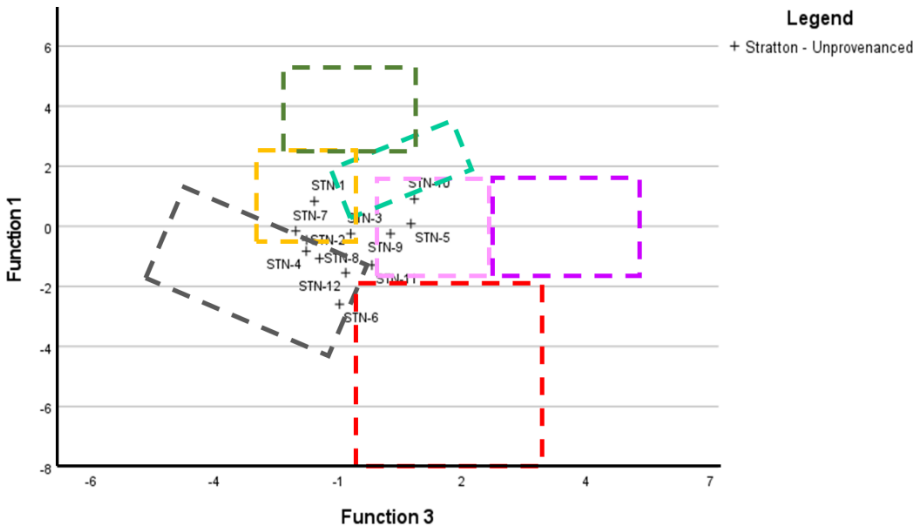

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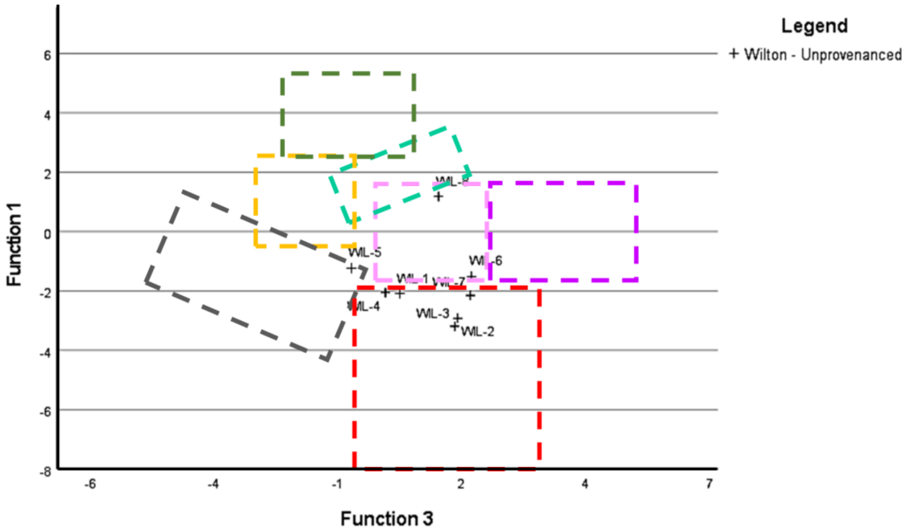
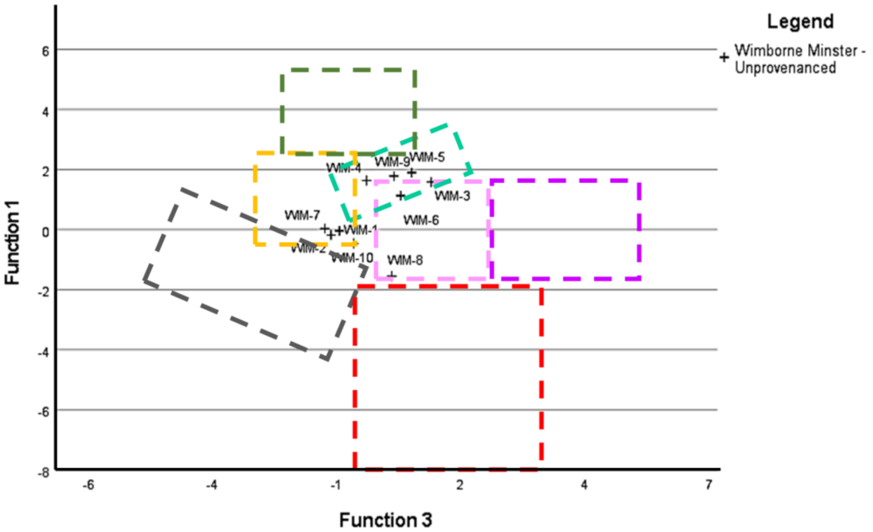
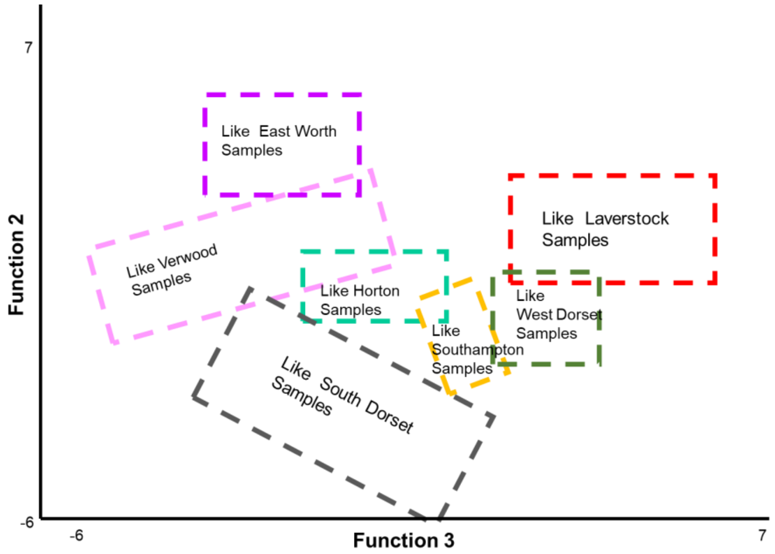


Wimborne Minster

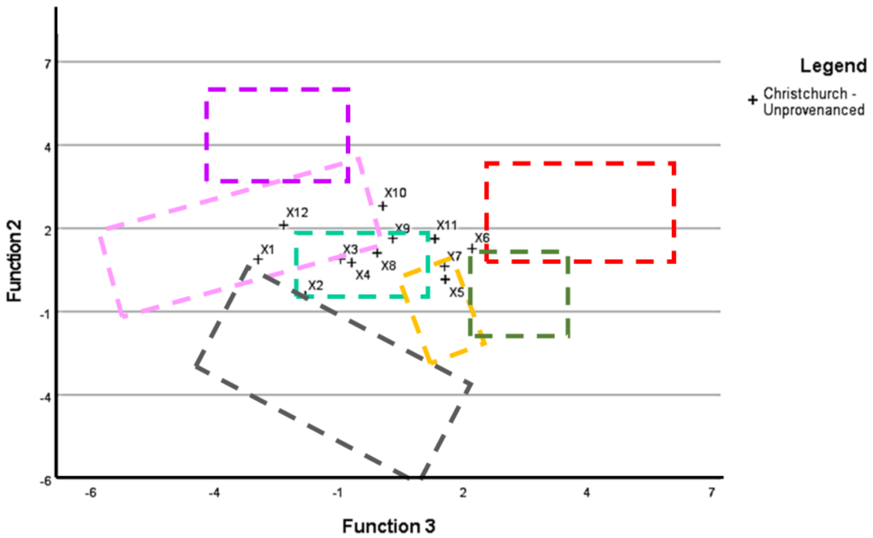


Plot of Discriminant Scores from functions 2 and 3 for unprovenaced samples DFA 3

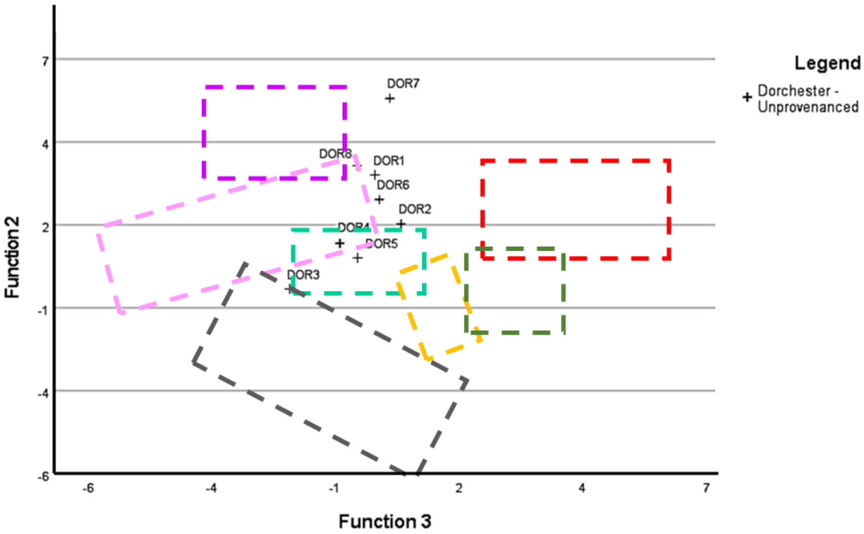
Plot of Sample Similarity



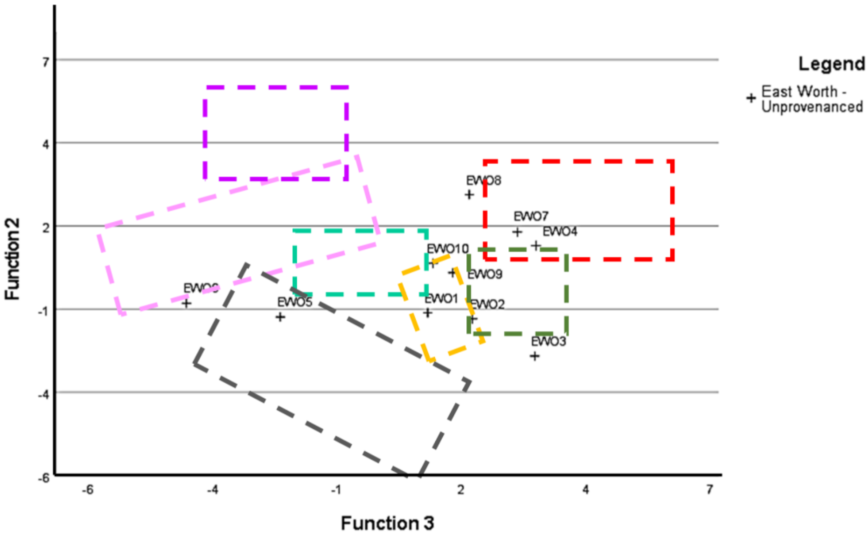
Christchurch



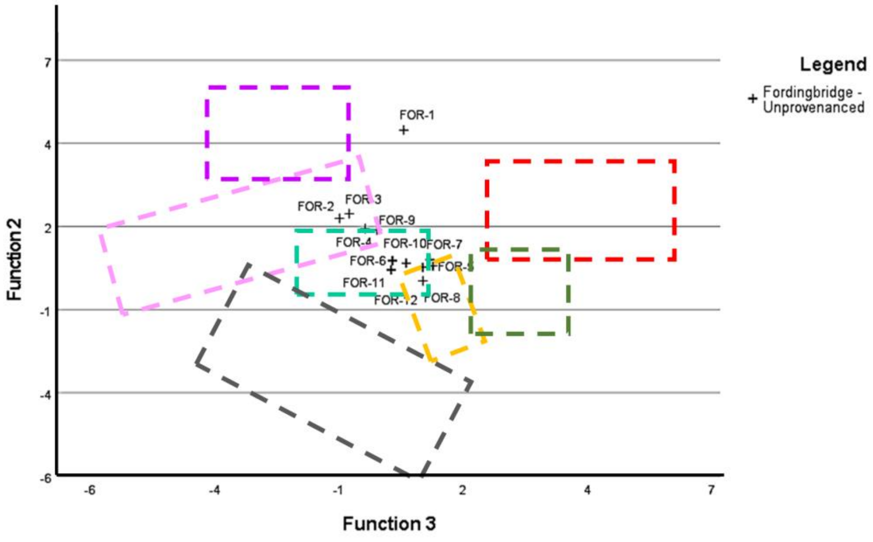
Dorchester



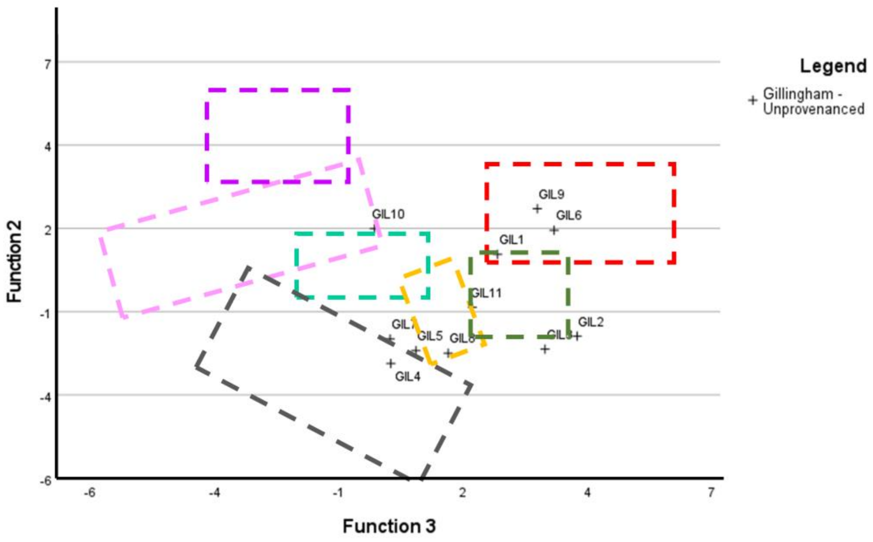
East Worth



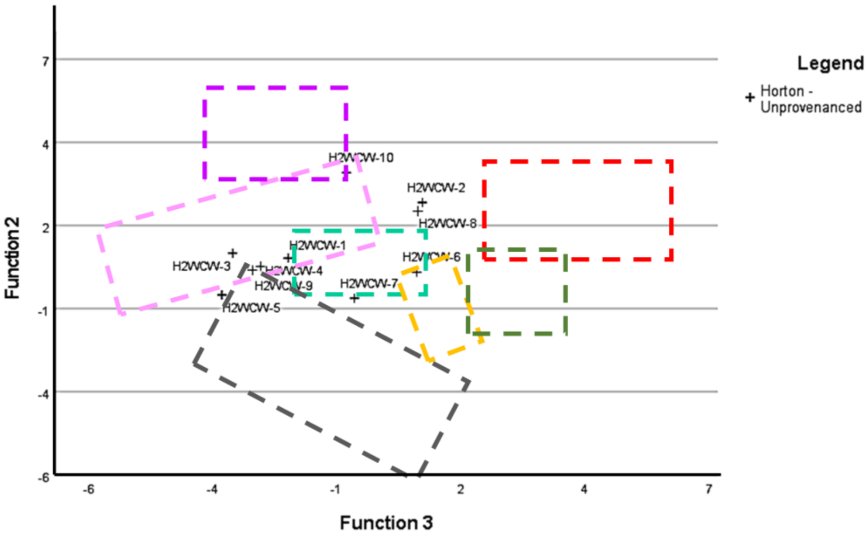
Fordingbridge



Gillingham



Horton



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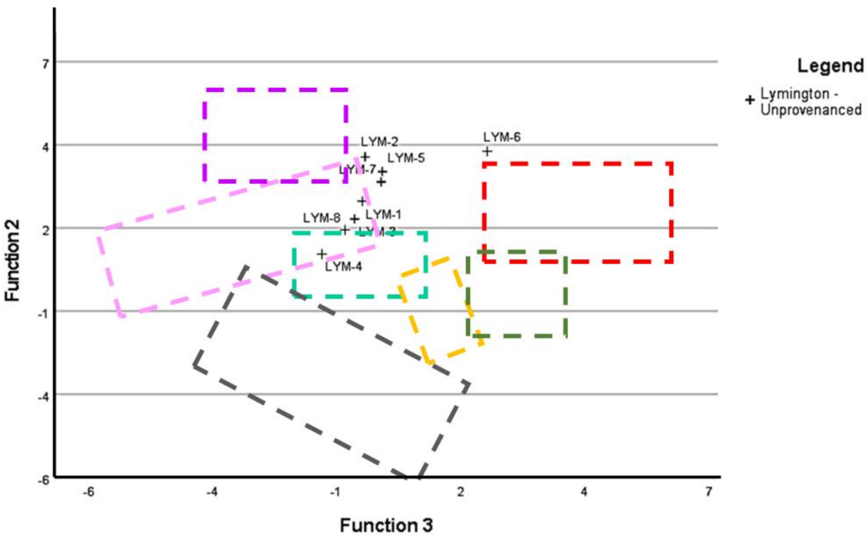
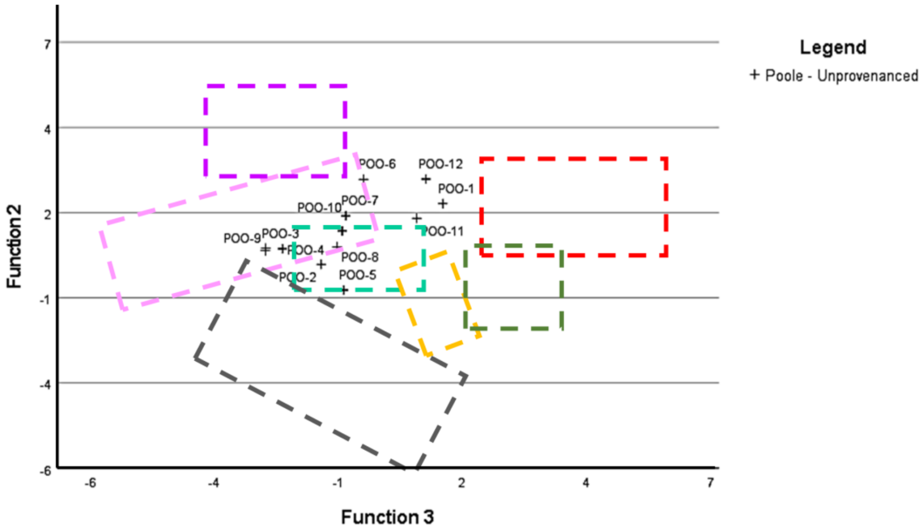
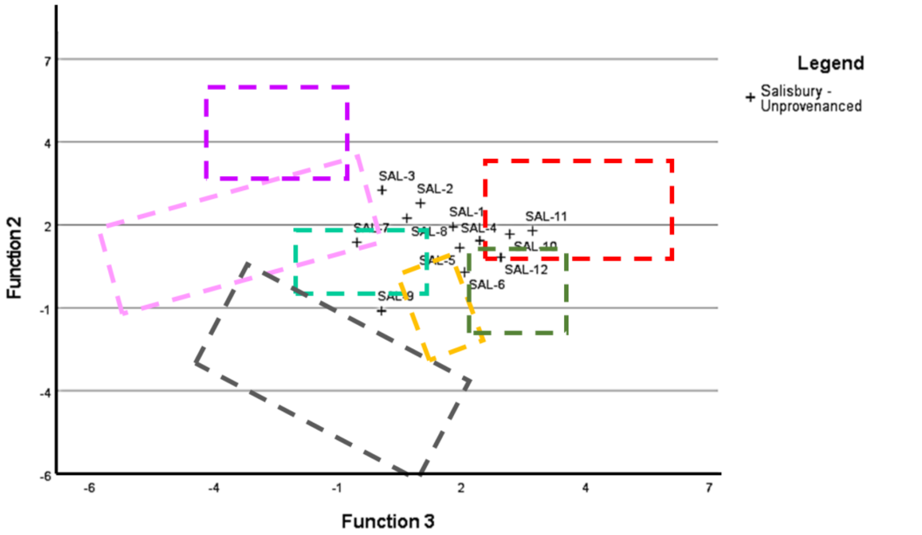


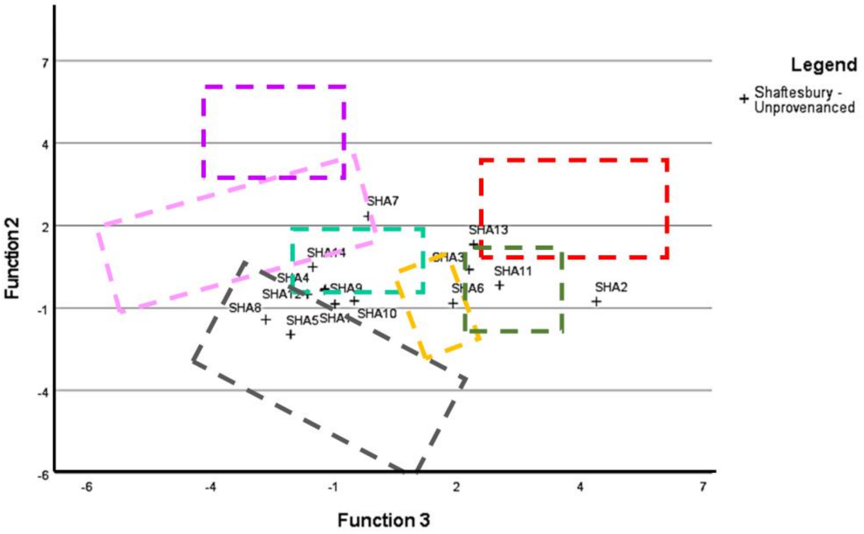
Poole



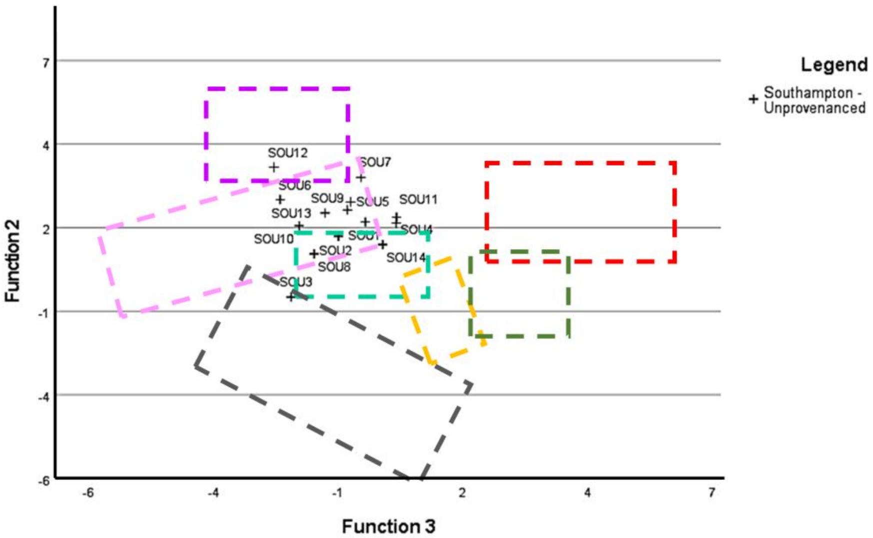
Salisbury



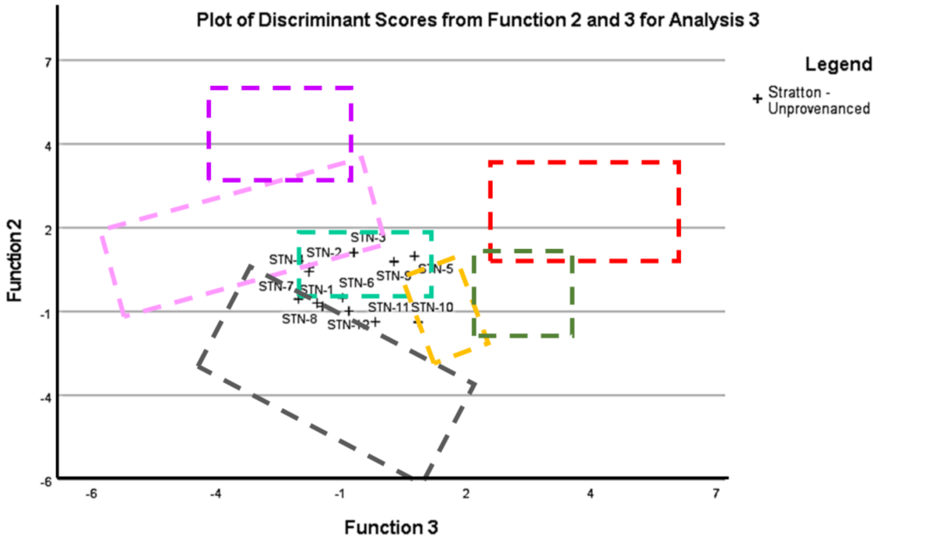
Shaftesbury



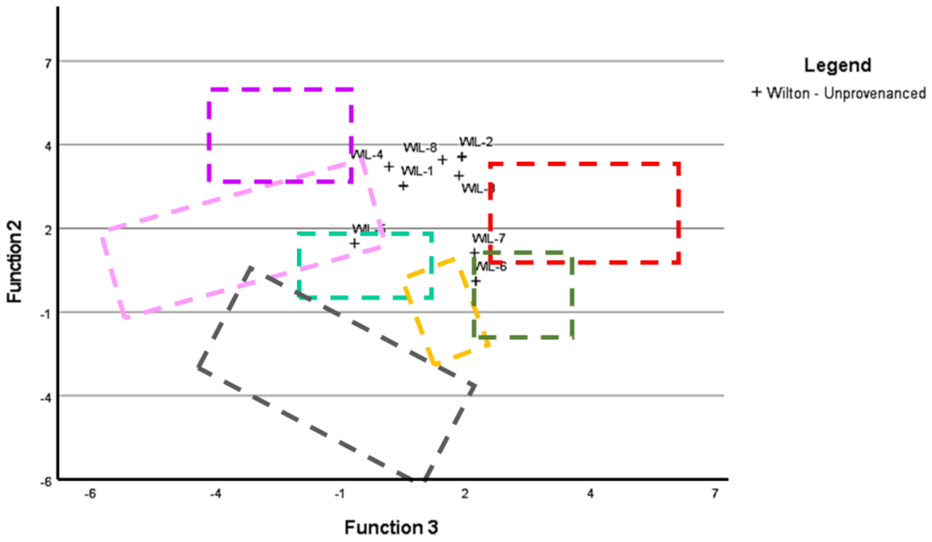
Southampton



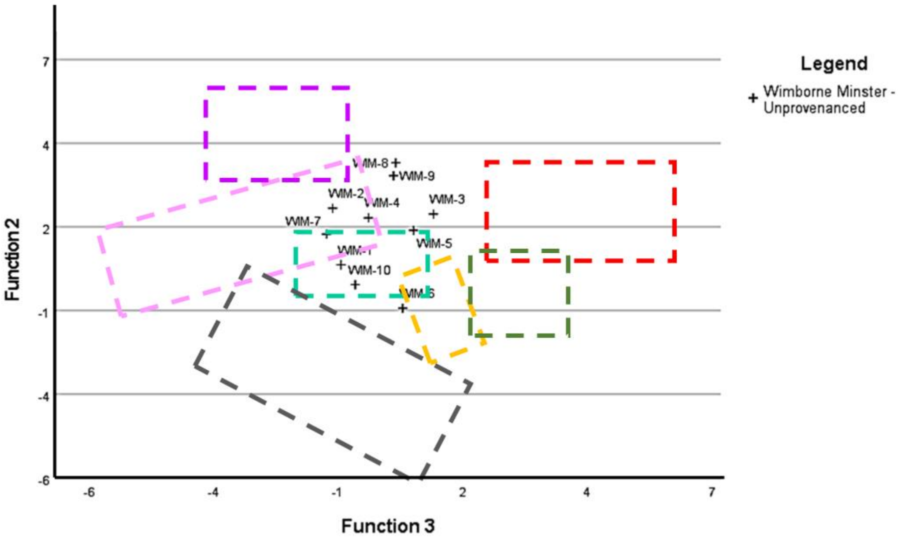
Stratton



Wilton



Wimborne Minster



Appendix XI:

Redware Samples of Probable South Dorset Origin

Summary

In 1974-5 John Beavis and Donald Young undertook fieldwalking in fields at East Holme, near Stoborough, Wareham, Dorset (Terry 1988). Here, 17-18th century pottery was identified, with a large amount being production waste. Both white- and redwares recovered were employed in this thesis as a control group with which to compare pottery across east Dorset, west Hampshire and south Wiltshire. Whiteware samples recovered from the area can be shown to possess a south Dorset origin as they share chemical similarity to nearby recovered clay samples, while the redware samples were shown to be of mixed provenance. Certain redware samples from East Holme can be shown to be visually and chemically similar to whiteware samples, or clay samples recovered from the surrounding area.

Pottery production at East Holme/Stoborough can be linked to a Thomas Dober (Dover?) in 1642 who is mentioned in Protestation Returns (Spoerry and Hart 1989, p.32). Spoerry and Hart (ibid) go on to state that this individual appears in a 1665 law suit where he is noted as a sixty year old potter. This family potentially gives its name to a 'Potter's Field' and nearby 'Dover's stream' (the former is named in the 1841 Tithe Map - *ibid*, p.32). Clay quarrying in the area is well attested (*ibid*, 32), and it is especially difficult in south Dorset to assign a purpose to any clay and sand removal as there are multiple potential uses for the extracted material, as clay from south Dorset was – and still is - particularly sought after (BCHS 2003).

The analyses in this study have shown one East Holme redware thin section petrography sample (EHR-14) out of the five taken is visually similar (bar matrix colour) to East Holme whitewares and a sample of white firing clay from nearby Trigon (North West of Wareham). In this study the sample was assigned as an uncertain redware as the chemical analysis results were not yet known. The remaining redware thin section samples can be attributed to other sources including Verwood and Horton areas – associated with production within the Verwood-type industry. The chemical analysis samples for the East Holme redware group is outlined below, which shows that five samples within the East Holme redware group share strong similarity to the Whitewares from the same production group, with two samples aligning with south Dorset medieval whiteware (Dorset Whitewares) from the Pound Lane kiln at Wareham. This shows that there is growing evidence for a post-medieval redware industry, but the products are not readily recognizable via basic fabric analysis when found alongside other post-medieval redwares.

Plate XI.1: Sample EHR14 prior to cutting thin section (Author's Own)

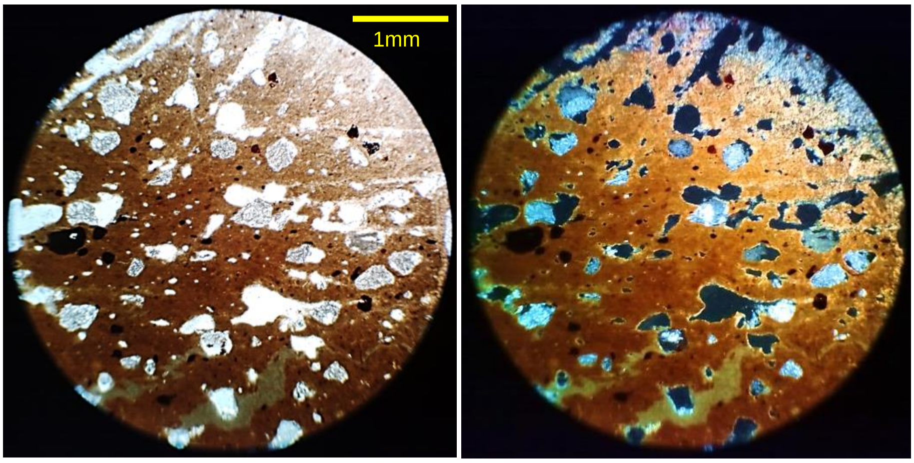


Fig. XI.1a (left): Photomicrograph of sample EHR14 in PPL.
Fig. XI.1b (right): Photomicrograph of sample EHR14 in XP

Table XI.1: Results of DFA3 Group Prediction from Chemical Analysis Results using pXRF; Samples in Orange Share Similarity with East Holme Whitewares, Samples in Yellow Share Similarity with Dorset Whiteware from the Medieval Pound Lane, Wareham Pottery Kiln

Initial Fabric Analysis	Thin Section Analysis	Type of Site	Site	Sample	Prediction	Percentage likelihood of predicted group membership
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR1	Verwood-type (Horton)	90%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR2	Verwood-type (Horton)	82%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR3	Verwood-type (Undefined)	59%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR4	Unprovenanced	34%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR5	Unprovenanced	86%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR6	Unprovenanced	72%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR7	Unprovenanced	45%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR8	Unprovenanced	68%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR9	Verwood-type (Horton)	83%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR10	Unprovenanced	47%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR11	Verwood-type (Horton)	94%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR12	Verwood-type (Undefined)	98%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR13	Unprovenanced	67%
Uncertain Redware	Uncertain Redware	Previouly part of control group	East Holme (RW)	EHR14	Dorset Whiteware - Post-medieval (DWWPM)	98%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR15	Verwood-type (Horton)	84%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR16	Verwood-type (Horton)	62%
Uncertain Redware	Uncertain Redware	Previouly part of control group	East Holme (RW)	EHR17	West Dorset Sandy ware (WDSW)	40%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR18	Verwood-type (Undefined)	47%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR19	Verwood-type (Undefined)	95%
Uncertain Redware	Verwood-type (Harbridge and Alderholt sub-group 2b)	Previouly part of control group	East Holme (RW)	EHR20	Verwood-type (Undefined)	90%
Uncertain Redware	Verwood-type (Horton sub-group 1)	Previouly part of control group	East Holme (RW)	EHR21	Dorset Whiteware (DWW)	68%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR22	Unprovenanced	76%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR23	Verwood-type (Horton)	68%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR24	Unprovenanced	65%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR25	Unprovenanced	75%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR26	Verwood-type (Undefined)	64%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR27	Verwood-type (Undefined)	98%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR28	Dorset Whiteware - Post-medieval (DWWPM)	44%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR29	Unprovenanced	45%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR30	West Dorset Sandy ware (WDSW)	35%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR31	Verwood-type (Horton)	51%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR32	Verwood-type (Undefined)	61%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR33	Verwood-type (Undefined)	68%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR34	Verwood-type (Undefined)	99%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR35	Verwood-type (Undefined)	69%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR36	Verwood-type (Horton)	58%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR37	Verwood-type (Horton)	49%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR38	Verwood-type (Undefined)	50%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR39	Verwood-type (Undefined)	98%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR40	Dorset Whiteware (DWW)	27%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR41	Dorset Whiteware - Post-medieval (DWWPM)	35%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR42	Verwood-type (Undefined)	42%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR43	Verwood-type (Horton)	91%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR44	Verwood-type (Horton)	59%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR45	Unprovenanced	88%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR46	Dorset Whiteware - Post-medieval (DWWPM)	87%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR47	Unprovenanced	35%
Uncertain Redware	Not a pottery thin section sample	Previouly part of control group	East Holme (RW)	EHR48	Dorset Whiteware - Post-medieval (DWWPM)	86%
Uncertain Redware	Uncertain Redware	Previouly part of control group	East Holme (RW)	EHR49	Unprovenanced	64%

Appendix XII:
Verwood-Type Vessel Type Series

December 2020
D.Carter

Bottles 17th century (MPRG 1998 Form 3.2)

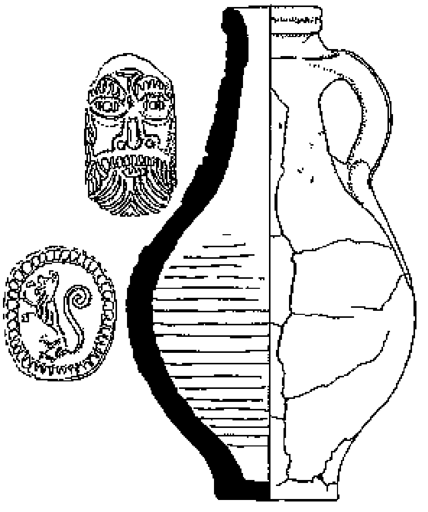


Fig. XII.1: Bartmann style - Potentially a Verwood area product from Dorchester.(taken Draper 1979a, Fig.44) Very similar to a fragment identified in Horsey (1992, Fig. 38. 150).

Bottles 18th century Onwards

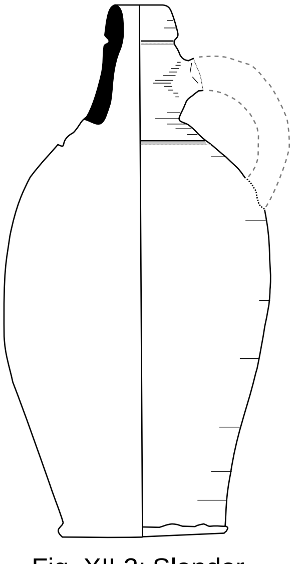


Fig. XII.2: Slender - redrawn from Draper (1982a, Fig. 7)

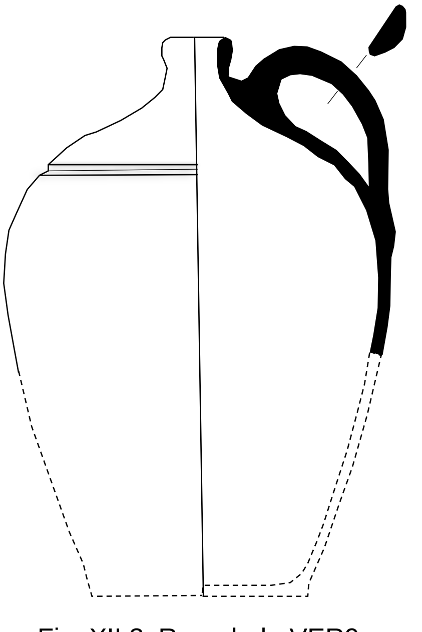


Fig. XII.3: Rounded - VER9. redrawn from Young (1979, Fig. 57.47)

Flagon 18th – 19th century

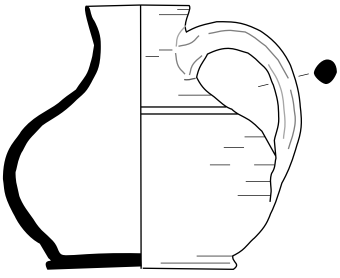


Fig. XII.4 : Squat - Poole, redrawn from Horsey (1992, Fig. 56.485)

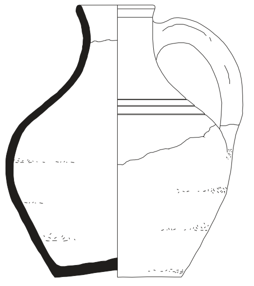


Fig. XII.5: Medium - VER3, taken from AC archaeology Ltd (forthcoming)

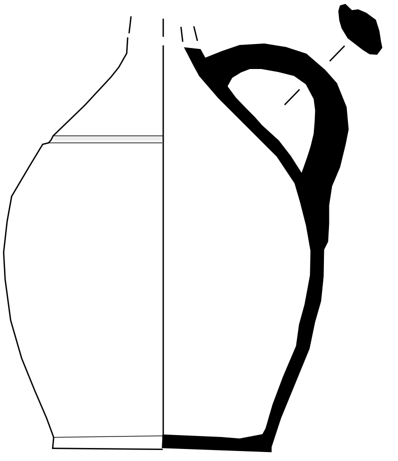


Fig. XII.6: Tall - drawn from VER4 archive

Jugs 17- 18th century (MPRG 1998 Form 3.1)

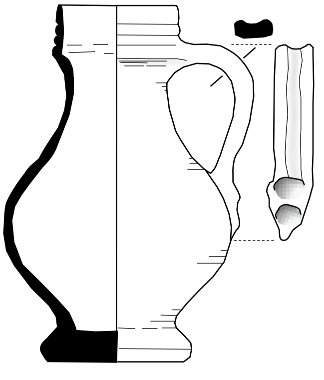


Fig. XII.7: Squat - HOR1, redrawn from Copland-Griffiths (1990, Fig. 6.75)

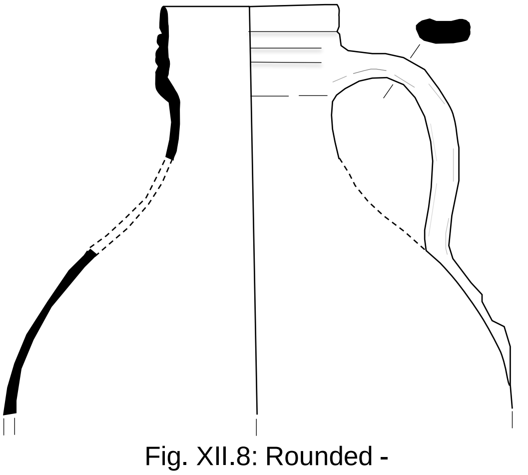


Fig. XII.8: Rounded - HOR1, redrawn from Copland-Griffiths (1990, Fig. 6.74)

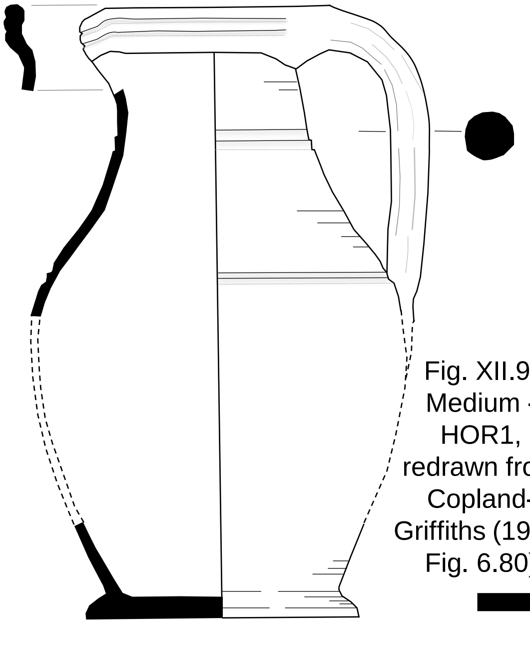


Fig. XII.9: Medium - HOR1, redrawn from Copland-Griffiths (1990, Fig. 6.80)

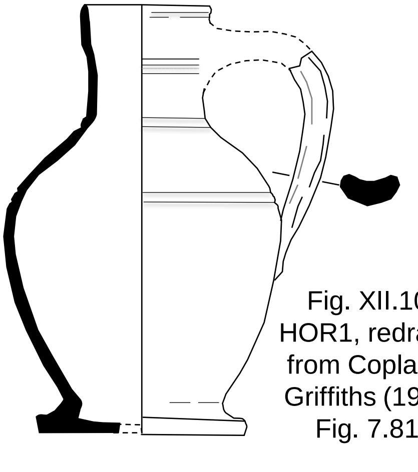


Fig. XII.10: HOR1, redrawn from Copland-Griffiths (1990, Fig. 7.81)

20cm

Jugs 18-19th century

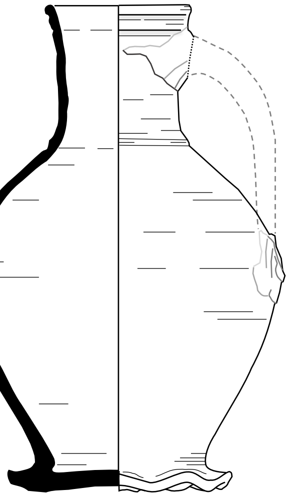


Fig. XII.11: Medium - Poole, redrawn from Horsey (1992, Fig. 48.278)

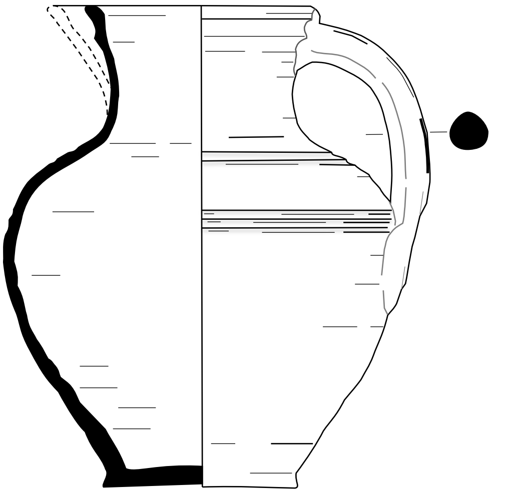


Fig. XII.12: Rounded - Poole, redrawn from Horsey (1992, Fig. 48. 375)

Jugs 18-19th century

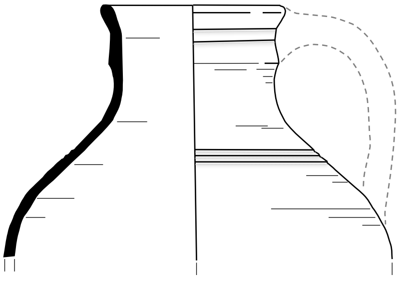


Fig. XII.13: Rounded - Poole, redrawn from Horsey (1992, Fig. 60.558)

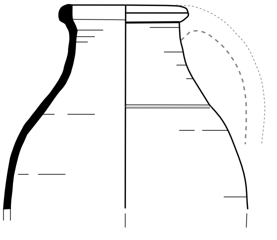


Fig. XII.14: Medium: - Corfe Castle, redrawn from Draper and Papworth (1997, Fig. 2.27)

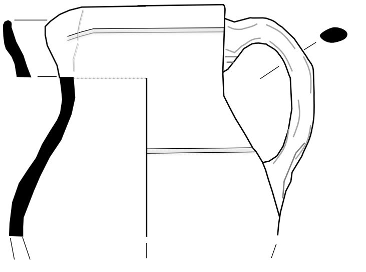


Fig. XII.15: Pear-shaped – drawn from ALD3 archive

Jugs 19th century Onwards

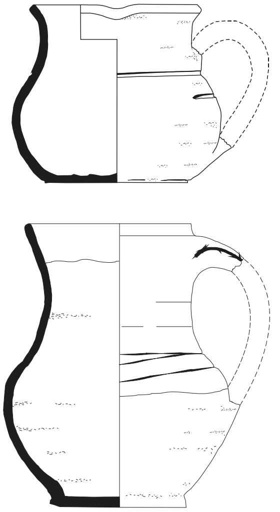


Fig. XII.16 and XII.17: Both VER3, taken from AC archaeology Ltd. (forthcoming)

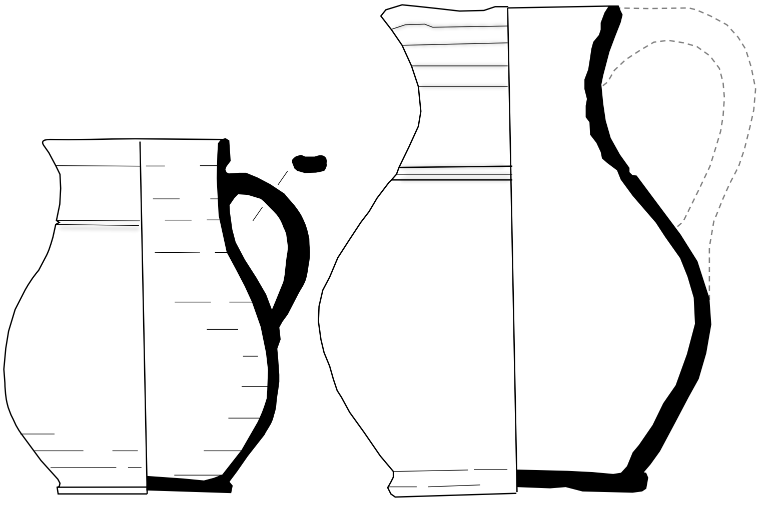


Fig. XII.18: Pear-shaped - VER4 redrawn from Young (1979. Fig. 47.56 (left) and Fig. XII.19 VER9 redrawn from *Ibid* Fig. 47.45 (right))

20cm

Jars 17-18th century (MPRG 1998 Form 4.1)

a) Rounded

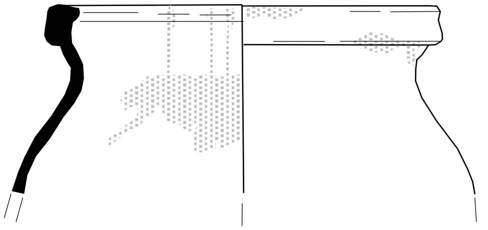


Fig. XII.20: HOR1, redrawn from Copland-Griffiths (1990, Fig. 5.57)

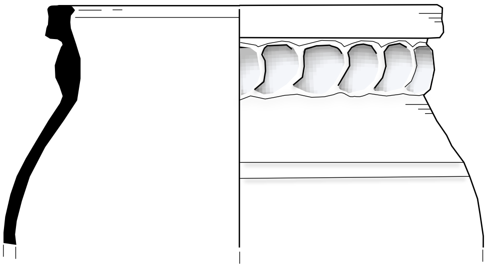


Fig. XII.21: HOR1, redrawn from Copland-Griffiths (1990, Fig. 5.58)

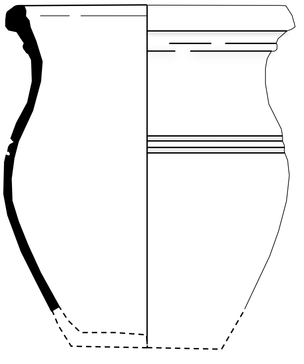


Fig. XII.22: HOR1,,redrawn from Copland-Griffiths (1990, Fig. 5.56)

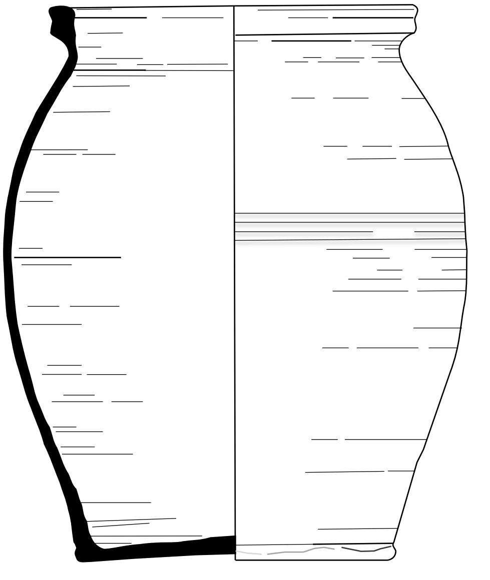


Fig. XII.23: Poole, redrawn from Horsey (1992, Fig. 37.125)

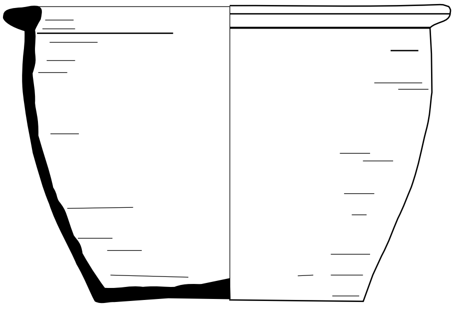


Fig. XII.24: Poole , redrawn from Horsey (1992, Fig. 48.366)

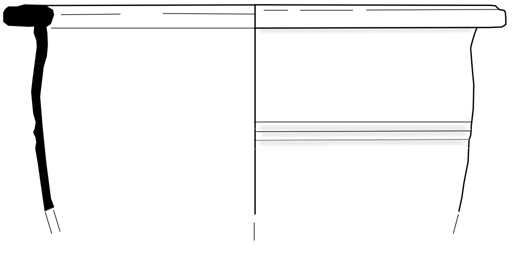


Fig. XII.25: HOR1, redrawn from Copland-Griffiths (1990, Fig. 5.63)

b) Inturned/Cylindrical

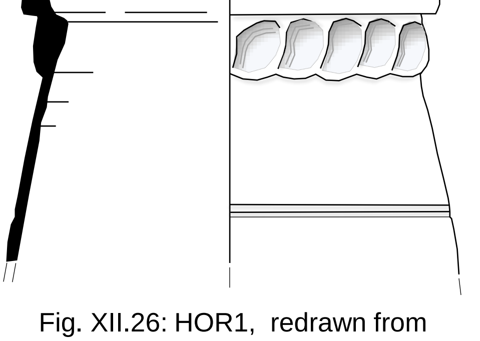


Fig. XII.26: HOR1, redrawn from Copland-Griffiths (1990, Fig. 5.64)

Jars 18-19th century

a) Rounded

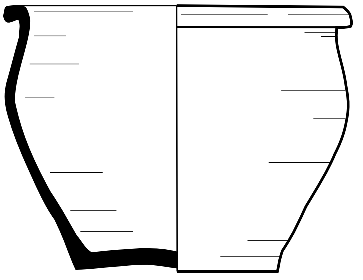


Fig. XII.27: Corfe Castle, redrawn from Draper and Papworth (1997, Fig. 2.25)

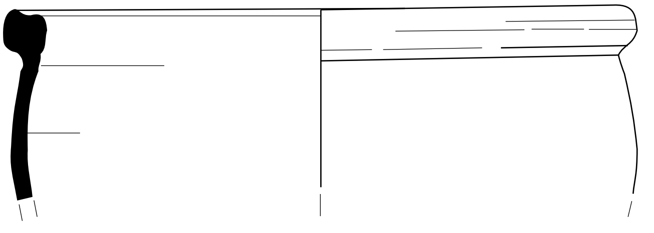


Fig. XII.28: Shaftesbury, redrawn from Draper (1988, Fig. 2.36)

b) Inturned/Cylindrical

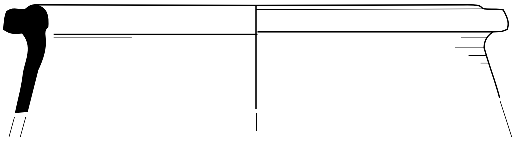


Fig. XII.29: Corfe Castle, redrawn from Draper and Papworth (1997, Fig. 2.20)

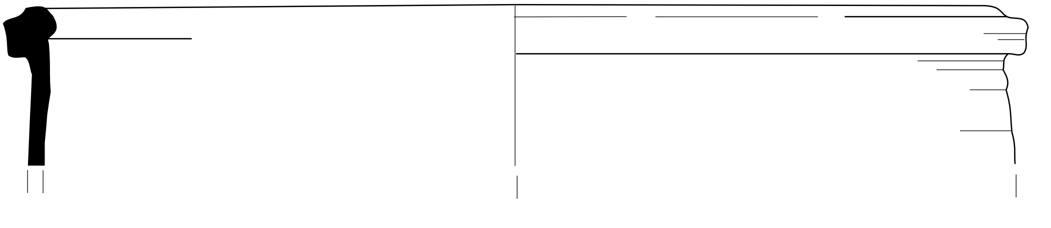
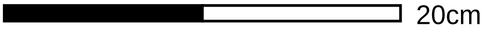


Fig. XII.30: Shaftesbury, redrawn from Draper (1988, Fig. 2.35)



Jars 19th century Onwards

a) Rounded

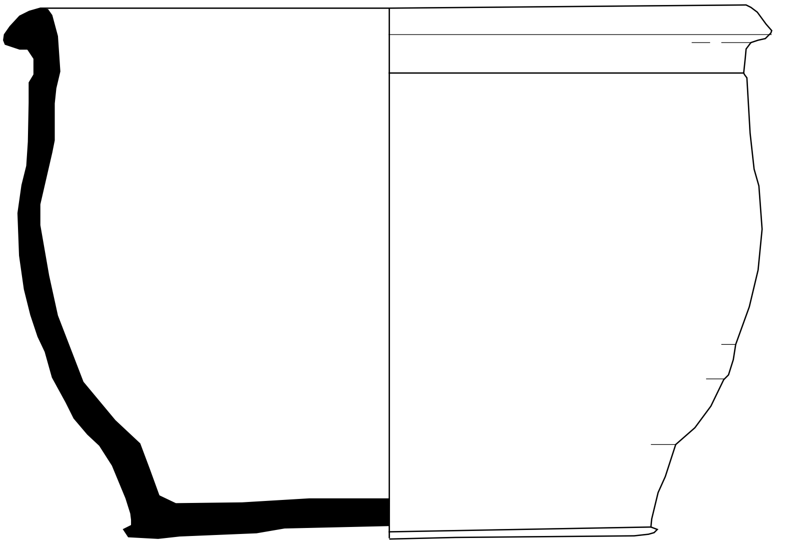


Fig. XII.31:VER4, drawn from archive.

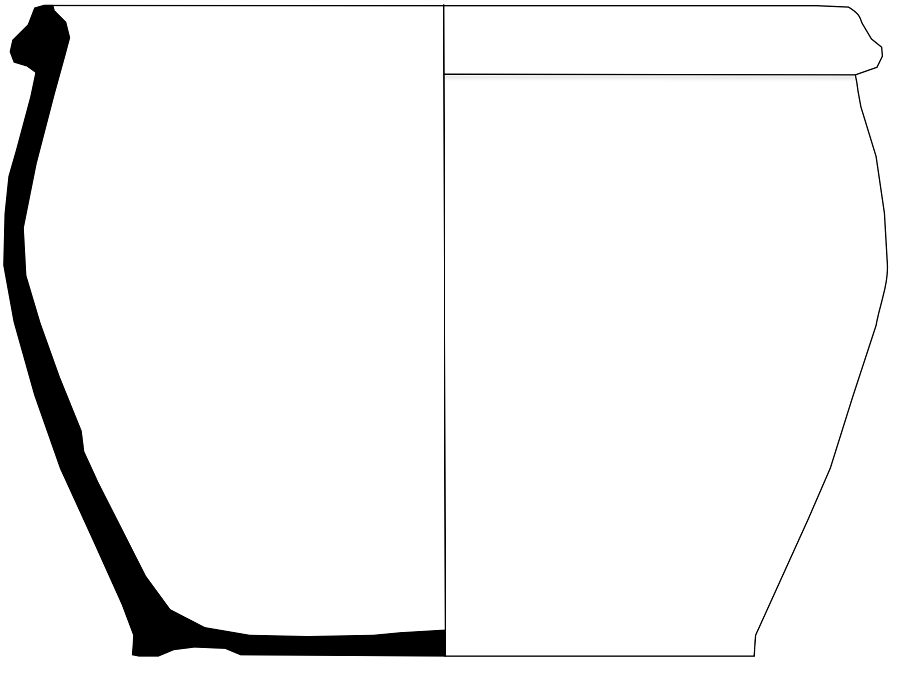


Fig. XII.32: VER3, redrawn from Young (1979, Fig. 55.2)

Jars 19th century Onwards

b) Inturned/Cylindrical

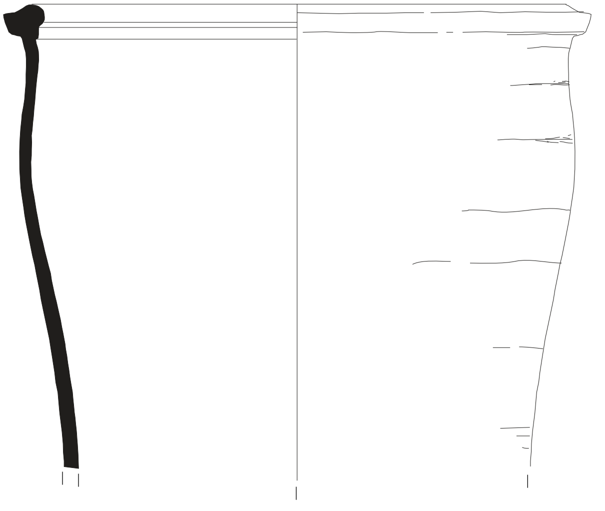


Fig. XII.33: VER3, taken from AC archaeology Ltd*. (*forthcoming)

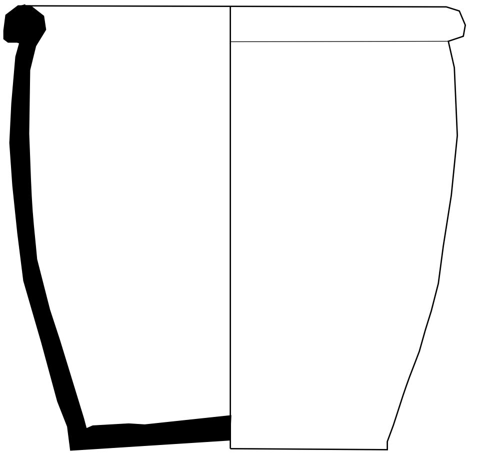


Fig. XII.34: VER4, drawn from archive.

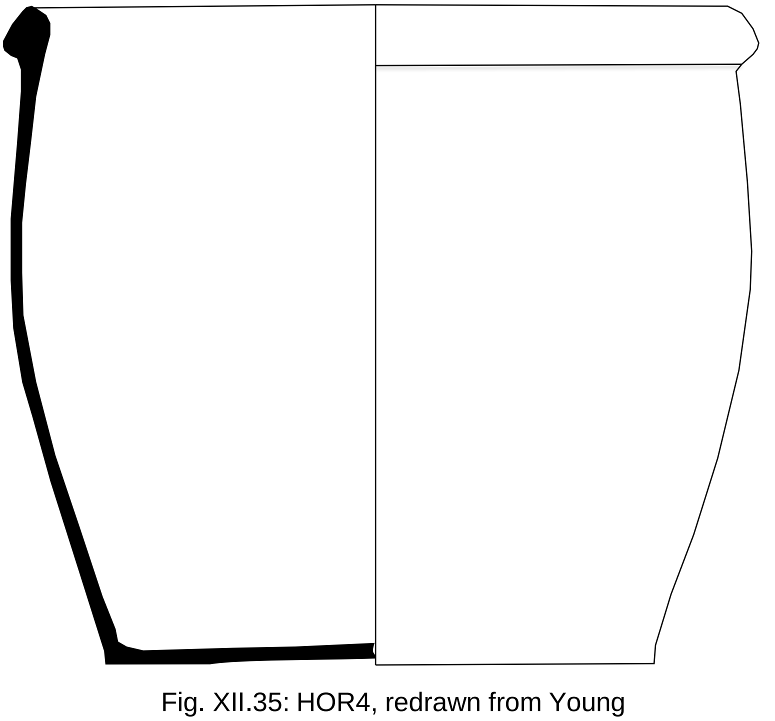


Fig. XII.35: HOR4, redrawn from Young (1979, Fig. 55.1)

20cm

Oil Jars 18-19th century (MPRG 1998 Form 4.1)

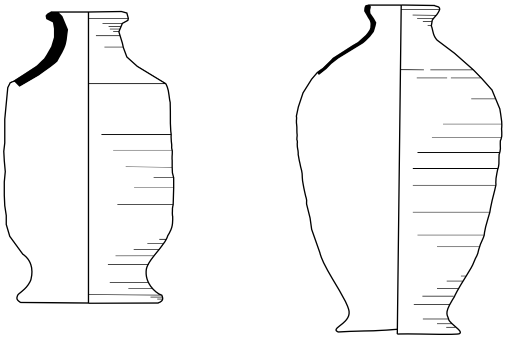


Fig. XII.36: HOL3 (left), and Fig. XII. 37: VER2 (right), both redrawn from Copland-Griffiths (1996, Fig. 6)

Handled Jars/Chamber Pots 17-18th century Onwards (MPRG 1998 Form 4.2.1)

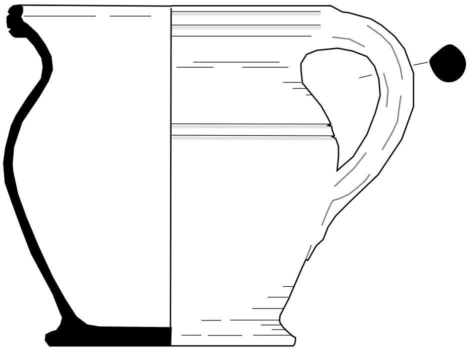


Fig. XII.38: HOR1, redrawn from Copland-Griffiths (1990, Fig. 6.69)

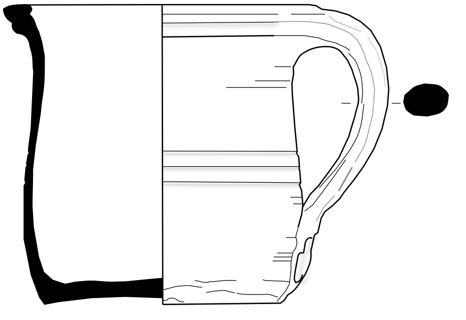


Fig. XII.39: Poole, redrawn from Horsey (1992, Fig. 35.108)

Handled Jars/Chamber Pots 18-19th century Onwards (MPRG 1998 Form 4.2.1)

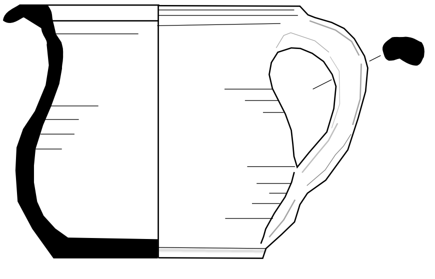


Fig. XII.40: ALD3, redrawn from Algar *et al*. (1987, Fig. 7.11)

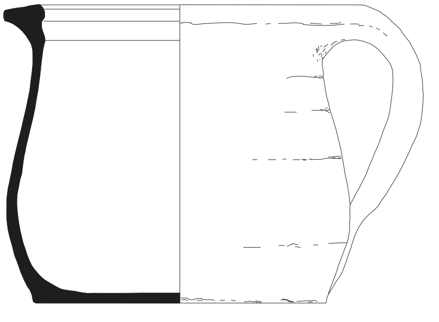


Fig. XII.41: VER3, taken from AC archaeology Ltd (forthcoming)

20cm

Basket Handled Jars 17-18th century Onwards (MPRG Form 4.2.2)

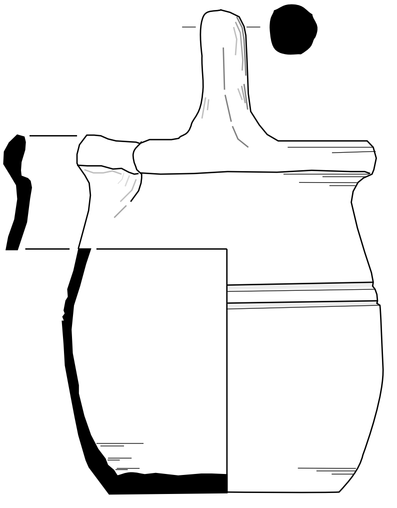


Fig. XII.42: HOR1, redrawn from Copland-Griffiths and Butterworth (1991, Fig. 5.21)

Pipkins (Footless) 17-18th century (MPRG Form 4.3)

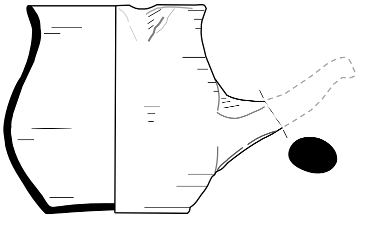


Fig. XII.43: Poole, redrawn from Horsey (1992, Fig. 55.463)

Pipkins (with feet) 17-18th century (MPRG Form 4.3.1)

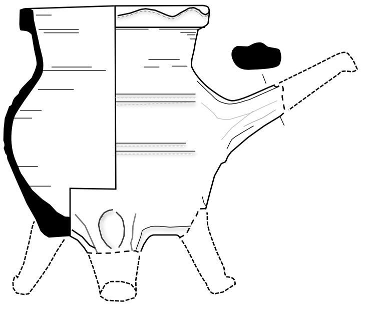


Fig. XII.44: Poole, redrawn from Horsey (1992, Fig. 36.118)

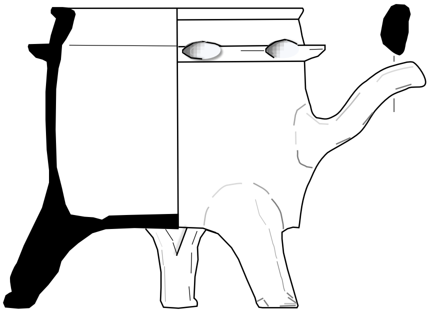


Fig. XII.45: HOR1, redrawn from Copland-Griffiths (1990, Fig. 7.86)

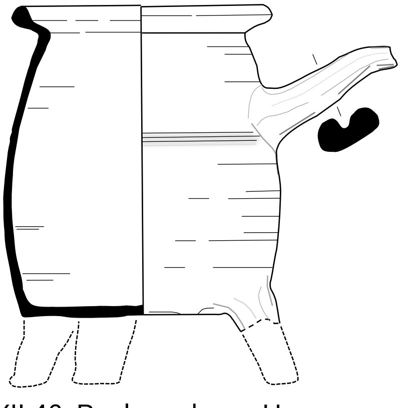


Fig. XII.46: Poole, redrawn Horsey (1992, Fig. 36.119)

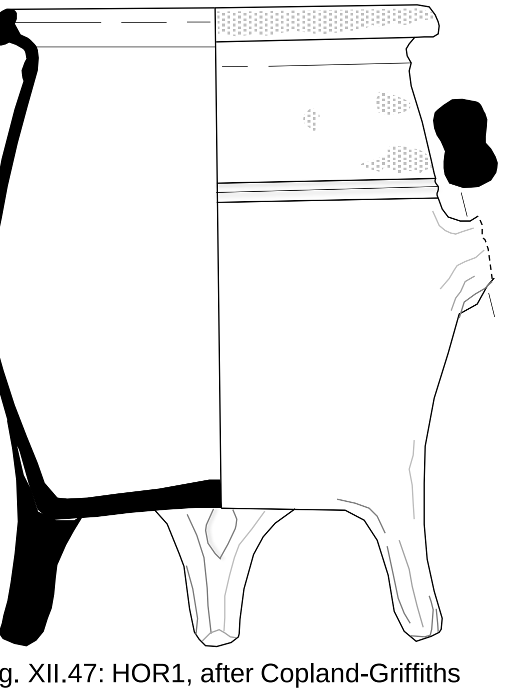


Fig. XII.47: HOR1, after Copland-Griffiths (1990, Fig. 7.87)

Pipkins (with feet) 18-19th century

Fig. XII.48: VER3, taken from AC archaeology Ltd (forthcoming)

20cm

Bowls\Dishes 17-18th century (MPRG 1998 Form 5.1)

a) Biconical

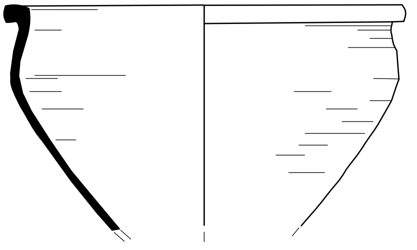


Fig. XII.49: Poole, redrawn from Horsey (1992, Fig. 58.548)

b) Concave-sided

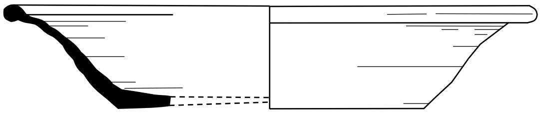


Fig. XII.50: Poole, redrawn from Horsey (1992, Fig. 59.526)

c) Flanged

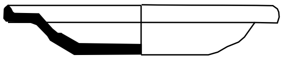


Fig. XII.51: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.1)

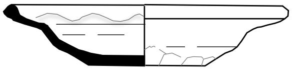


Fig. XII.52: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.3)

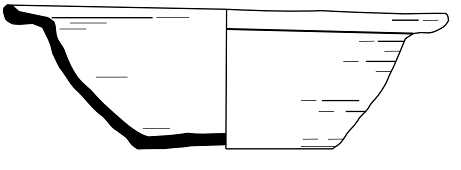


Fig. XII.53: Poole, redrawn from Horsey (1992, Fig. 48.372)

Bowls\Dishes 17-18th century (MPRG 1998 Form 5.1)

d) Flared

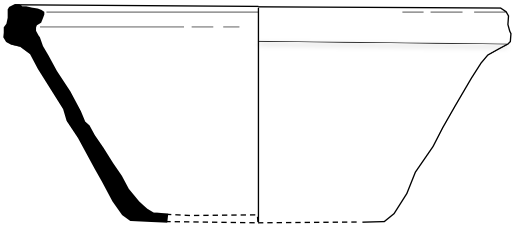


Fig. XII.54: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.23)

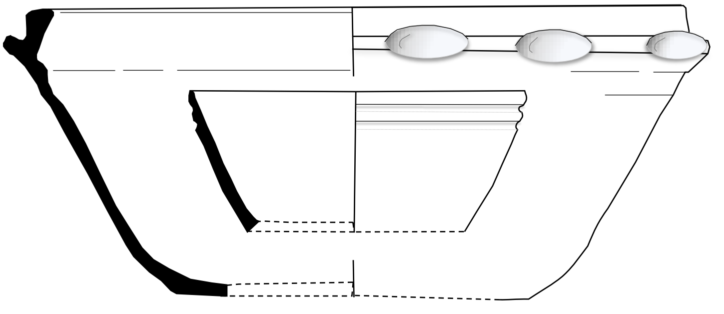


Fig. XII.55 (Interior) : HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.20).
Fig. XII.56 (Exterior): *Ibid*, (Fig. 2.22)

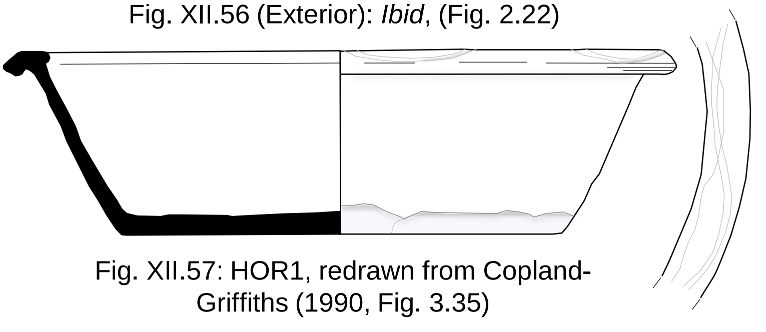


Fig. XII.57: HOR1, redrawn from Copland-Griffiths (1990, Fig. 3.35)

e) Flared with change in angle

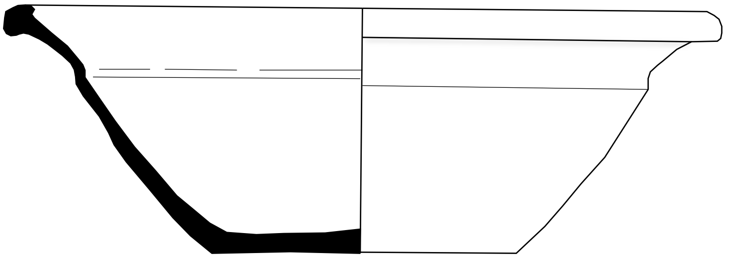


Fig. XII.58: HOR1, redrawn from Copland-Griffiths (1990, Fig. 4.48)

Bowls\Dishes 17-18th century (MPRG 1998 Form 5.1)

f) Rounded

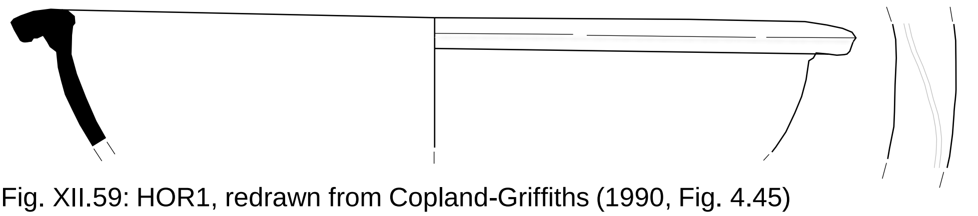


Fig. XII.59: HOR1, redrawn from Copland-Griffiths (1990, Fig. 4.45)

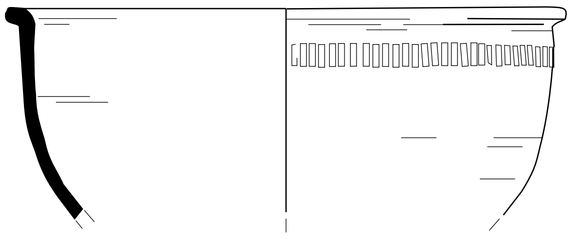


Fig. XII.60: Poole, redrawn from Horsey (1992, Fig. 59.536)

g) Steep-/ Straight-sided

Fig. XII.61: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.15)

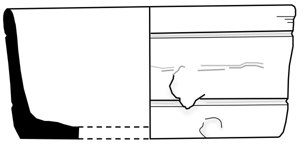


Fig. XII.62: HOR1, redrawn from Copland-Griffiths and Butterworth (1991, Fig. 5.1)

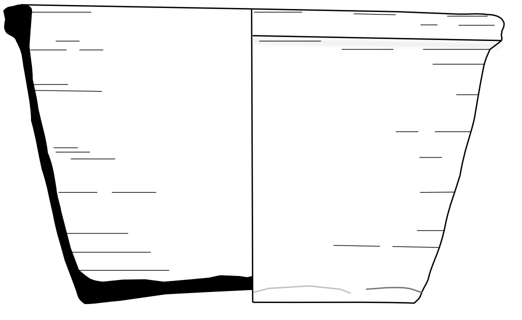


Fig. XII.63: Poole, redrawn from Horsey (1992, Fig. 37.132)

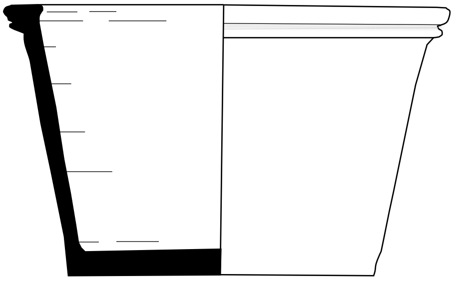


Fig. XII.64: Unprovenanced, redrawn from Algar *et al.* (1987, Fig. 7.14)

Fig. XII.65: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.15)

20cm

Bowls 18-19th century (MPRG 1998 Form 5.1)

a) Biconical

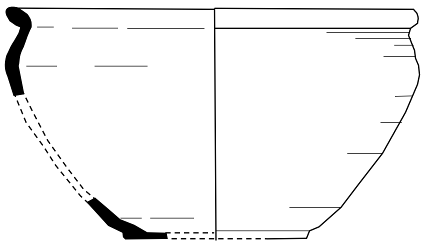


Fig. XII.66: HOR4, redrawn from Young (1979, Fig. 56.35)

b) Concave-sided

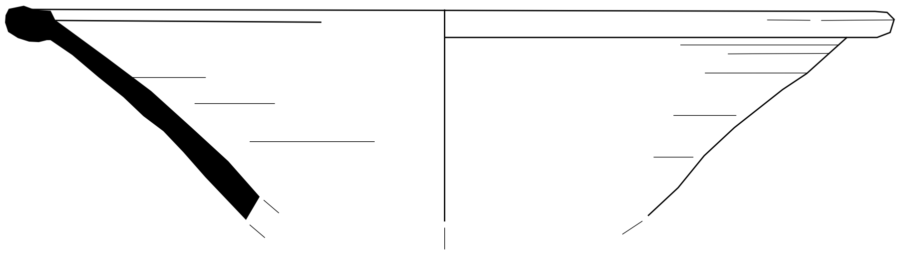


Fig. XII.67: VER4, drawn from archive

c) Flanged

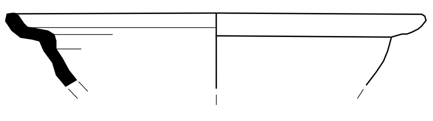


Fig. XII.68: VER9, redrawn from Young (1979, Fig. 56.26)

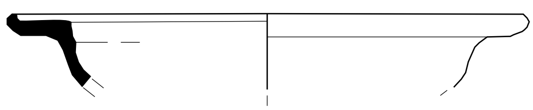


Fig. XII.69: HOR4, redrawn from Young (1979, Fig. 56.25)

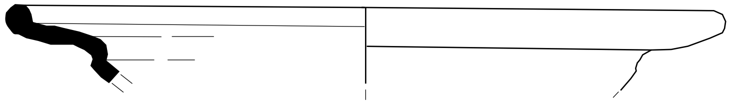


Fig. XII.70: HOR4, redrawn from Young (1979, Fig. 56.24)

20cm

Bowls 18-19th century onwards (MPRG 1998 Form 5.1)

d) Flared

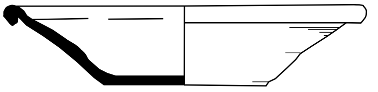


Fig. XII.71: ALD3, redrawn from Algar *et al.* 1987, Fig. 7.12

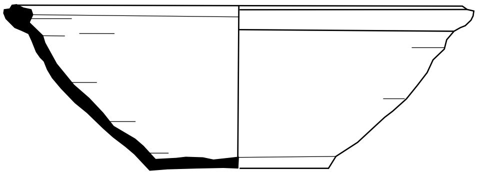


Fig. XII.72: VER4, drawn from archive

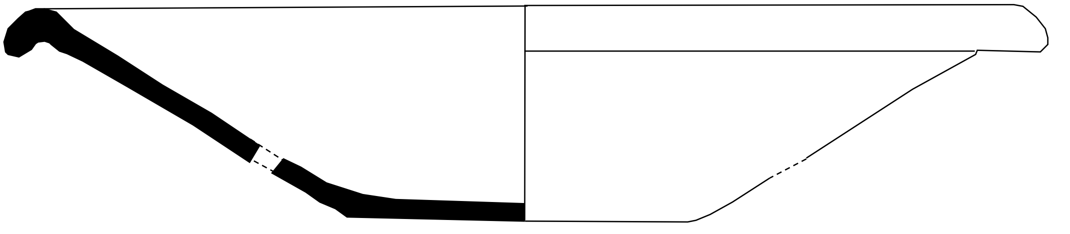


Fig. XII.73: HOR4, redrawn from Young (1979, Fig. 56.38)

e) Rounded

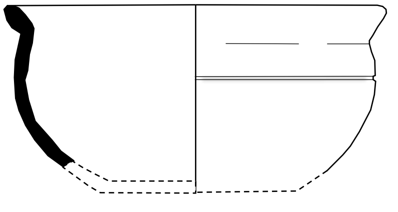


Fig. XII.74: VER4, redrawn from Young (1979, Fig. 56.3)

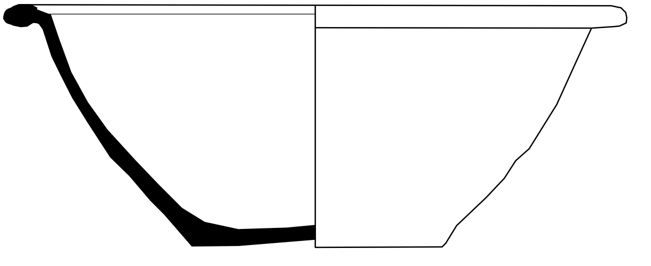


Fig. XII.75: VER9, redrawn from Young (1979, Fig. 56.27)

f) Steep-/ Straight- sided

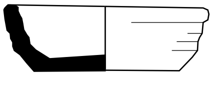


Fig. XII.76: HOR4, redrawn from Young (1979, Fig. 56.28)

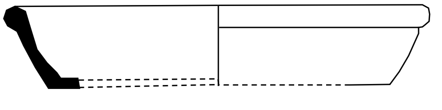


Fig. XII.77: HOR4, redrawn from Young (1979, Fig. 56.30)

Fig. XII.78: HOR4, redrawn from Young (1979, Fig. 56.30)

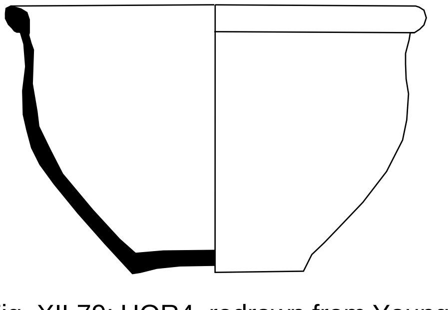


Fig. XII.79: HOR4, redrawn from Young (1979, Fig. 56.27)

20cm

Spouted bowls 17-18th century (MPRG 1998 Form 5.1.8)

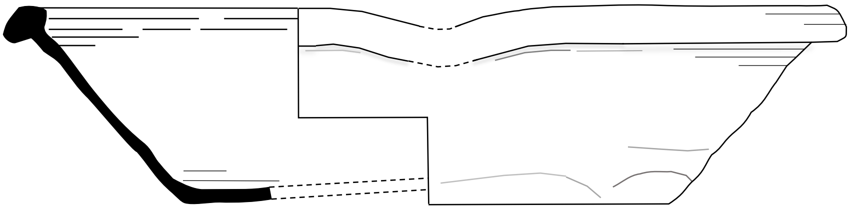


Fig. XII.80: Poole, redrawn from Horsey (1992, Fig.37.130)

Divided bowls 18th century onwards (MPRG 1998 Form 5.1.11)

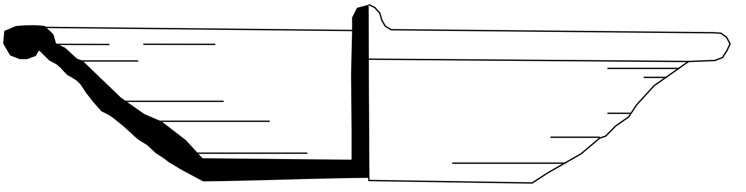


Fig. XII.81: VER4 (19th - early 20th century), drawn from archive

Colanders 17th century onwards (MPRG 1998 Form 5.1.13)

a) Flared, often with change in angle

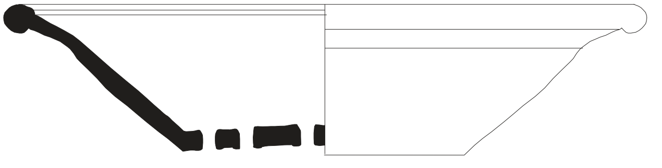


Fig. XII.82: VER3, taken from AC archaeology Ltd (forthcoming)

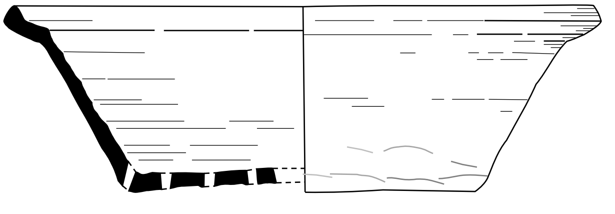


Fig. XII.83: Poole, redrawn from Horsey (1992, Fig. 45.298)

b) Flared with change in angle

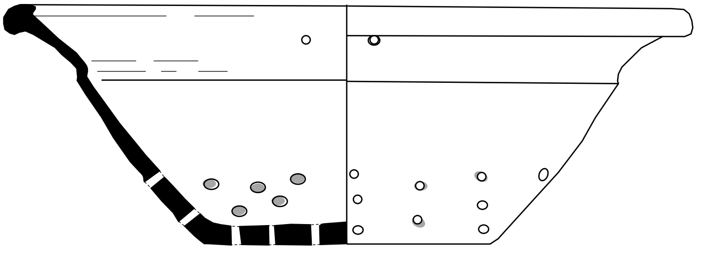
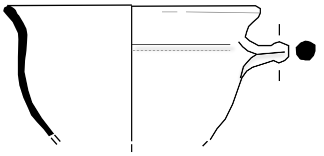


Fig. XII.84: HOR1, redrawn from Copland-Griffiths (1990, Fig. 4.49)

Handled Bowls/Porringers 17-18th century (MPRG 1998 Form 5.2)

a) Rounded, often with change in angle



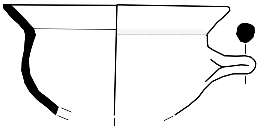


Fig. XII.85 (left) : HOR1, redrawn from Copland-Griffiths 1990, Fig.2.11;
Fig. XII.86 (centre): *ibid* Fig. 2.12

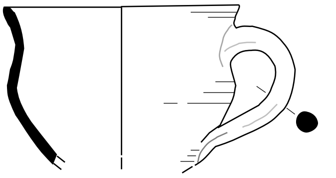


Fig. XII.87: Southampton, redrawn from Platt and Coleman-Smith (1975, Fig. 169.778)

b) Shouldered

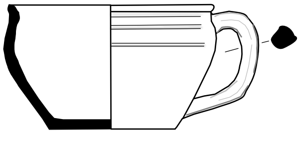


Fig. XII.88: Unprovenanced, redrawn from Algar *et al. (*1987, Fig. 7.10)

c) Steep-/ Straight- sided

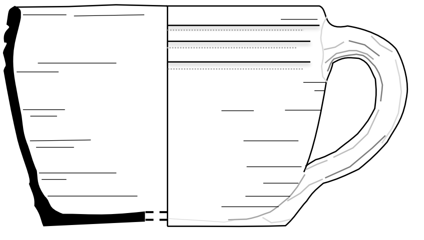


Fig. XII.89: Poole, redrawn from Horsey (1992, Fig. 44.272)

Handled Bowls/Porringers 19th century Onwards (MPRG 1998 Form 5.2)

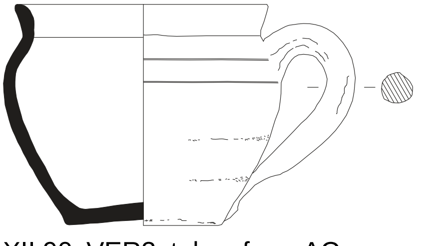


Fig. XII.90: VER3, taken from AC archaeology Ltd (forthcoming)

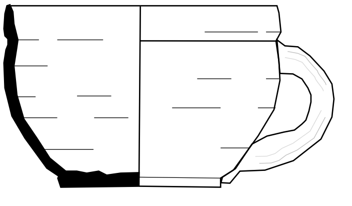


Fig. XII.91: VER4, drawn from archive

20cm

Cups/Mugs/Tankards 17-18th century (MPRG 1998 Form 6)

a) Rounded

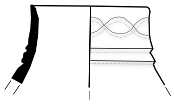


Fig. XII.92: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.8)

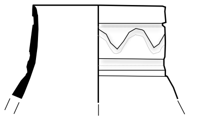


Fig. XII.93: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.9)

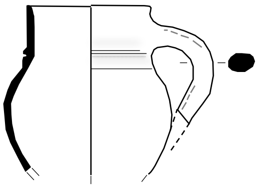


Fig. XII.94: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.10)

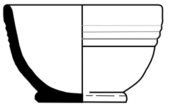


Fig. XII.95: Southampton, redrawn from Platt and Coleman-Smith (1975, Fig. 174.849)

b) Flared

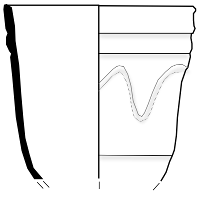


Fig. XII.96: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.4)

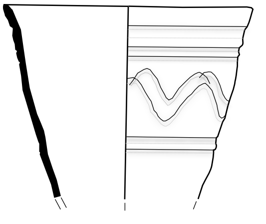


Fig. XII.97: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.7)

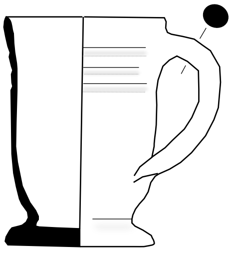


Fig. XII.98: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.5)

c) Cylindrical

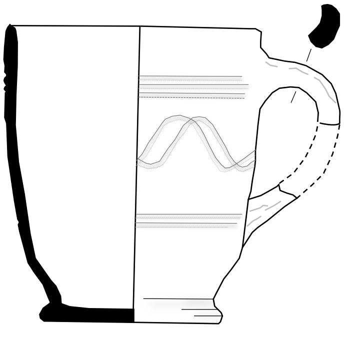


Fig. XII.99: HOR1, redrawn from Copland-Griffiths (1990, Fig. 2.6)

Tygs 18th century

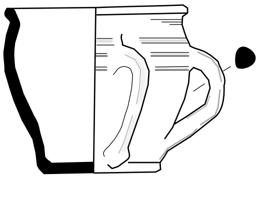


Fig. XII.100: ALD3, redrawn from Algar *et al.* (1987, Fig.. 7.9)

20cm

Cups/Mugs/Tankards 18-19th century onwards (MPRG 1998 Form 6.3)

a) Rounded Cups

Fig. XII.101 (right) and XII.102 (left): VER3, taken from AC archaeology Ltd (forthcoming)

b) Flared

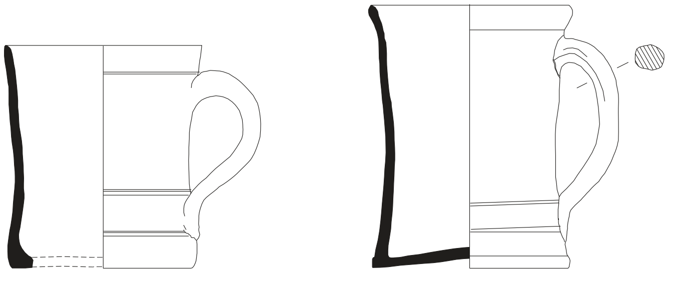


Fig. XII.103 (right) and XII.104 (left): VER3, taken from AC archaeology Ltd (forthcoming)

c) Cylindrical

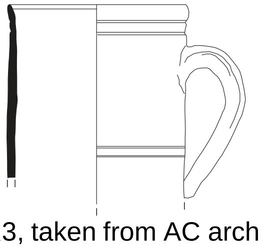


Fig. XII.105: VER3, taken from AC archaeology Ltd (forthcoming)

Tygs 18-19th century

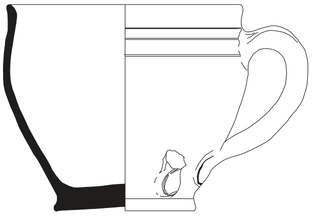


Fig. XII.106: VER3, taken from AC archaeology Ltd (forthcoming)

Candlesticks 17-18th century (MPRG 1998 Form 8.1)

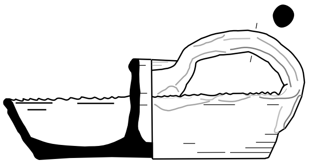


Fig. XII.107: Poole, redrawn from
Horsey 1992, (Fig. 45.300)

Candlesticks 19th century Onwards

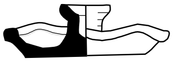
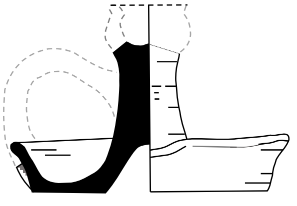


Fig. XII.108: VER3, redrawn from
Algar *et al.* (1987, Fig. 5.16)

Oil Lamps 17-19th century (MPRG 1998 Form 8.2)



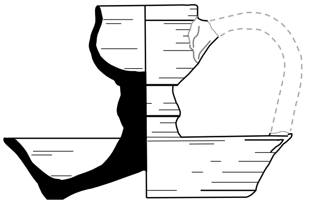


Fig. XII.109 (left): Poole, redrawn from Horsey (1992, Fig. 56.482).
Fig. XII.110 (right): *ibid* Fig. 68.782.

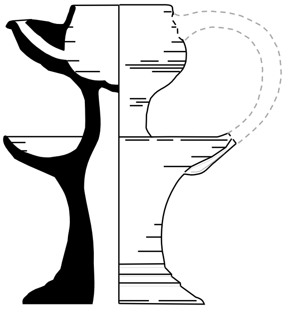


Fig. XII.111: Southampton, redrawn from Platt
and Coleman-Smith (1975, Fig. 172.818)

20cm

Chafing Dishes pre-17th to 18th century (MPRG 1998 Form 8.6)

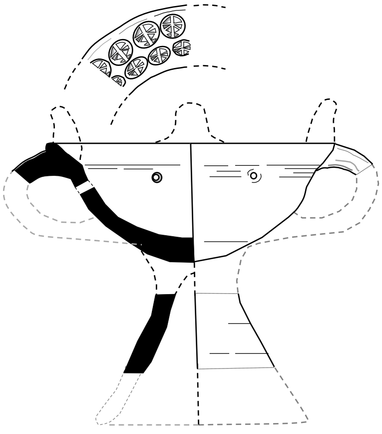


Fig. XII.112: Southampton, redrawn from Platt and Coleman-Smith 1975, Fig. 165.706

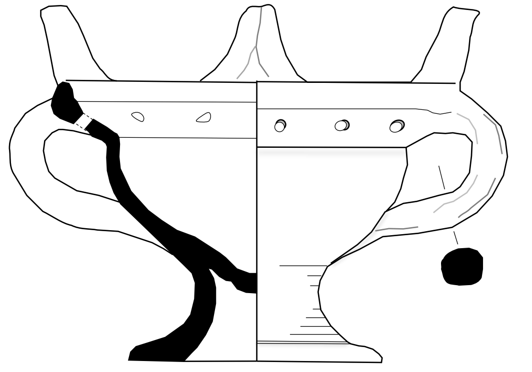
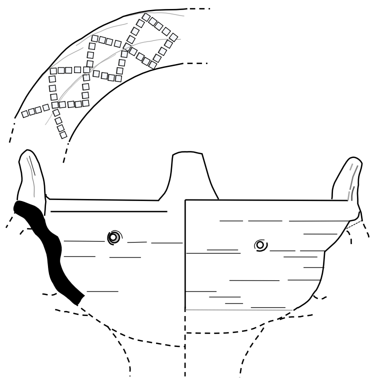


Fig. XII.113: HOR1, redrawn from Copland-Griffiths (1990, Fig. 7.89)



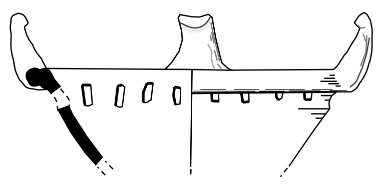
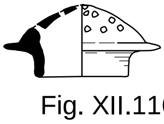


Fig. XII.114 (left): Southampton, redrawn from Platt and Coleman-Smith (1975, Fig. 165.706).
Fig. XII.115 (right): *ibid,* (Fig. 168.763)

Fuming Pots 17-18th century (MPRG 1998 Form 8.7)



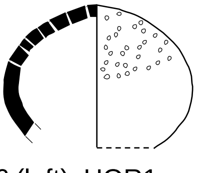


Fig. XII.116 (left): HOR1, redrawn from Copland-Griffiths (1990, Fig. 8.98 - lid).
Fig. XI.117: (centre left): i*bid* (Fig. 8.100)

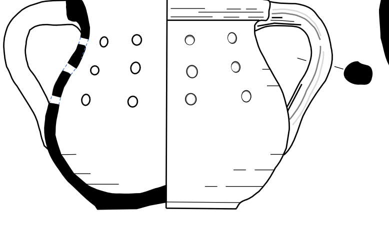


Fig. XII.118 (centre right): Southampton, redrawn from Platt and Coleman-Smith (1975, Fig. 174.850)

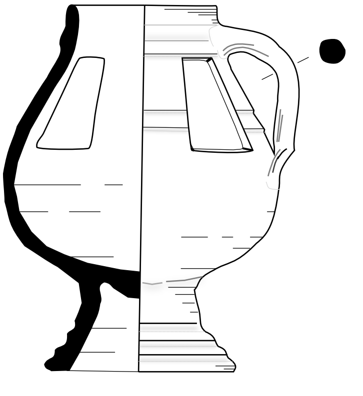


Fig. XII.119 (right): Southampton, redrawn from Platt and Coleman-Smith (1975, Fig. 167.766)

20cm

Costrels 17-18th century (MPRG 1998 Form 10.7)

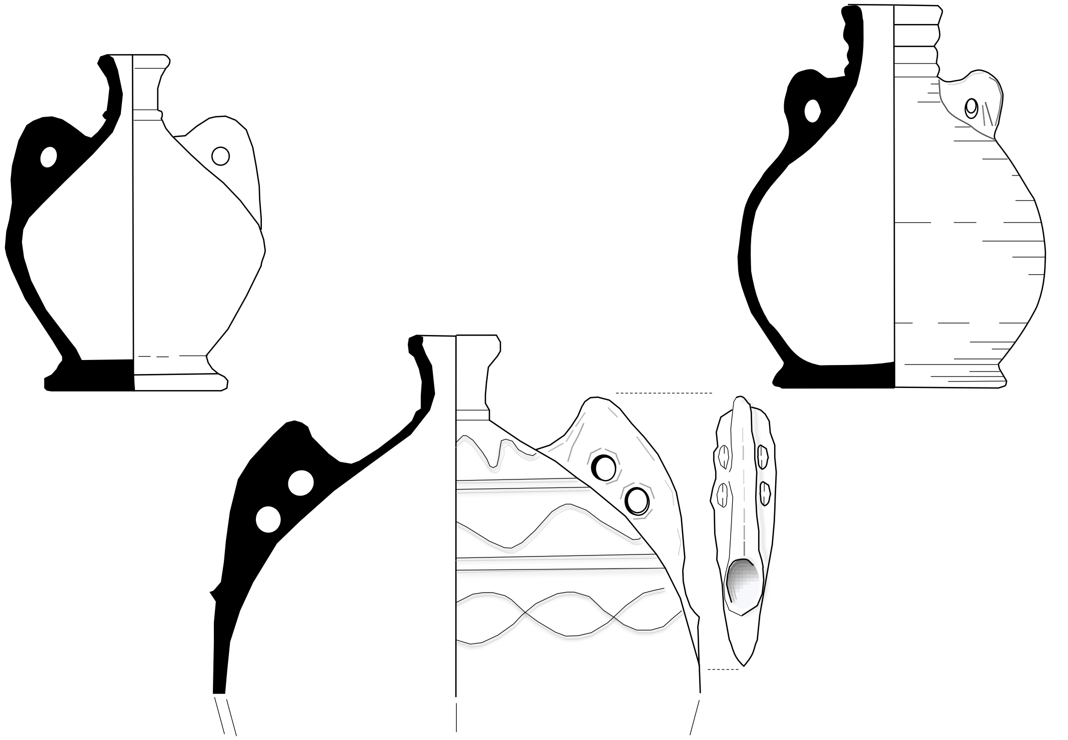


Fig. XII.120 (left): HOR1, redrawn from Copland-Griffiths (1990, Fig. 7.83)
Fig. XII.121 (centre): Southampton, redrawn from Platt and Coleman-Smith (1975, Fig. 167.781)
Fig. XII.122 (right): HOR1, redrawn from Copland-Griffiths (1990, Fig. 7.84)

Costrels 19th century onwards

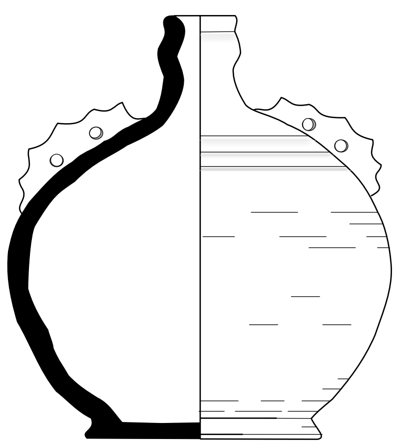


Fig. XII.123: VER3, redrawn from Algar *et al.* (1987, Fig. 8.20)

20cm

Milk/Butter Churn (Butter pot) 17-18th century (MPRG 1998 Form 10.21)

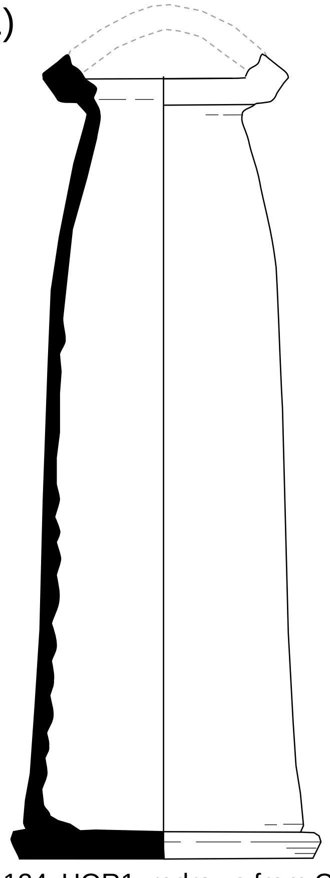


Fig. XII.124: HOR1, redrawn from Copland-Griffiths 1990, Fig. 5.51

Alembic 19th century Onwards (MPRG 1998 Form 9.1)

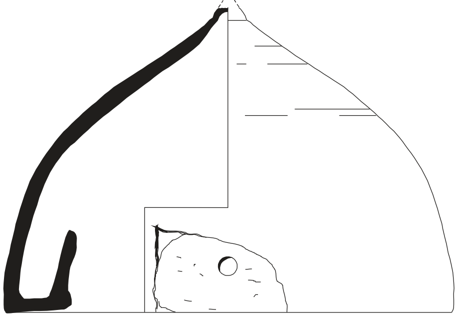


Fig. XII.125: VER3, taken from AC archaeology Ltd (forthcoming)

Dripping Pans 17-18th century (MPRG 1998 Form 5.3.6)

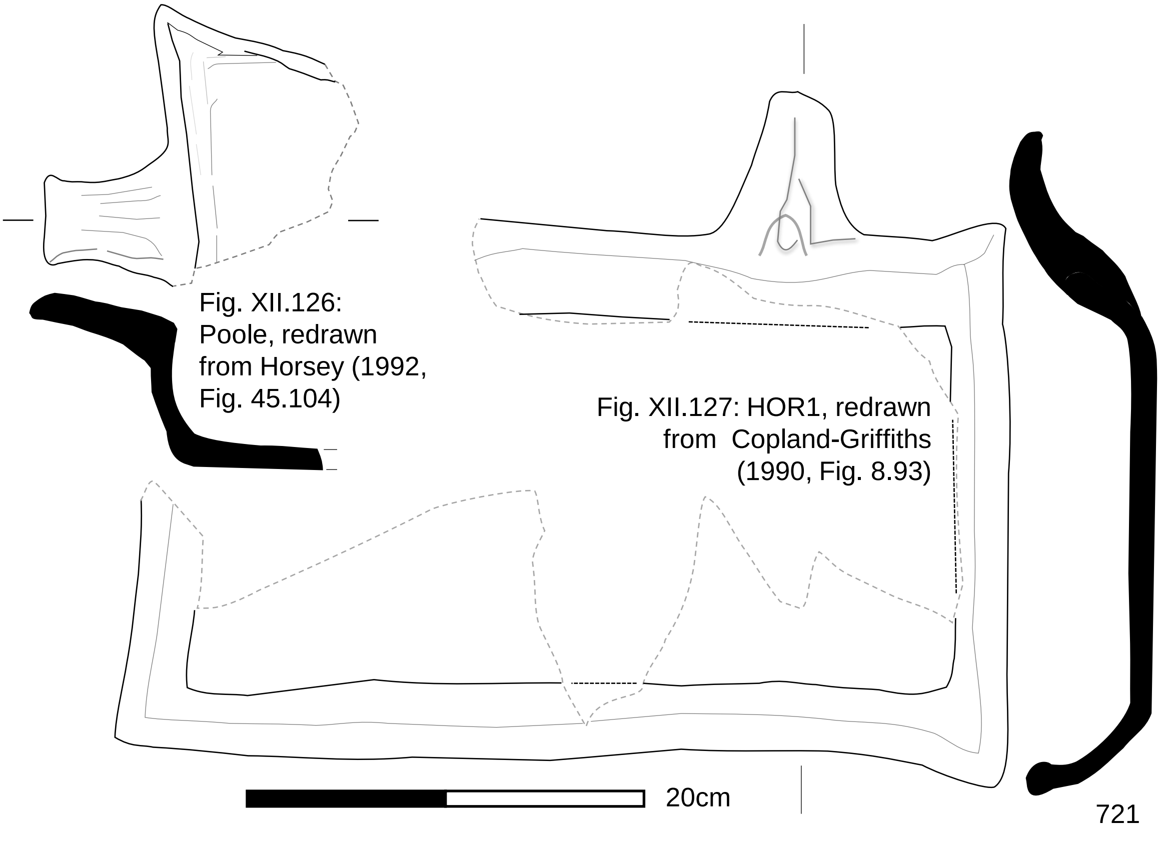


Fig. XII.126: Poole, redrawn from Horsey (1992, Fig. 45.104)

Fig. XII.127: HOR1, redrawn from Copland-Griffiths (1990, Fig. 8.93)

Flower Pots 17-18th century (MPRG 1998 Form 10.14)

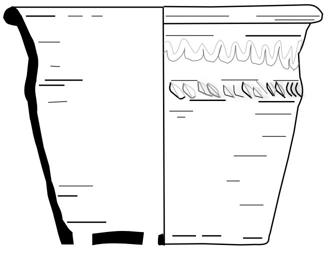


Fig. XII.128: Poole, redrawn from Horsey (1992, Fig. 45.291)

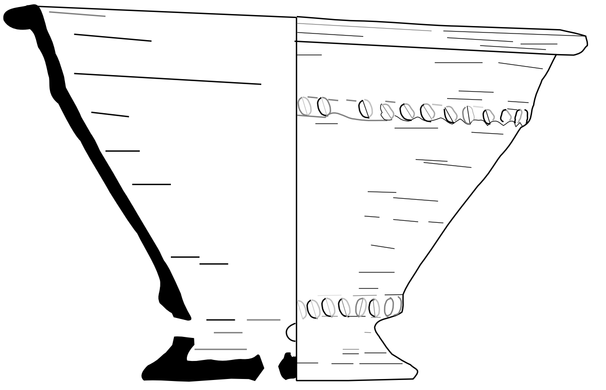


Fig. XII.129: Poole, redrawn from Horsey (1992, Fig. 45.295)

Flower Pots 18 - 19th century Onwards (MPRG 1998 Form 10.14)

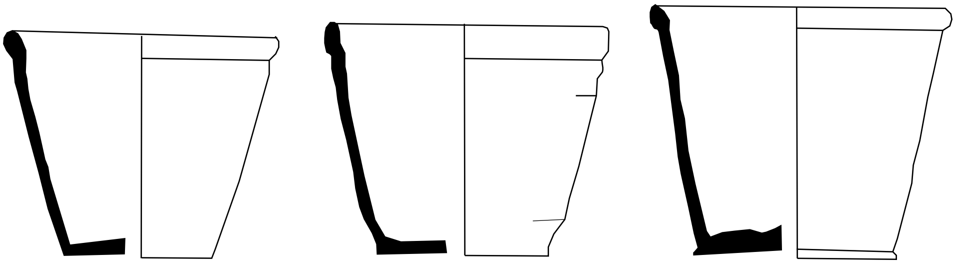


Fig. XII.130 (left), XI.131 (centre) and XII.132 (right): All VER4, drawn from archive

Appendix XIII:
Rouletting Identified on Verwood-Type Pottery Production Sites

December 2020

D.Carter

Fig. XIII.1: Examples of free hand rouletting from Horton (HOR1) - 17-18th century. All ¼ life size. All after Copland-Griffiths (1990, 73-81).

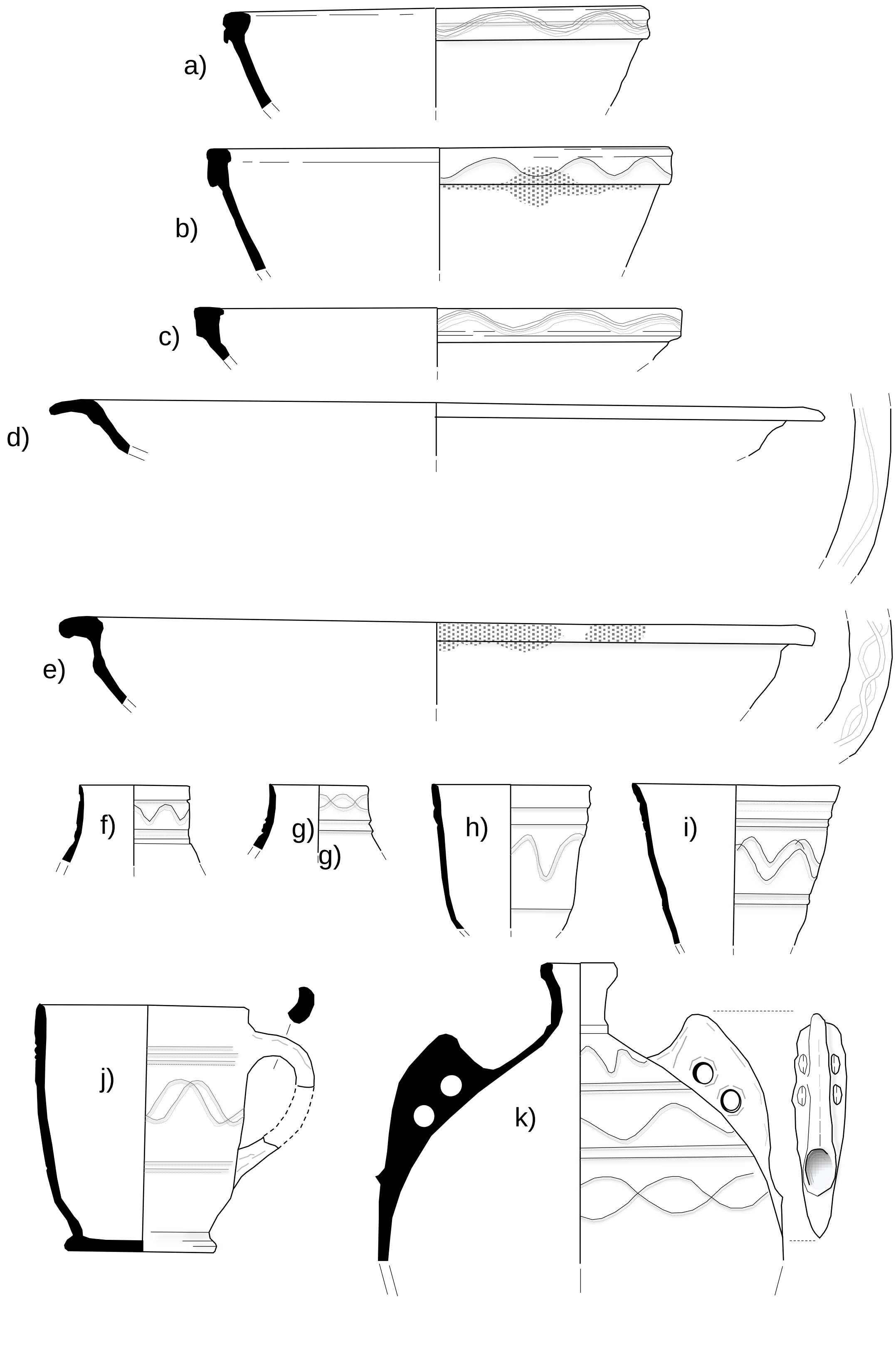


Fig. XIII.2: Examples of stamped rouletting from Crendell, Dorset (ALD3) - 18-19th century. All ½ life size.

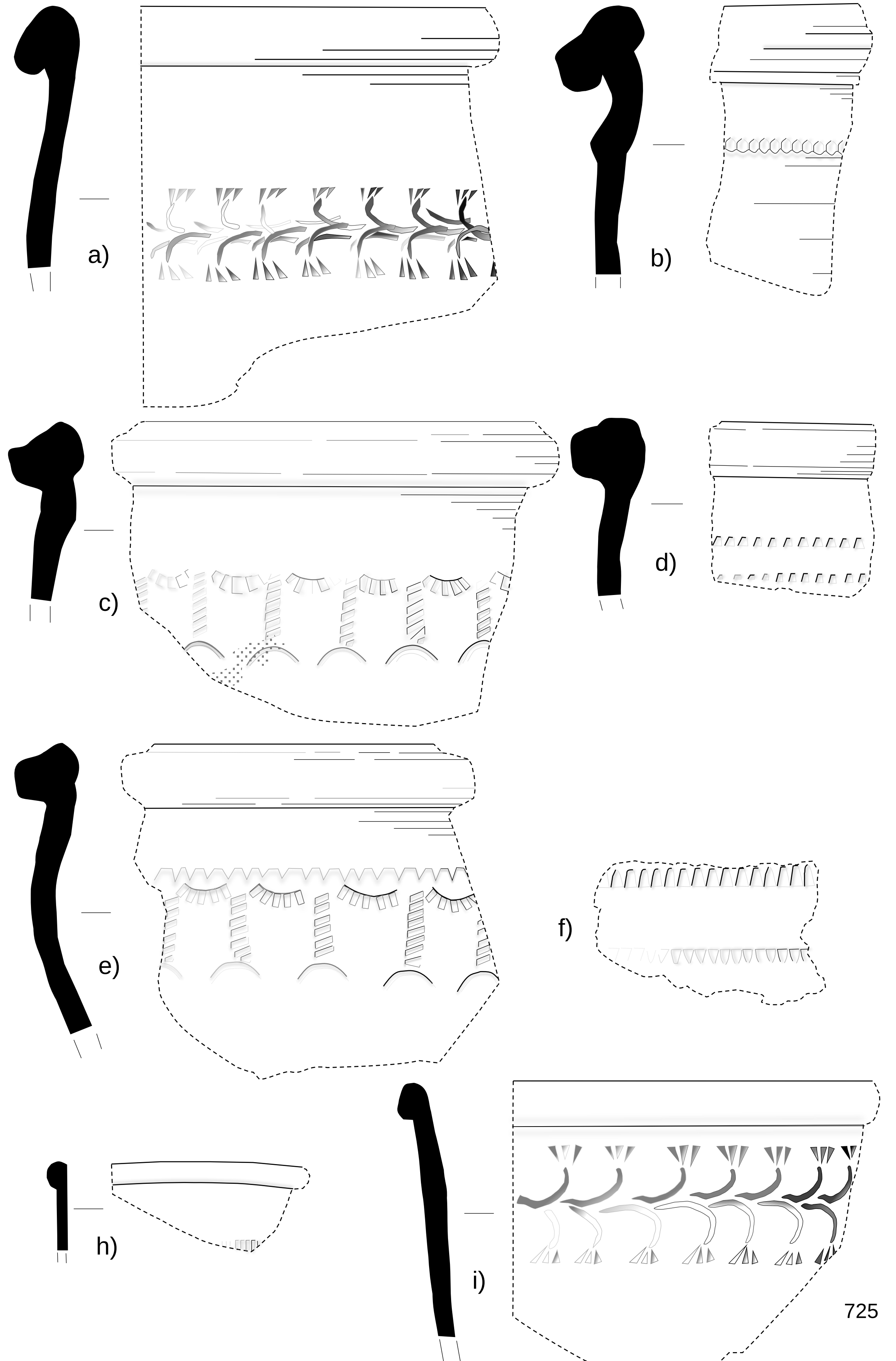
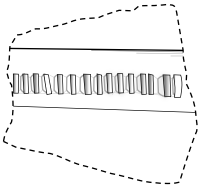


Fig. XIII.3 (below): Examples of stamped rouletting from Harbridge, Hampshire (HAR1) - 18-19th century. All ½ life size

a)



b)

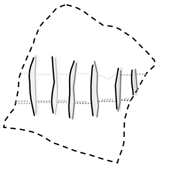
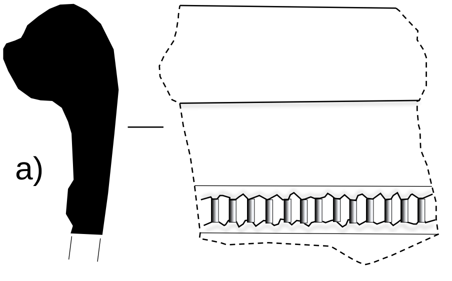


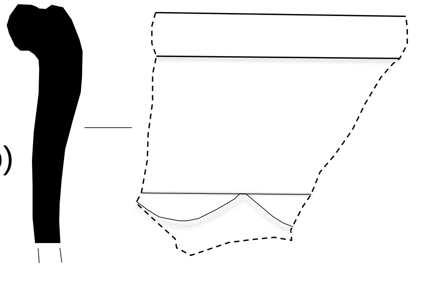
Fig. XIII.4 (below): Examples of stamped rouletting identified by Young (1979) – Various sites in the Verwood area, all dated 18-20th century. All ½ life size. After Young (1979)

a)



VER9, Young (1979, Fig. 55.5)

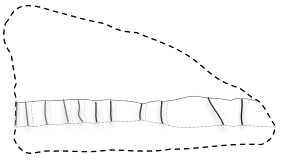
b)



HOR4, Young (1979, Fig. 55.7)

Fig. XIII.5 (below): Examples of stamped rouletting from Verwood (VER3) - 18-20th century. All ½ life size

a)



b)

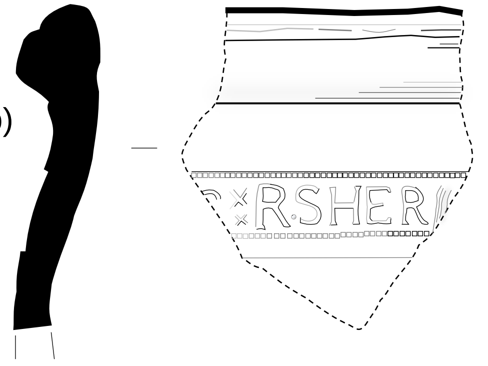


Fig. XIII.6 (below): Examples of stamped rouletting from Verwood (VER3) - 18-20th century. All ¼ life size. All from AC archaeology Ltd. (forthcoming)

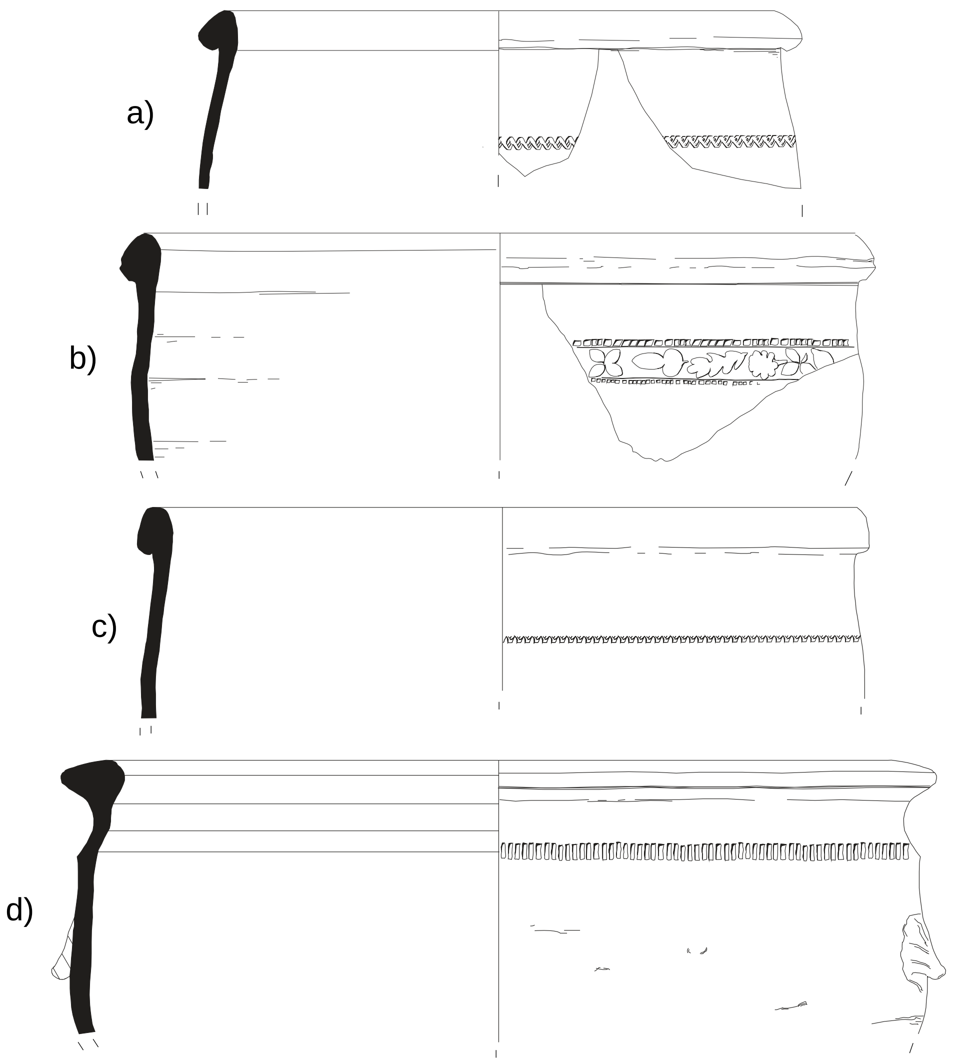


Fig. XIII.6 Cont. (below): Continuation of previous

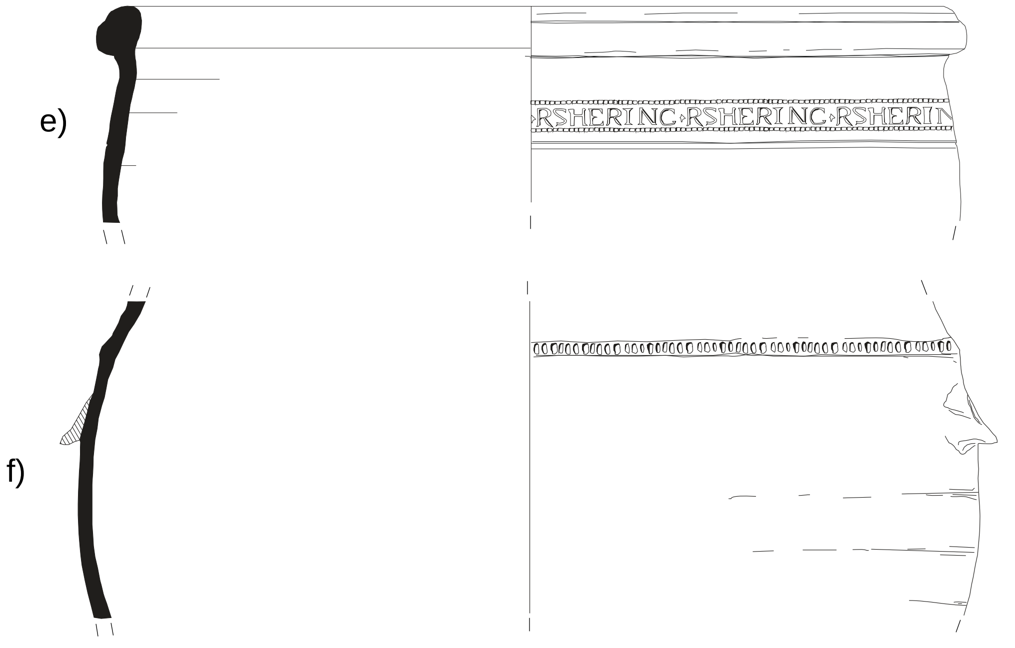


Fig. XIII.7 (below): Examples of stamped rouletting and horizontal combing from Black Hills, Verwood (VER4) - 19-20th century. All ½ life size

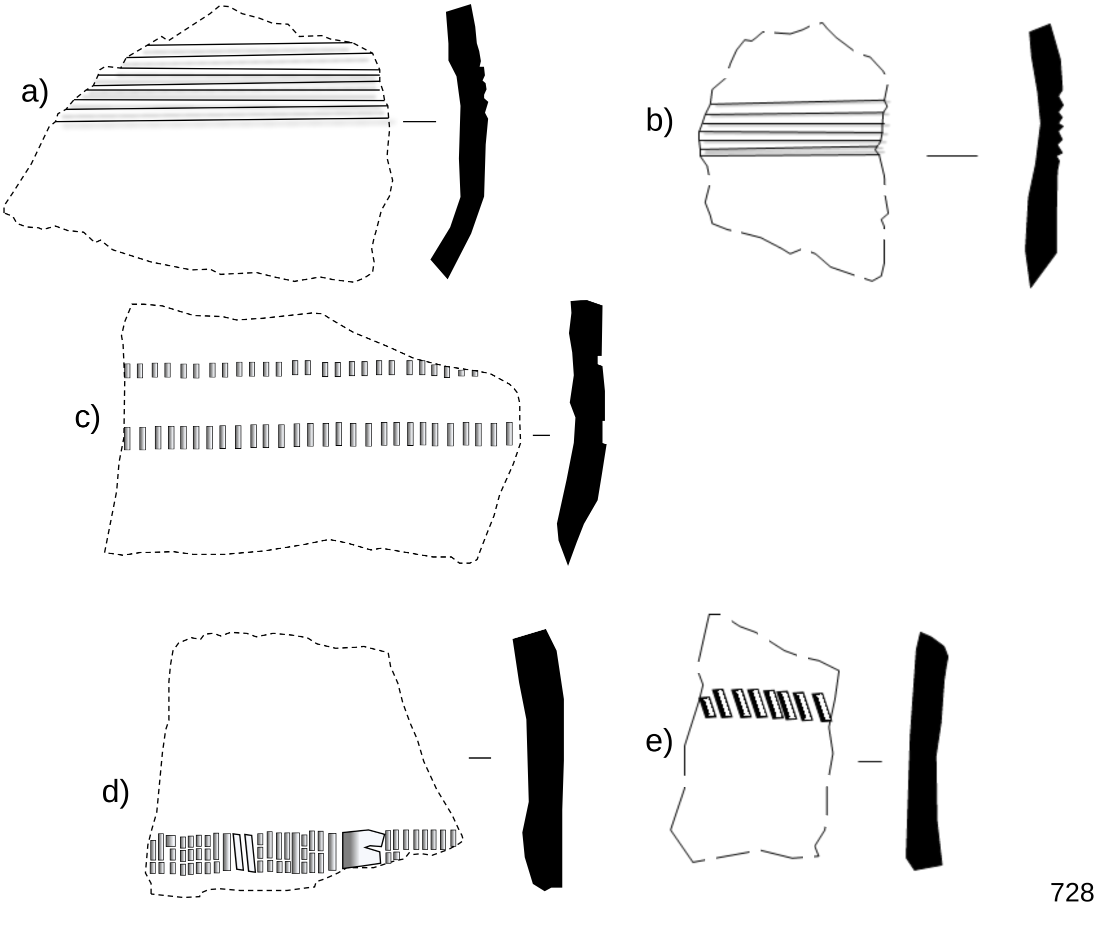


Fig. XIII.8 (below): Examples of free hand rouletting from Crendell (ALD3) - 18-19th century. All ½ life size

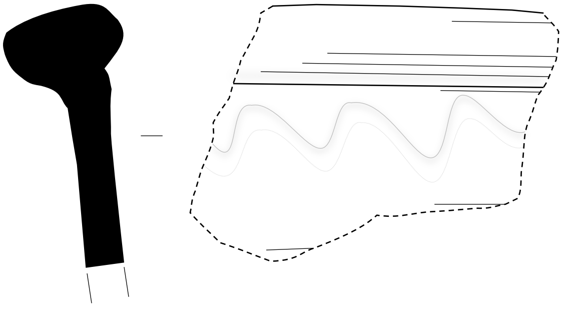


Fig. XIII.9 (below): Examples of free hand rouletting from Edmonsham (EDM1) - 18-19th century. All ½ life size

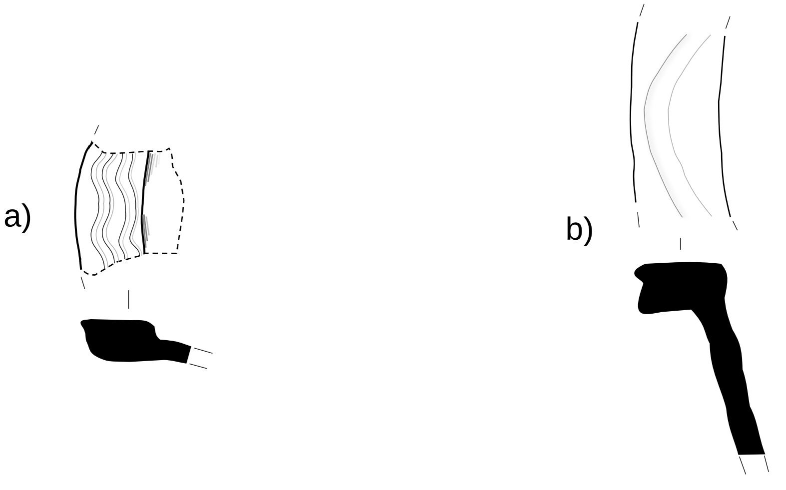
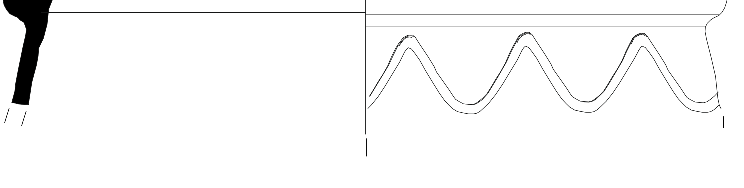


Fig. XIII.10 (below): Examples of free hand rouletting from Verwood (VER3) - 18-20th century. All ½ life size



Appendix XIV:
Source of Data for Verwood-Type Pottery Distributions

Sources for Fig. 126; 15-16th Century

Pie Charts
Fordingbridge, Hampshire: Harding and Light (2003) – 91%
Poole, Dorset: Horsey (1992); Watkins (1994) – 15%
Romsey, Hampshire: Russel and McDonald (2012) – 8%
Salisbury, Wiltshire: Wessex Archaeology (1992) – 44%

Major Sites (Over 40% by weight and forms a significant part of the assemblage)
East Worth, Verwood, Dorset: Carter (2021b) - 80%
Wimborne Minster, Dorset: Coe and Hawkes (1991) – 53%

Minor Sites (less than 40% by weight and forms a small part of the assemblage)
Christchurch, Dorset: Jarvis (1983) - <1%
Gillingham, Dorset: AC archaeology Ltd. (In Prep) – 16%
Hinton St Mary, Dorset: Wessex Archaeology (2001) - <1%
Ringwood, Dorset: Avon Valley Archaeology Society (1990) - <1%
Shaftesbury, Wiltshire: Robinson *et al.* (2016) - <1%
Southampton, Hampshire: Platt and Coleman-Smith (1975) – 5%
Wilton, Wiltshire: Andrews *et al.* (2001) - <1%

Sources for Fig. 127; 17-18th Century

Pie Charts
Andover, Hampshire: Pine and Porter (2015) – 49%
Carisbrooke Castle, IOW: Young (2000) – 25%
Fordingbridge, Hampshire: Harding and Light (2003) – 12%
Poole, Dorset (Horsey 1992) – 70%
Romsey, Hampshire: Russel and McDonald (2012) – 58%
Salisbury, Wiltshire: Wessex Archaeology (1992) – 65%
Southampton, Hampshire: Brown (2002) – 37% and Platt and Coleman-Smith (1975)

Major Sites
Abbotsbury, Dorset: Southern Archaeological Services (1999a)
Amesbury, Wiltshire: Clutterbuck (2019)
Blandford Forum, Dorset: Wessex Archaeology (2004a)
Christchurch, Dorset: Jarvis (1983)
Dorchester, Dorset: Smith (1993); Draper and Chaplin (1982); Woodward *et al.* (1993)
Gillingham, Dorset: AC archeology Ltd. (In Prep)
Havant, Hampshire: Southern Archaeological Services (1996)
Lymington, Hampshire: Russel and Fedorowicz (2017)
Portland Castle, Dorset: Stewart Brown Associates (2001)
Portsmouth, Hampshire: Fox *et al.* (1986)
Shaftesbury, Wiltshire: Robinson *et al.* (2016)
Studland, Dorset: Robinson (2011)
Sydling St Nicholas, Dorset: Trevarthen (2010)
Wareham, Dorset: Milward (2017)
Weymouth, Dorset: Brown *et al.* (2014)

Wimborne Minster: Coe and Hawkes (1991)

Minor Sites
Okehampton Castle, Devon: Allan and Perry (1982)
Plymouth, Devon: Allan and Barber (1992)
Winchester: Nichol (2021)

Sources for Fig. 128; 18-19th Century

Pie Charts
Andover, Hampshire: Pine and Porter (2015) – 12%
Carisbrooke Castle, IOW: Young (2000) - – 25%
Portsmouth, Hampshire: Fox *et al.* (1986) – "Dominant"; Sayer (2008) – 39%
Trowbridge, Wiltshire: Graham and Davies (1993) – 42%
Warminster, Wiltshire: Smith (1997) – 24%

Major and Minor Sites as listed in Fig. 128
1. Bishops Waltham, Hampshire: Barton (1969)
2. Brading, IOW: Author's Observations from Pottery recovered by K.Trott at Centurions Copse
3. Chickerell, Dorset: Randall (2020)
4. Chippenham, Wiltshire: Philips (2003)
5. Devizes, Wiltshire: Sanigar (2015)
6. Exeter, Devon: N. Payne (pers comm) – Exeter Flood Defence Scheme
7. Ditcheat, Somerset: PAS:SOM-94D722
8. Frampton, Somerset: PAS: SOM-6ECDF1
9. Dogmersfield Park, near Hook, Hampshire: Wessex Archaeology (2001)
10. Horsington, Somerset: PAS: DOR-9FBCA6
11. Kings Somborne, Hampshire: Southern Archaeological Services (2002)
12. Martock, Somerset: Portable Antiquities Scheme (PAS): SOM-99AD67
13. Shapwick, Somerset: M359 in Gerrard and Aston (2007)
14. Tilshead, Wiltshire: Holley and Amadio (2011)
15. Wells, Somerset: D. Dawson (pers comm) – Wells Museum Garden
16. Westbury, Wiltshire: Wessex Archaeology (2004b; 2004c)
17. Ludgershall Castle, Wiltshire: Ellis (2000)
18. Stoke Trister, Somerset: Wessex Archaeology (2011)
19. Sherborne, Dorset: Oakley (2002)
20. Bridport, Dorset: Bellamy (2005)
21. Winton, Dorset: Wessex Archaeology (2001)
22. Litton Cheney, Dorset: Wessex Archaeology (2010)
23. Shillingstone, Dorset: Archiva Archaeological Services (2004)
24. Lymington, Hampshire: Russel and Fedorowicz (2017)
25. Plaish Farm, Bowcobe, IOW: Trott, K., (In Prep)
26. Wimborne Minster, Dorset: Coe and Hawkes (1991)
27. Dorchester, Dorset: Draper and Chaplin (1982); Woodward *et al.* (1993)
28. Wareham, Dorset: Milward (2017)
29. Blandford Forum, Dorset: Wessex Archaeology (2004a)
30. Shaftesbury, Dorset: Robinson *et al*. 2016; Richards *et al.* (2020)
31. Studland, Dorset: Robinson (2011)
32. Weymouth, Dorset: Brown *et al.* (2014); Bellamy (2021)
33. Christchurch, Dorset: Jarvis (1983)

34. Southampton, Hampshire: Platt and Coleman-Smith (1975)
35. Romsey, Hampshire: Russel and McDonald (2012)
36. Poole, Dorset: Horsey (1992); Watkins (1994)
37. Fordingbridge, Hampshire: Harding and Light (2003)
38. Salisbury, Wiltshire: Wessex Archaeology (1992)
39. Gillingham, Dorset: Cox (1993); AC archaeology Ltd. (In Prep)
40. Winchester, Hampshire: Matthews (1983)
41. Corfe Castle, Dorset: Draper and Papworth (1997)
42. Gillingham, Dorset: Cox (1993)