

Doctoral Dissertation

Population and Mobility in the Middle Jomon Period
Viewed from Architectural and Skeletal Remains

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Graduate School of Letters

Ritsumeikan University

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ABSTRACT

Understanding changes in population levels can provide insight into the stability, successes, and struggles of a group. There have been a number of examinations into the Jomon period population studies, and in the Kanto and Chubu regions a boom/bust pattern has been identified in the Middle Jomon period. Population estimation methods so far have mostly relied on site and dwelling counts, but have not accounted for the possibility of changes in mobility as a partial explanation of this spike and drop in sites and dwellings. Soil conditions in Japan are often not conducive to the preservation of organic materials, making some types of seasonality and sedentism examinations difficult. This study aims to utilize architectural remains in the form of pithouse and posthole impressions to identify changes in residential mobility during the Middle Jomon period, using the highly excavated area of Tama New Town as a case study. In addition, the boom/bust period identified by other population studies is compared against skeletal evidence from the Kanto and Chubu regions.

The study found that outside of posthole diameter, posthole measurements do not appear to be a clear indicator of architectural change. Posthole diameter values do appear to offer some insight, but interpreting the changes present will require further investigation. Skeletal data from the Kanto and Chubu regions show some correlation with the population trends seen in other site and dwelling based studies, but the timing and intensity of those trends requires further study.

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Chapter 1 – Introduction

Current research suggests that approximately 5000 years ago in the Kanto and Chubu regions of the area currently known as Japan, the population levels began to rise. Although there were fluctuations in populations previously, this population increase was starkly different, increasing at a rate and to a level not previously seen before in the archipelago. Following this rapid increase was an equally rapid decrease in population, dropping to levels at or below those prior to the previous increase. This boom and bust population pattern has been of particular interest to researchers, and if this demographic phenomenon did indeed occur, it leads to a myriad of other questions. What were the possible causes of the population increase? What could have led to the decreases in population? Why were the Kanto and Chubu regions affected more than other areas? How would these population changes affect everyday life for the Jomon people?

Estimating past populations is a difficult endeavor. Archaeological remains break down over time, limiting the amount of material available to be analyzed. In addition to this, the standards of excavations have changed over time, so certain aspects of an archaeological investigation that are deemed important today might have been ignored or omitted from earlier excavation reports. There is also a bias present in which some regions are excavated more frequently, some sites receive more attention and funding to excavate, and certain artifact types and archaeological features are focused upon. Due to the uneven lengths and uncertain time periods assigned to particular archaeological sites and features, determining when events occurred based on the data available to archaeologists can also be a problem.

Up to this point, the Kanto region boom and bust population pattern during the Middle Jomon period has been identified through the use of archaeological site counts, dwelling counts, and more recently, through the summed probability density values of radiocarbon dates taken from artifacts. In addition to all the other difficulties inherent in general archaeological analysis, these three population estimation methods suffer from the same weakness – changes in the degree of residential mobility.

For a fully sedentary population, where the group being studied lives in the same location year-round, these methods are solid indicators for estimating population level changes. If n number of people are estimated to live at a site, and the number of sites doubles, then it is a reasonable assumption that the population would have seen a proportional increase. Likewise, if the number of dwellings doubled over a certain period of time, a doubling of the population might again be expected. The doubling of sites and the doubling of dwellings also provides more opportunities for associated artifacts to be excavated and dated using radiometric methods.

However, a shift from a sedentary mobility pattern to a more mobile pattern could also display these same changes, without the change in population. Another possibility is that a true change in population levels was occurring concurrent with a shift in residential mobility. This too would result in inaccurate population estimations, although to a lesser degree. This issue of equifinality, or multiple ways in which the same set of data can be derived via multiple different

methods, is a crucial point to keep in mind when interpreting data for use in estimating populations, and is a key factor necessitating the following dissertation project (Kintigh and Peebles, 2020).

This study aims to examine Middle Jomon population changes in the Kanto region in two ways: by attempting to identify changes in residential mobility through the examination of Middle Jomon pithouses in the Tama New Town area, and by utilizing skeletal data from the Kanto and Chubu regions in an attempt to identify changes in birth rates during that time. Examining birth rate proxies through the use of skeletal data and conducting an examination of Middle Jomon residential mobility in the Kanto region could help to clarify theories on population changes during that time. By creating a better understanding of residential mobility during this boom and bust period in the Kanto area, we will hopefully be able to limit some of the possible interpretations that the issue of equifinality presents in the data. Pithouse data is relatively abundant. If the method proves viable, this research might also possibly provide an approachable method to examine changes in the Jomon period residential mobility in areas outside of Tama New Town.

1 – Research Problem

The population boom and bust pattern in Kanto and Chubu is anomalous. Although evidence appears to show fluctuations over time, the intensity of this boom and bust pattern stands out starkly. A number of studies have been conducted to help better understand this event, but up to this point, population estimation methods haven't taken residential mobility changes into account.

Due to poor preservation of organic remains, more common measures of seasonality of sedentism are difficult in Japan. Measures of residential mobility have been limited in wide scale studies. Until such a measure or theoretical framework is available, questions will remain in regards to the extent and nature of the Middle Jomon boom and bust population event. Birth rate proxies based on the proportion of juveniles to the population at large in the skeletal record provide an alternative measure of population growth that should be relatively unaffected by changes in residential mobility. Only through the critical analysis of multiple lines of evidence will we be able to confidently and reliably identify population trends during the Jomon period.

2 – Conceptual Framework

This study is rooted in the concept of the anticipated uselife of dwellings from McGuire and Schiffer's (1983) architectural theory work. It holds that anticipated uselife is a key variable in weighing the production and maintenance costs of construction. In essence, dwellings that are intended to be used for short overall periods of time will generally have less energy put into their initial creation compared to dwellings intended for long-term habitation (McGuire and Schiffer 1983, 283). Although dwellings intended for long-term use have more energy invested in their initial creation, the overall energy expenditure for creation and maintenance of the dwelling would be less than if the dwelling was made in a more expedient manner.

These findings have been supported by a number of other studies, including a cross-cultural study by Bindford (1990), Kent's (1991) work in southern Africa, Diehl's (1992) study of the pithouse to pueblo transition in the American southwest, as well as work by Kelly et al. (2006) in southwest Madagascar. Using this concept of anticipated use-life as a foundation, pithouse and posthole measurements are used in this study to identify trends in the energy put into the creation of dwellings. This, in turn, provides possible insight into residential mobility patterns.

3 – Research Goal

The goal of this study is to use architectural and skeletal data to further investigate the Middle Jomon population boom and bust, to explore alternative explanations for the data used in previous population estimates, and to attempt to develop alternate methods of measuring changes in residential mobility during the Jomon period.

A number of studies have been conducted exploring population levels during the Jomon period (Koyama 1978; Imamura 1996; Crema et al. 2016; Nakamura 2018; Yano 2014). These studies have added to our knowledge and understanding of Jomon population dynamics, but as with all studies, there are ways in which the studies can be improved and continued upon. It is impossible to follow every thread of the incomplete and tangled field in which we work, and scientific work is a collaborative process. The main issue at hand is that, although some possible confounding issues have been pointed out by the authors themselves, there has been a lack of follow-up investigations into these problems. This study addresses some of these possible weaknesses in order further the collaborative process of developing a clearer understanding of population dynamics during the Middle Jomon period.

4 – Research Questions

Five main research questions are addressed in this study. The first three of these questions focus specifically on pithouses in the Tama New Town area in the Kanto region. These questions are fairly concrete in nature and set the foundation for further interpretive questions. The fourth question involves the interpretation of the results from the first three questions and expands their relationship to the Middle Jomon population boom and bust hypothesis. The last question references an additional line of evidence and whether that data supports the population boom and bust hypothesis.

1. In the Tama New Town area, are there identifiable trends in pithouse size during the Middle Jomon Period, and if so, what are they?
2. In the Tama New Town area, are there identifiable trends in posthole size during the Middle Jomon Period, and if so, what are they?
3. In the Tama New Town area, are there identifiable trends in posthole size variation during the Middle Jomon Period, and if so, what are they?

4. If present, do the trends identified in research questions 1, 2, and 3 indicate possible changes in mobility patterns that could provide an alternate explanation to the Middle Jomon period boom and bust in population?
5. Do skeletal remains in the Kanto and Chubu regions support the hypothesis of a population boom and bust pattern during the Middle Jomon period?

5 – Dissertation Outline

Chapter 1 started by introducing the current study and the main research problem that the study aims to address. The conceptual framework in which the study is conducted was then presented as well as the key goals of this research. Finally, the specific research questions to be answered through this research were presented and explained.

Chapter 2 provides a summary and review of existing research related to these research questions and goals. The chapter begins with an overview of different population estimation methods, describing the strengths and weaknesses inherent in each of the methods. Next, ways in which the different population estimation methods can complement each other are discussed in order to provide a clearer understanding of past population events. The following sections discuss ways in which sedentism can be assessed in the archaeological record, and what role sedentism plays in estimating past population levels. The final section of the literature review covers studies related to the Middle Jomon period boom and bust pattern seen from previous population studies.

Chapter 3 introduces the portion of the study focusing on measuring residential mobility. The materials used for this analysis are then presented. The data and analysis section of Chapter 3 first describe the manner in which data was collected for measuring changes in both pithouse and posthole size. This is followed by an explanation of how the gathered data was analyzed for the study. The final section of Chapter 3 discusses the limitations of this research and analysis of residential mobility.

Chapter 4 introduces the paleodemographic portion of the study utilizing skeletal remains. The chapter begins with an introduction to the subject and is followed by presenting the materials used in this portion of the study. The way in which data was collected and analyzed is then explained. The chapter concludes with a discussion on the limitations related to this type of analysis.

Chapter 5 is broken into two main sections. The first presents the results related to residential mobility, and the second section provides the results from the paleodemographic analysis. The first section also provides results related to pithouse size, posthole size, and posthole size variation of Middle Jomon pithouses from the Tama New Town sites. The proxy birth rates for the Kanto and Chubu regions, derived from the paleodemographic analysis, are provided at the end of the chapter.

Chapter 6 begins with the discussion and interpretation of the results from Chapter 5. This is followed with the introduction of future recommended research topics. The chapter closes with some final thoughts on the project and the field in general.

Chapter 2 – Literature Review

There are a number of different methods used to estimate population numbers of groups from the past. Different methods use different lines of evidence, and each method has their own strengths and weaknesses.

In this chapter I will first focus on population research related to the Jomon period and the Middle Jomon population boom and bust phenomenon. Although early studies focused more on ethnographic comparison, in Japan this research field has a strong focus on site counts and dwelling counts. I will introduce some of these studies and offer a more in-depth analysis of site and dwelling count techniques in this section. After introducing some of these Jomon population studies and the population estimation methods used in them, I will move on to population estimation techniques used outside of these Jomon studies. While some ethnographic methods and some techniques regarding the use of radiocarbon dates have been used in studies both inside and outside of Japan, these techniques will be discussed in depth in the second portion of this literature review. I have divided population estimation methodologies into seven different groups in all and will discuss studies related to these methods as well as review the strengths and weaknesses of each throughout this chapter.

1 – Jomon Population Studies

A number of studies attempting to estimate Jomon period population levels have been conducted over time. Serizawa (1960) conducted the first study, estimating population levels to have reached a maximum of 120,00 during the Middle and Late Jomon periods. Serizawa based these estimates on ethnographic data, using the Ainu people of Hokkaido as a comparison. Yamanouchi (1964) estimated a population between 150,000 and 250,000, based on comparisons with hunter-gatherer groups in California. Historical and ethnographic comparisons can be useful tools in estimating past populations. While early studies using these techniques offered rough estimates, if enough accurate historical and archaeological data is present, these studies can provide additional lines of evidence and bases for comparison that are otherwise lacking. A further discussion of these methods are discussed in the following section.

1 - Site Numbers

In the roughest sense, the use of site counts relies on the assumption that more sites equal more people. Therefore, if the number of sites is increasing, the population is also increasing, and if the number of sites decreases over time, the population would also be decreasing. Koyama's examination of Jomon subsistence and populations is one of the best-known studies of its kind in Jomon studies. Although it integrated aspects of environmental carrying capacity and historical correlations, Koyama's (1978) Jomon period population estimates relied heavily on site counts from the national register of archaeological sites. Sites from each prefecture were grouped into larger regional groups: Tohoku, Kanto, Hokuriku, Chubu, Tokai, Kinki, Chugoku, Shikoku, and Kyushu (Table 1).

In Kanto, the Middle Jomon period was compared to the Haji Period, which had some of the first recorded population records derived from rice production tax records (Koyama 1978, 52). Dividing the population estimation derived from the Haji

period tax records by the number of Haji period sites, Koyama produced a rough estimate of how many individuals could be represented by a single discovered archaeological site. At that point, an initial rough population estimation could be made for the Kanto region during the Middle Jomon period. However, differences in population density, as well as period length, would skew the data, so a constant adjustment value was added.

Although the site sizes of Middle Jomon and Haji period sites were similar, dwelling sizes and the number of dwellings per site was greater during the Haji period. The Middle Jomon period had approximately five times fewer dwellings per site and average Jomon dwellings were approximately ten percent smaller than Haji period dwellings (Koyama 1978, 54). To compensate for these differences, a ratio range of 1:5 to 1:7 was applied, resulting in a Middle Jomon period population estimation of between 96,581 and 135,123 for the Kanto area. This formula was then applied to the regions outside of Kanto, although some alterations were made depending on the period. A ratio of 1:7 was applied for the Early, Middle, Late, and Final Jomon periods. A ratio of 1:20 was applied to the Initial Jomon, as pit dwellings were not only smaller, but also were not used at the start of the period. The results of Koyama's population estimation analysis are shown in Table 2.

Koyama noticed something peculiar about the population trends of the Kanto and Chubu regions compared to other areas. There was a significant increase in estimated population from the Early Jomon period to the Middle Jomon period, which was then followed by an equally sharp decrease heading into the Late and Final Jomon periods (Figure 1). The Hokuriku region also experienced a noticeable increase in population heading into the Middle Jomon period, but didn't suffer the drastic

Table 1 Distribution of known Jomon and Yayoi sites by region. (Koyama 1978, pg. 7.)

Region	J-1	J-2	J-3	J-4	J-5	Jomon Total	Yayoi Total	Area (1000 km ²)
Tohoku	249	801	1945	1824	1645	6315	597	67
Kanto	1213	1782	3977	2148	321	9101	1768	32
Hokuriku	52	175	1026	654	214	2620	370	25
Chubu	377	1055	2995	918	250	4939	1503	30
Tokai	278	209	550	317	275	1912	987	14
Kinki	35	72	118	183	88	950	1934	33
Chugoku	53	54	51	113	60	303	1950	32
Shikoku	30	18	10	111	21	156	538	19
Kyushu	243	233	221	419	261	1700	1877	42
Totals	2530	4399	10893	6687	3135	27996	11524	294

Table 2 Prehistoric population estimates for Japan, by region. (Koyama 1978, pg. 56.)

Periods(Constant) Regions	J1(1/20)	J2(1/7)	J3(1/7)	J4(1/7)	Yayoi(1/3)	Haji(1)	Edo(1)
Tohoku	2,100 (.03)	19,200 (.29)	46,700 (.71)	43,800 (.66)	33,800 (.50)	288,600 (3.5)	2,473,000
Kanto	10,300 (.31)	43,300 (1.3)	96,600 (3.0)	52,100 (1.6)	100,100 (3.2)	943,300 (29.2)	4,295,700
Hokuriku	400 (.01)	4,200 (.17)	24,600 (1.0)	15,700 (.64)	21,000 (.85)	491,800 (20.0)	2,307,600
Chubu	3,200 (.12)	25,300 (.91)	71,900 (2.59)	22,000 (.79)	85,100 (3.07)	289,700 (10.4)	1,694,200
Tokai	2,400 (.19)	5,000 (.40)	13,200 (1.06)	7,600 (.61)	55,900 (4.50)	298,700 (24.0)	1,792,200
Kinki	300 (.00)	1,700 (.05)	2,800 (.08)	4,400 (.13)	109,400 (3.33)	1,217,300 (32.4)	4,941,300
Chugoku	500 (.02)	1,300 (.04)	1,200 (.04)	2,700 (.08)	59,400 (1.80)	839,400 (29.9)	3,067,900
Shikoku	600 (.03)	400 (.02)	200 (.01)	2,700 (.14)	30,500 (1.61)	320,600 (17.0)	1,760,500
Kyushu	2,100 (.05)	5,600 (.14)	5,300 (.13)	10,000 (.24)	106,300 (1.56)	710,400 (17.4)	3,300,700
Total	21,900 (.07)	106,000 (.36)	262,500 (.89)	161,000 (.55)	601,500 (2.04)	5,399,800 (18.6)	25,633,100

()=population density per km².

decrease experienced by the Kanto and Chubu regions. This boom and bust phenomenon has since been observed and studied by other researchers and will be discussed below.

Benefits of this technique are the abundance of data and the simplicity of the measurement. Detailed knowledge of every site in the study isn't necessary, and theoretically, the degree that a site is excavated doesn't affect the results. However, a fine-grained reliable dating of sites does help to provide a more accurate assessment of population changes over time.

However, there are some drawbacks and difficulties in the use of site counts. The first question a researcher should ask when using this method is how an archaeological site should be defined. Should smaller adjacent sites be incorporated into a single large site? How great of a distance is needed between sites to define them as separate sites? Will all types of sites be included in the study? Residential sites? Burial complexes? Temporary sites or camps? Is there a possibility that two independent sites are actually part of a larger site as Yano (2017) warned?

Another important issue to address when using site level data is the chronology of sites. How is a site dated? Structures within a site can vary by age, sometimes considerably. If a site was occupied for an extended period of time, how should occupations be divided? Should multiple occupations be lumped together or separated? If occupations are separated, is there a specific amount of time that a site needs to be left vacant before it is considered a new occupation or a new site? These questions can significantly impact the study and should be considered carefully.

Similar to the way in which Koyama (1978) combined an environmental analysis with site

counts, there are other studies that are rooted in site counts that have used additional lines of evidence to help counteract some of the drawbacks of this population method.

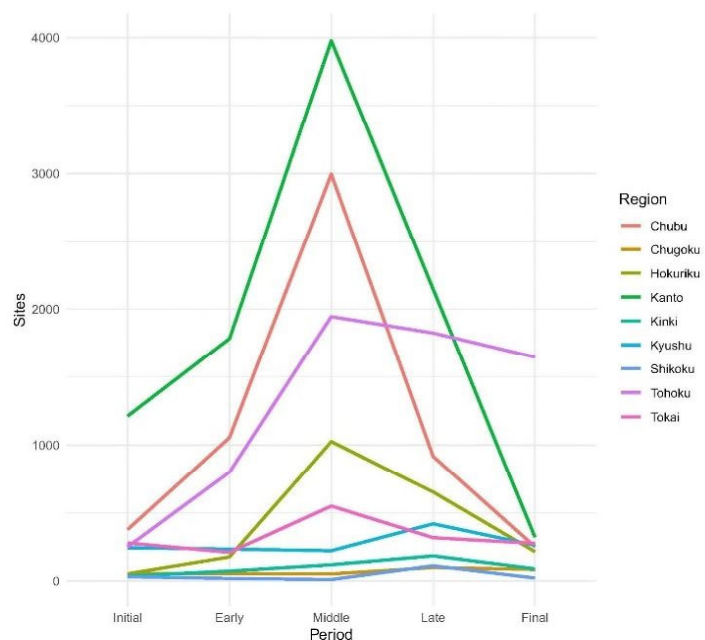


Figure 1 Number of Jomon sites per region. Data from Koyama 1978.

2 – Dwelling Numbers

Using dwelling counts is another method to estimate prehistoric populations and has been used in a number of different population studies in Japan. This method assumes that each dwelling represents a single family. If an average family size can be determined, researchers should then be able to provide a reasonable population estimate by multiplying the number of dwellings by the average household size. In this regard, population estimates based on dwelling counts theoretically have a closer relationship to population levels compared to estimates based

on the number of sites alone. This method also benefits from plentiful data, and possibly better chronological contexts than site level estimations. Compared to broad, site-wide dating, individually dating each dwelling provides a more granular approach.

Imamura (1996, 1997) used dwelling counts to provide a refined chronology of estimated population changes occurring during the Jomon period in the Kanto and Chubu regions. Imamura (1996) avoided absolute population estimates and instead focused on population trends. Arguing that Koyama's broad, period-based approach obscured smaller variations, Imamura used a measure of pithouses per pottery period (Imamura 1996, 157). Compared to site-based estimates such as those by Koyama (1978), Imamura's results not only showed a greater degree of fluctuation over time, but also showed the time frame of the population peaks and drops to be much shorter and more dramatic than was expressed in Koyama's (1978) estimates (Figure 2).

Imamura's analysis showed some slight increases at the start of the Middle Jomon period, followed by a population spike peaking during the Kasori E2/Sori 2 pottery phases, and plummeting thereafter.

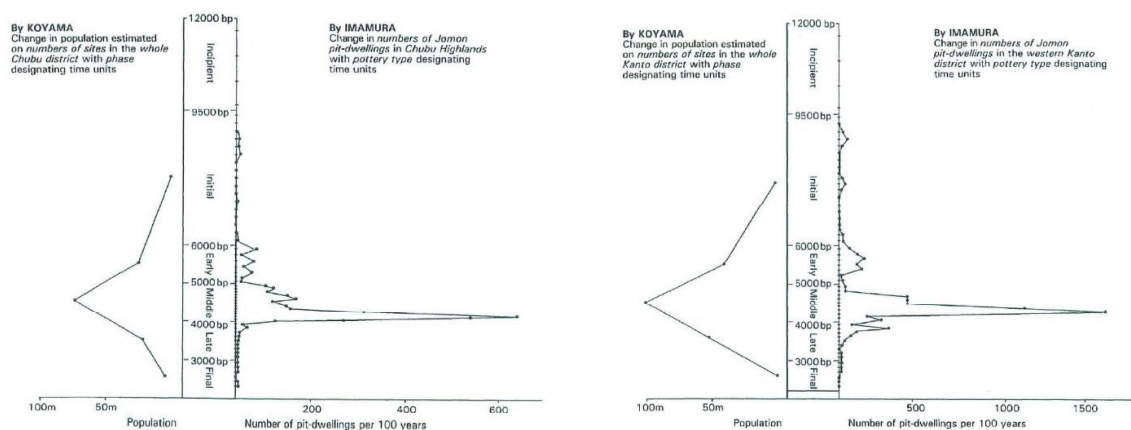


Figure 2 Koyama and Imamura Jomon Population Estimation Comparisons of the Kanto Region (left) and Chubu Region (right). (Imamura 1996, pg. 159).

Of equal, or possibly greater importance, Imamura (1997) also directly addressed some of the issues inherent in the use of dwelling counts to estimate population changes. There are three main issues cited by Imamura. The first problem is that the number of archaeological sites or features discovered is not necessarily representative of the actual number of sites or features. Not only are some sites totally lost due to erosion, with sites near rivers and oceans being especially susceptible, but there are also issues of discoverability. Imamura mentions that the difference in the number of sites found in Eastern Japan versus Western Japan might be attributed to differing levels of development between the two halves of the country, and a shift in lifestyles that brought people out of the mountains and into the lowlands would also leave a number of highland sites untouched and undiscovered.

Even if sites are discovered, there is also the issue that certain features are more likely to be identified during excavation. Shallow features are more likely to be missed than deeper

features, meaning that smaller, more temporary structures might get missed. In addition, the interpretation of dwellings can cause issues as well. Although there is a focus on pithouses, depending on the period, there were other semi-permanent dwelling types during the Jomon period as well. While identifying the large floor pit and associated posthole of a pithouse might not be too difficult, identifying the postholes for a raised post dwelling from a large number of scattered postholes can be quite difficult, leading to these types of features remaining unidentified.

Another problem that Imamura points out is the difficulty of using the number of dwellings present to determine actual population numbers. Pithouses vary in size, which can make a generalized determination of how many individuals occupy a pithouse problematic. In addition, there are also instances of extremely large structures, which may or may not have functioned as residences. As it is unknown whether these structures housed multiple families, or if they acted as a communal or ritual center where people did not generally live, it can be difficult to incorporate these types of structures into analyses. Because of the relative rarity of these dwellings, Imamura doesn't consider these to have a huge impact on population assessments, but it is still an ongoing issue that has yet to be resolved.

The second problem in relation to using dwelling counts in population assessments is the issue of dwelling use-life. Some Jomon pithouses show extensive evidence of repair or rebuilding. If a building was continuously occupied and was only repaired, then it should be treated as a single dwelling. However, it is also possible that the pithouses which show signs of rebuilding were separate occupations, in which case they should be treated as separate residences. Differentiating between these two possibilities can be quite difficult, and perhaps impossible depending on the preservation state of the dwelling and how it was excavated.

The third problem regarding the use of dwelling counts for population estimates is the possibility of Jomon people occupying more than one pithouse during the course of a year. It is assumed that the Jomon people generally had a main central dwelling location but moved to other locations throughout the year to make use of different seasonal resources. If permanent or semi-permanent dwellings were constructed at some of these other locations, it would have a significant effect on population estimates. Along these same lines, Imamura describes an alternative possibility where, rather than reusing dwellings each year, Jomon people might continue to build new dwellings, leaving old ones abandoned. This would have an even greater effect on population estimates. Although he believes that these possibilities are unlikely, Imamura still cautions that the possibility is present.

Imamura also points out certain areas of research that could be helpful in dealing with some of the difficulties and uncertainties inherent in population estimations based on pithouse counts. The first suggestion is to compare the total amount of pottery of each phase to the number of pithouses for each phase. Assuming that there are no significant changes in lifestyles between the periods, Imamura states that there shouldn't be significant differences in the amount of pottery produced per person. If the increases in pithouse counts are proportional to the pottery increases, then this should reflect a true increase in population.

The second suggestion made by Imamura is that, when assessing population changes, migration should also be accounted for. An isolated decrease in dwellings might indicate a decrease in population. However, if there is an increase in a neighboring area, it suggests a population migration as opposed to a population decline. This is something that Yano (2014) touches on in his population analysis of the Chubu region.

The Chubu region has also been an area of interest for Jomon population studies (Yano 2014; Teshigawara 1992). Yano (2014) examined population changes in the Chubu region during the Jomon period by comparing both site counts and dwelling counts. The results showed similar trends between the two measures (Figure 3). In addition to this, Yano points out that the population decrease in the Chubu region corresponds with an increase in the Kansai region, suggesting that the decrease in sites and dwellings might actually be reflecting a migration further west, as opposed to a decrease in birth rates or increase in mortality (Yano 2014).

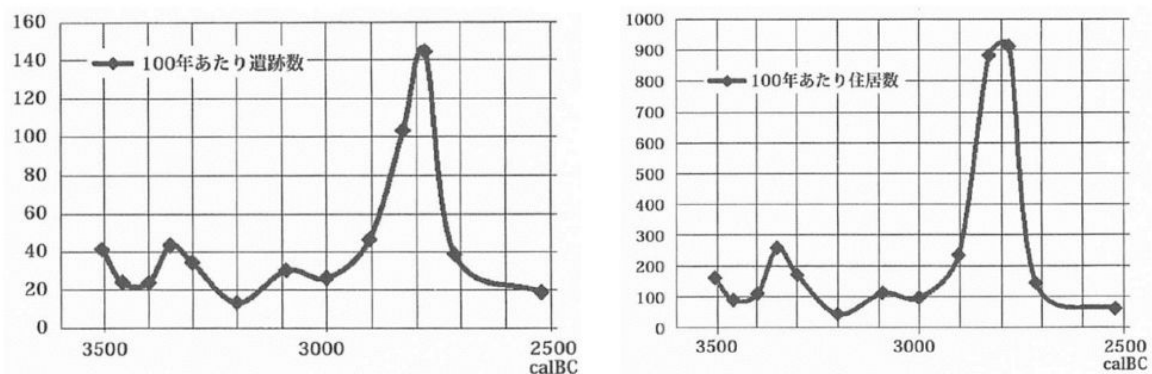


Figure 3 Jomon period sites (left) and dwellings (right) in Nagano prefecture. (Yano 2014).

Although both dwelling counts and site counts each have their own benefits, Yano (2017) points out that available data types differ depending on the period, limiting the availability and effectiveness of different methodologies in certain places and times. While dwelling counts offer more direct connections to actual individuals, this method wasn't possible during the Paleolithic period due to more ephemeral structures built during that time period. Alternatively, while the Yayoi and Kofun periods offer the possibility to use both dwelling counts and site counts, the increased size of the sites, as well as site complexity, can result in individual large sites being inadvertently divided into a greater number of small sites, obscuring the actual site count.

Kobayashi (2004) did several population estimates in the SW Kanto area using a combination of site numbers, dwelling numbers, and dwelling sizes. Kobayashi conducted a site level population estimation at the Ohashino site which integrated dwelling count and dwelling size data. Dwellings were separated into three groups based on size: small, medium, and large. Small dwellings had an area of under 15m² and were estimated to represent between 3-5 people. Medium dwellings were between 15m² and 25m² and were estimated to represent between 5-7 people, and large dwellings were over 25m² in area and were estimated to represent between 8-10 people. Only dwellings that included hearths were included in the analysis. Kobayashi calculated that the site's population increased significantly leading up until to approximately 2700 calBC, after which point population proceeded to drop. Kobayashi's regional analysis of the Musashino Plateau in SW Kanto was based mainly on site numbers but took the number of

dwelling per site into consideration. Sites were divided into three groups, and a representative population of 5 individuals per dwelling was applied to the estimation. Small sites were estimated to have an average of three dwellings per phase for a total of 15 people, medium sites were estimated to have approximately ten dwellings per phase for a total of 50 people, and large sites were estimated to have 20 houses per phase for a total of 100 people. Different subdivided regions in the area showed different variations and peaks, but three of the four regions peaked around the same time as the Ohashi site. Kobayashi's inclusion of pithouse data beyond simple counts is incredibly important. Allowing for the division of residential and non-residential pithouses as well as incorporating size information into population estimates are key factors that are often neglected.

The main drawback to the use of dwelling counts to estimate population involves the assumed correlation between dwelling counts and the number of individuals that these numbers represent, especially if groups aren't fully sedentary. While high mobility patterns can skew these population calculations, even semi-sedentary or seasonal mobility patterns could result in multiple dwellings per family, artificially inflating population estimates. Further complicating things, mobility levels cannot necessarily be considered a fixed variable. Groups have been known to change mobility patterns over time, which could mask population changes if long-term, general formulas determining the ratio of people per dwelling are used (Habu 1996).

Nakamura (2018) attempted to tackle issues of site taphonomy as it relates to population estimations. Simply stated, the older a site is, the more likely that taphonomic processes such as erosion, organic degradation, or general disturbances to the site have taken place. This, in turn, makes remains from the site less likely to be found. Some work has been done previously to account for and attempt to compensate for these issues (Surovell et al. 2009).

Nakamura (2018) follows a related path in attempting to obtain a more accurate site count and therefore a better Jomon period population estimate, using data from Hachinohe City in the Tohoku region as a test case. Nakamura compared historical population estimates for the Tohoku region from the Heian period and the number of dwellings associated with that time period to the number of Jomon period dwellings found. This provided a discovery rate which was used to calibrate population estimates from site numbers. Nakamura found several cycles of population growth and decline from the Early to Final Jomon periods, peaking in the Late Jomon period with an estimated population of 2,195 individuals (Figure 4).

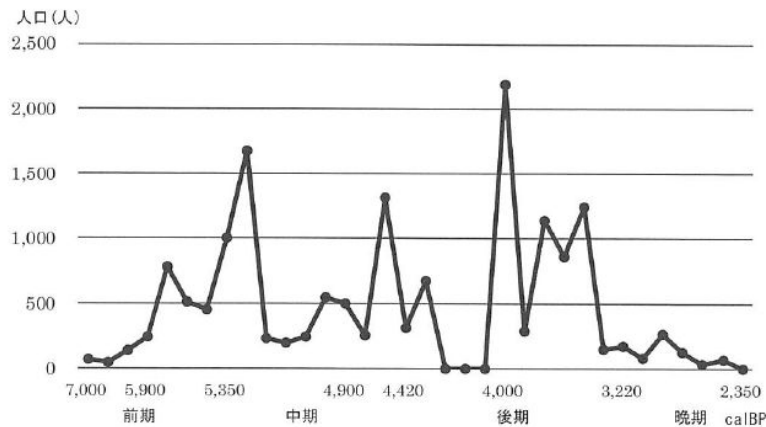


Figure 4 Jomon Population Changes in Hachinohe City. (Nakamura 2018, pg. 54).

Examples of population estimates based on the number of dwellings have already been discussed. But the process of revisiting and improving these methods is incredibly important. While some issues, such as how directly applicable discovery rates from the Heian period are to the Jomon period, as well as previous discussions about what effects mobility changes might make on the actual population estimate, the steps taken here improved the process. These steps have more firmly rooted population numbers to actual population numbers and helped to provide a way to better compare data sets of differing time spans. This process can be applied to broader scales, undergo further evaluation, and be compared to other population estimation methods to help to further refine population estimations and improve our understanding of the past.

3 – New Techniques

Beyond site and dwelling counts, more recent work has been done investigating Jomon population changes using alternative population techniques. Crema (2012) improved upon previous Jomon population studies by addressing varying levels of temporal uncertainty through a probabilistic and simulation-based approach to the changing number of pithouses in the Kanto region. While the results yielded in the study tracked similarly to previous evaluations, the inclusion of temporal uncertainty in this study addressed one of the concerns and possible weaknesses of Imamura's original study (Imamura 1997). Crema et al. (2016, 11) added an additional line of evidence to the estimation and evaluation of Jomon period population through the use of radiocarbon dates. The study used 1,422 ¹⁴C dates ranging from the Early to Late Jomon periods. The Kanto region was represented by 406 dates from 47 sites, Aomori prefecture was represented by 432 dates from 58 sites, and 595 dates from 82 sites were from Hokkaido. The results of the SPD analysis showed a decrease between the Early and Middle Jomon periods, followed by a spike at approximately 5000 calBP in the Kanto region. Unlike the sharp drop identified by Imamura (1996) however, the SPD decline after 5000 calBP appears to be more gradual, reaching a statistically significant trough compared against their exponential model at 3900-3800 calBP (Crema et al. 2016, 11).

Although the timing as well as the degree of change might differ slightly, these studies combine to show multiple lines of evidence substantiating that significant changes were occurring during the Middle Jomon period in the Kanto region. Shifting from the broader times

scales used by Koyama (1978), studies utilizing individual pottery phases like Imamura (1996) provide a finer chronological resolution to better understand the rate at which these changes appear to have occurred. The Bayesian approaches used in Crema (2012) attempts to address concerns regarding the unevenness and uncertainty inherent in those Jomon period pottery phases, while the introduction of summed probability distributions of radiocarbon dates add an additional line of evidence and support to this boom and bust phenomenon. The specifics of these studies and an in-depth look at their theoretical and practical underpinnings will be discussed more in the following section. It is important to note, however, that these studies do not test the possibility that changes in residential mobility might be affecting these results. A proper understanding of mobility patterns is an important part of developing reliable population estimations as both Crema (2012, 457) and Imamura (1997, 51) have noted, and is one of the goals of this study.

2 – Population Estimation Research

In addition to population estimation studies conducted by researchers in Japan, it is important to look outside of the country as well to identify methods and techniques that might be applicable to Jomon studies. The following studies are separated into five main groups: site area studies, dwelling area studies, historical and ethnographic studies, paleodemographic studies, and studies that focus on the use of radiocarbon dates.

1 – Site Area

The second population estimation technique, site size or area, is a derivation of the site counts method. This technique improves on the previous technique in one key way: It recognizes that not all sites are equal. This is especially important when trying to use site counts as an indirect proxy for population. Larger sites have additional space for more dwellings, providing more space for more people. As an example, although they might both be archaeological sites, a small Jomon period site consisting of one or two pit dwellings is not on the same as the sprawling Sannai Maruyama site. By integrating site size into population estimations, researchers are able to fine tune initial estimates based on site counts.

This improvement isn't without its faults, however. One drawback to this methodology involves the real relationship between site size and population. The number of people within a site depends on more than just the raw calculation of site area. As settlements become larger and more complex, additional structures other than dwellings are often introduced, complicating comparative population estimates based strictly on site size. For example, in his population estimation studies in Iran, Sumner (1989) calculated initial population density estimations at a site based on roofed area per person. This was then extrapolated out to provide a general density measurement to apply to other archaeological sites.

A good analogous population is necessary in order to derive an appropriate formula to determine population from the site area. Sumner stressed that this methodology needs to be adjusted on a case-by-case basis. The need for a clear understanding of a site prior to using this population estimation method is also necessary, and is underscored by Schreiber and Kintigh's (1996) work in the Andes. Schreiber and Kintigh utilized site size data and Spanish population records to determine the relationship between site size and population size. Upon arrival of the

Spanish, population counts were taken in communities, and the inhabitants were moved to new villages. This allowed researchers to compare the archaeological evidence from the abandoned villages to the Spanish historical accounts. Initially, Schreiber and Kintigh found poor correlation between site size and population. However, once settlement type was taken into consideration, the correlation got stronger, stressing the dangers of lumping site-level data together and not taking into account differences in site function and use history.

In addition to concerns about how site size relates to actual population numbers, the estimates based on site size suffer from many of the same problems that estimates based on site counts do. The primary problems include the definition of what is considered a site and determining reliable chronologies. In some cases, these problems are actually magnified to a greater extent than simple site counts. The decision about what features should be included in a site has a direct effect on the size of the sites, and therefore the resulting population estimate. If a site is inhabited for a long period of time, resulting in multiple occupations, determining which features are associated with which occupations becomes even more important. Not only do researchers have to consider how a site is divided chronologically, but they have to determine the scale of the site at each time period.

2 – Dwelling Area

Researchers interested in using a population estimation method that focuses on structures and dwellings, but that also takes into account variations in size might find “floor space” or “under roof area” methods appealing. The method was first popularized by Naroll (1962), where he identified a correlation between “floor area” and settlement population. He concluded that the measure of a site’s population was approximately 1/10th the floor area, resulting in a value of around 10m² per person, referred to as Naroll’s Constant. Table 3 shows the settlement information used in Naroll’s study and Figure 5 displays the correlation he found between floor area and population. This estimate was later refined by Brown (1987) in his reanalysis of Naroll’s (1962) study. Brown identified some data errors in Naroll’s study and increased the number of cultures included in the study to 38, up from Naroll’s original 18 cultures. Brown also combined the measures of average household size and average household floor area to create the average household floor area to average household size ratio, or AVRAT. With this new data and improved methodology, Brown found that an estimate of 6m² per person is a better general assessment, with a 95% confidence interval that ranged from 4.7 to 7.5 m² per person (Table 4). The total range of values from Brown’s study spanned from a low of 0.3 m² per person for Central African Foraging Groups to 18.5m² per person for the Gandha of central Africa, highlighting the need for caution before broadly applying population estimates based on floor area.

Table 3 Floor Area and Settlement Population. (Data from Naroll 1962, pg. 588.)

Society	Largest Settlement	Estimated Population of Largest Settlement	Estimated Floor Area of Largest Settlement
Vanua Levu	Nakaroka	75	412.8
Eyak	Algonik	120	836
Kapauku	Botekubo	181	362
Wintun	?	200	900
Klallam	Port Angeles	200	2420
Hupa	Tsewenalding?	200	2490
Ifaluk	Ifaluk	252	3024
Ramkokamekra	Ponto	298	6075
Bella Coola	Bella Coola	400	16320
Kiwai	Oromosapua	400	1432.2
Tikopia	Tikopia	1260	8570
Cuna	Ustupu	1800	5460
Iroquois	?	3000	13370
Kazak	?	3000	63000
Ila	Kasenga	3000	47000
Tonga	Nukualofa	5000	111500
Zulu	?	15000	65612
Inca	Cuzco	200000	167220

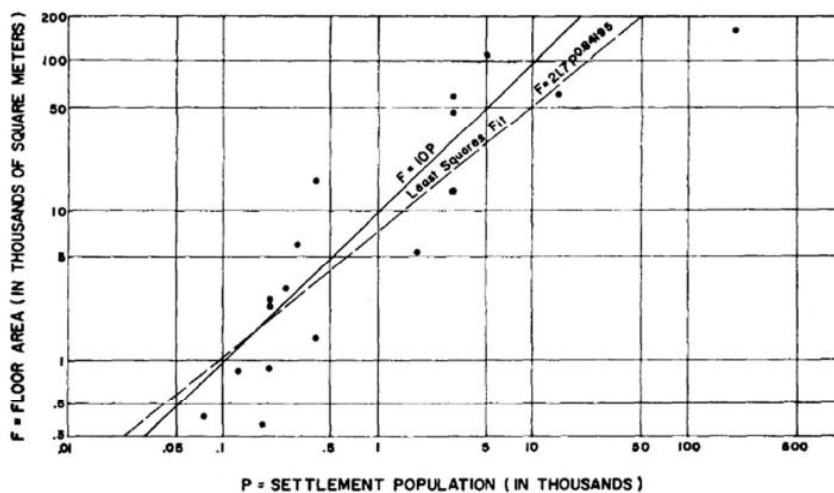


Figure 5 Settlement to Floor Area Correlation. (Naroll 1962, pg. 588.)

Table 4 Comparison of Means of Floor Area/Person (m²). Data from Brown 1987, pg. 33.

	Restudy	Naroll (Corrected)	Casselberry
Range	0.3-18.5	0.8-22.5	2.9-7.1
Mean	6.1	6	5.3
S.D.	4.1	5.6	1.5
Standard Error of the Mean	0.7	1.3	0.5
95 Percent Confidence Interval	1.4	2.6	1

Porčić (2012) conducted a cross-cultural study examining the relationship between residential mobility and house floor area. This study branched off from Brown's (1987) work. Porčić used the same cross-cultural data set used by Brown (1987) and compared the AVRAT values to mobility levels for the included groups. Of the 11 mobile/predominantly mobile groups and the 35 sedentary/predominantly sedentary groups, the more mobile groups had an average AVRAT value of 3.25 m² per person, a median of 2.74 m² per person, with a standard deviation of 2.48 m² per person. The more sedentary groups had a mean AVRAT value of 6.97 m² per person, a median value of 6 m² per person, with a standard deviation of 4.82 m² per person. While the mean and median values differed significantly, there was a sizable variation of AVRAT values for the sedentary groups (Figure 6).

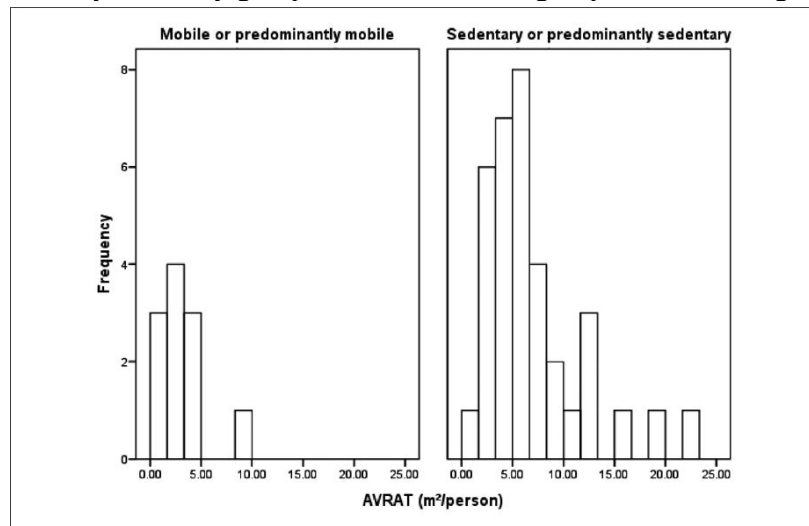


Figure 6 Histograms for AVRAT values. (Porčić 2012, pg. 79.)

6). This study suggests that Brown's previous estimate of 6 m² per person is probably too high for mobile groups, and that Porčić's lower value of 3.25 m² would be more accurate.

Similar to the previous population estimation methodologies of site counts, site area, and dwelling numbers, the amount of data available to archaeologists for floor space estimations is generally good. Floor space calculations can also be used in combination with site area calculations to develop density estimates (Sumner 1989). The relationship between the measurement of floor space and the measurement of population is more direct than some of the previous methods discussed. It improves upon the method of using site area alone by eliminating areas beyond possible dwelling structures from the scope of the study and focusing on possible living spaces, a line of evidence more closely related to the measurement of individuals.

Difficulties in the effective use of floor space studies are again related to how a researcher defines a site. Without a perimeter wall or some other type of clear dividing line, determining which structures should be included with the site can be difficult. Once the perimeter of a site is determined, researchers need to decide how floor space is defined and determined in the study. What kinds of buildings or structures should be included in the study? This becomes an issue with more complex settlements, where more buildings might be related to non-residential uses. Using the Jomon as an example, in addition to "normal size" pit dwellings, should larger structures like longhouses be included? What about raised structures? This isn't a clear-cut issue, and different cultures, and even different sites, might need to be approached differently depending on their individual circumstances. One final drawback to this method is that even though it uses data from smaller individual structures, the analysis is done on a site-

level scale. As mentioned before, working with site-level data introduces additional difficulties relating to accurate site chronology, specifically dealing with how multiple occupations should be handled.

3 – Historical and Ethnographic Methods

Another method of estimating population is through the use of historical records. Historic records provide an additional line of evidence to archaeological evidence in order to try to ascertain the best possible population estimate. Depending on the document or documents used, descriptions can be quite thorough, providing information that might be impossible to determine from archaeological evidence alone. Applying this information to other groups can provide different interpretations to archaeological evidence that researchers might not have thought of otherwise.

In time periods predating written records, a method called hindcasting is often used. Hindcasting starts from known, or assumed population levels, and then works backwards. The method assumes certain levels of population growth over time but can also incorporate expected population collapses during specific periods. A number of population estimates of North American indigenous groups prior to European contact that utilized hindcasting are summarized by Thornton (2000). Most of these population estimates range from two to seven million people just prior to European contact (Table 5). The significant disparity between population estimates can generally be attributed to differing interpretations of the extent to which disease and warfare affected population numbers. How far diseases spread, their mortality rate, and to what extent increasing birth rates were able to counteract the increase in mortality, are all factors where even small changes in values can have significant impact on population estimates.

Snow's (1995) case study of the Mohawk peoples in the present day area of New York illustrates this issue well (Table 6). Snow explains that if 80% mortality is assumed for an epidemic, a post-epidemic population of 2,000 would require a pre-existing population of 10,000. However, if the mortality rate is increased another 10%, up to 90%, the pre-epidemic population would have to be 20,000, double the initial population estimate (D. R. Snow 1995, 1601). In the case of the Mohawks, given the estimated post-contact population level, a high mortality event would require a significantly higher population prior to the mortality event than is supported by the archaeological evidence. The Mohawk

Table 5 Twentieth-century Estimates of the Aboriginal Population of North American Indians. (Thornton 2000, pg. 13.)

North America	United States	Scholar (date)
1,148,000	846,000	Mooney (1910)
1,148,000	—	Rivet (1924)
2,000,000–3,000,000	—	Sapper (1924)
1,153,000	849,000	Mooney (1928)
1,002,000	—	Wilcox (1931)
900,000	720,000	Kroeber (1939)
1,000,000	—	Rosenblat (1945)
1,000,000	—	Steward (1945)
2,000,000–2,500,000	—	Ashburn (1947)
1,001,000	—	Steward (1949)
2,240,000	—	Aschmann (1959)
1–2,000,000	—	Driver (1961)
9,800,000–12,250,000	—	Dobyns (1966)
3,500,000	2,500,000	Driver (1969)
2,171,000	—	Ubelaker (1976)
4,400,000	—	Denevan (1976)
—	1,845,000	Thornton (1981)
18,000,000 ^a	—	Dobyns (1983)
5,000,000–10,000,000	—	Hughes (1983)
12,000,000	—	Ramenofsky (1987)
7,000,000	5,000,000	Thornton (1987)
1,894,000	—	Ubelaker (1988)
2,000,000–8,000,000	—	Zambardino (1989)

^aNorth of Mesoamerica.

region is very well known archaeologically and historically, providing fairly reliable data. As can be seen in the wide range of North American population figures, population estimates aren't always as reliable as those developed by Snow (1995).

Table 6 Mohawk Villages and Aggregate Populations by Period, A.D. 1400 to 1776. (Snow 1995, pg. 1603.)

Period	No. of villages	Population
A.D. 1755–1776	3	640
A.D. 1712–1755	4	580
A.D. 1693–1712	7	600–620
A.D. 1679–1693	3	1100
A.D. 1666–1679	4	2000
A.D. 1657–1666	7	2304
A.D. 1646–1657	6	1734
A.D. 1640–1646	3	1760
A.D. 1635–1640	4	2835
A.D. 1626–1635	4	7740
A.D. 1614–1626	5	6225
A.D. 1580–1614	4–7	2653–4575
A.D. 1560–1580	2	2020
A.D. 1545–1560	2	1570
A.D. 1525–1545	2	1490
A.D. 1400–1525	~13	1070–1230

Dobyns (1966) provides an example where hindcasting resulted in a population estimate that differs wildly from other estimates. Dobyns estimated the population of North America to be between 9.8 and 12.25 million people and estimated the entire western hemisphere to be populated with between 90–112 million people prior to European contact (Table 7). Dobyns derived these numbers using regional level population estimates when they were at their lowest, and adjusted the figures based on what he viewed as appropriate depopulation values caused by European contact, either 1:20 or 1:25. This resulted in estimates that were 10 to 12 times greater than other estimates. Snow's (1995) warning on the drastic effects that different mortality rates can have in population estimates is clearly visible in this case. Not only should researchers be cautious in

determining mortality rates, but possibly more importantly, they should be cautious in the broad application of these generalized rates.

The fact that the Mohawks suffered milder population losses compared to other groups shows that not all groups react to external stimulus in the same manner, an important factor to consider when attempting population estimates (D. R. Snow 1995). The differing mortality rates can be attributed to a number of different factors, including the timing of events, genetic heterogeneity, and uneven population distributions, which can create buffer zones between groups (Jones and DeWitte 2012; G. R. Milner and Chaplin 2010; G. R. Milner, Anderson, and Smith 2001). The presence of population buffer zones is one factor that can help to explain why some indigenous groups were more severely impacted by infectious diseases at the time of European contact compared to others. Milner et al. (2001, 14) combined a

Table 7 Estimated Aboriginal Population Estimations. (Dobyns 1996, pg. 415.)

AREA	NADIR POPULATION	DATE OF NADIR	PROJECTIONS	
			× 20	× 25
North America	490,000 ^a	1930+	9,800,000	12,250,000
Mexican Civilization	1,500,000 ^b	1650	30,000,000	37,500,000
Central America	540,000 ^c	1650	10,800,000	13,500,000
Caribbean Islands	22,150 ^d	1570	443,000	553,750
Andean Civilization	1,500,000 ^e	1650+	30,000,000	37,500,000
Marginal South America	450,000 ^f	?	9,000,000	11,250,000
Western Hemisphere			90,043,000	112,553,750

large number of regional studies, including historical and archaeological data, to identify more discrete population ranges during the prehistoric/historic transition period (1400-1650) than had previously been published. They visualized their results using three maps showing population changes at 50-year intervals, which also provided an estimate on the degree of uncertainty in the data being utilized (Figure 7). Broader ranges were portrayed for populations where data is less precise, and more constricted ranges are depicted for populations where there is better data.

Despite the increased range portrayed for groups lacking quality population data, there are still open areas between groups on the population distribution maps. This is intentional and is a reflection of their data. People weren't evenly distributed across all areas, and some areas had little to no permanent human inhabitants. Not only do these gaps affect population estimates based on territory, but they also serve to act as a fire-break of sorts to stem the spread of diseases (Thornton 2000). This uneven distribution is another reason why Dobyns' (1966) population estimate of 18 million people pre-contact is so much higher than other estimates. The author also noted that "the archaeological visibility of people who lived in small, dispersed, or highly mobile groups is low," and these groups are also often underreported in historical recordings as well (G. R. Milner, Anderson, and Smith 2001, 14). Unfortunately this is a common issue for any population estimation endeavor (Porčić 2012).

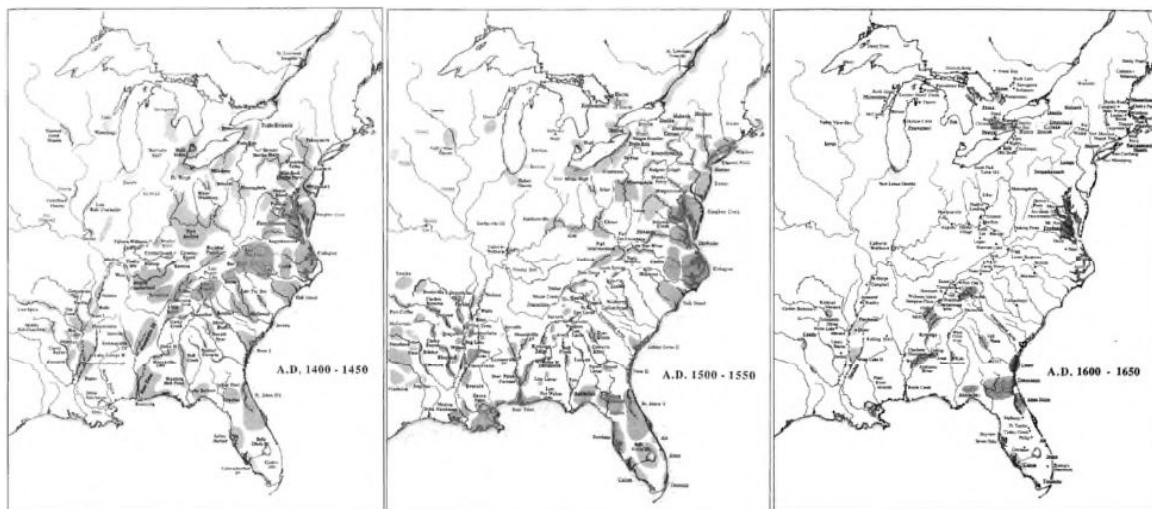


Figure 7 Archaeological Phases during the Early 1400's (left), Early 1500's (middle), and Early 1600's (right). (Milner 2001, pg. 11-13.)

Through the use of analogy, information based on historical records of certain groups can be applied to other groups lacking similar historical population records. This method assumes that groups sharing similar environments and social structures would also share similar population levels. Serizawa (1960) and Yamanouchi (1964) used similar methods in their population estimations of the Jomon people by comparing them to the Hokkaido Ainu people and the Native American groups of the Pacific Northwest. More recently, Jones and DeWitte (2012) took a novel approach at estimating population decline in areas without specific or sufficient population evidence using spatial analysis. They first identified population levels at known sites in the 17th century, and then determined levels of depopulation in those areas.

Utilizing this data, Jones and DeWitte used spatial analysis (kriging) to interpolate and estimate levels of depopulation in areas without current population data (Figure 8). The effects that disease and warfare had on the native people of the Americas were grave. The depopulation rates produced by the authors ranged from 35% to a staggering 98% (Jones and DeWitte 2012, 86). Although some individuals from the groups most affected by disease and warfare might have survived individually, either on their own or by being accepted into other neighboring groups, many of their cultures did not survive (Jones and DeWitte 2012).

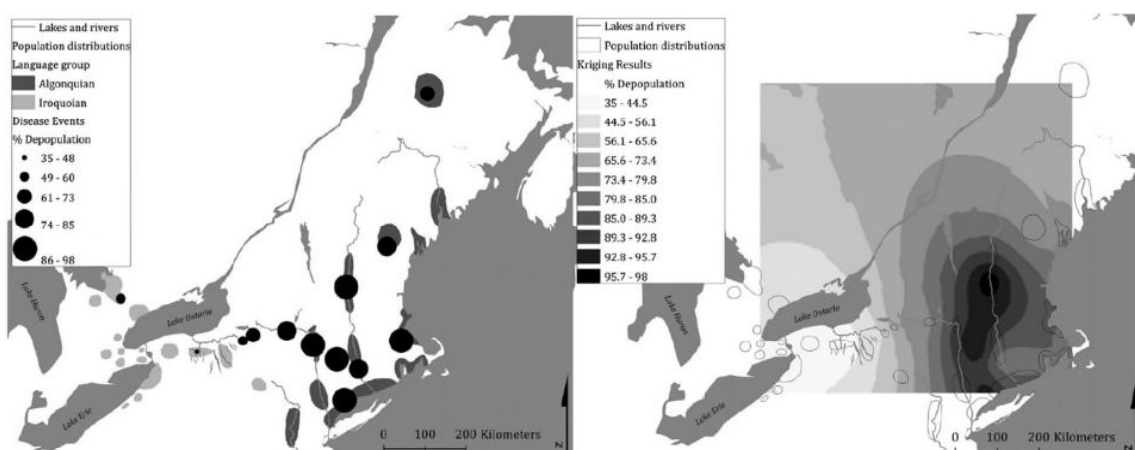


Figure 8 Percentage of population lost in each disease event overlaid on the distribution of Iroquoian-speaking and Algonquian-speaking population distributions (left). Results of kriging based on existing depopulation data (right). (Jones and Dewitte 2012, pg. 87.)

Like other population methods, the use of historical records has its weaknesses, and like any other form of evidence, the quality and reliability of historical records can vary. Even with high quality records, some issues can arise. In North American studies, population estimates in historical documents were sometimes based on the number of warriors, not total population, obscuring true population numbers (Jones and DeWitte 2012; Dean R. Snow and Starna 1989; D. R. Snow 1995). Historical observers often focused on larger sites and ignored smaller ones, which could affect population estimates (G. R. Milner, Anderson, and Smith 2001; G. R. Milner and Chaplin 2010). Applying data from historical records to other groups introduces even more problems. It is often difficult to apply proper analogies amongst groups. Researchers not only have to take into account environmental differences between groups, but cultural differences as well.

Essentially, the further one moves away from the primary data, the more compounded problems can become. This is easy to observe in population estimates in both North America and Japan. Small changes in adjustment factors to adapt data between groups can have large effects when applied over a broad period of time. This isn't to say that historical data should be ignored, but that, like other data sources, it should be critically evaluated and specifically applied.

4 – Paleodemography

Skeletal remains provide one of the main lines of evidence that paleodemography has used to attempt to determine population structures in the past. As we are not able to directly

measure past populations, we have to rely on indirect measurements to infer past population levels. The greatest benefit of using skeletal remains is that the data used is linked much more directly to the target phenomenon than other data sources. In this case, in order to measure the number of people present at a specified time and place, the evidence used are the skeletal remains of the people themselves. While a direct count of remains will not provide an accurate population estimation, determining changes in birth rates provides a very close alternative population indicator. Genetic data has also been used to determine demographic changes, but one problem with that method involves uncertainties in relation to accurate dating. One intended benefit of using skeletal remains is their context within cemeteries, which in theory, should provide a more concrete chronological context.

There are a number of different fertility indicators used in paleodemography, such as Masset and Bocquet-Appel's (1977) JA ratio (ratio of juveniles aged 5-15 to adults aged 20 and older), Jackes' (1986) Mean Childhood Mortality quotient or MCM (the average probability of death, in this case the 5q5, 5q10, and 5q15 values from a life table), Jackes' (1992) D20+/D5 (proportion of those living beyond 20 years of age to all of those who lived past 5 years of age), and Bocquet-Appel's (2002) 15p5 juvenility index, among others. Each of these measures has their own strengths and weaknesses. For example, the MCM has problems using data sets where age distinctions between the juvenile groups are difficult to ascertain, making it more restrictive than the JA ratio (Bellwood and Oxenham 2008). Bocquet-Appel's juvenility index, either referred to as P(5-19) or 15p5, has now become one of the most widely used indicators in the field, accommodating a wide range of data and strongly correlating to birth rate ($r^2 \text{ adj.} = 0.963$) (Bocquet - Appel 2002). Using the ratio of the total population over 5 years of age to juveniles aged 5-19, the method is able to identify changes in birth rate trends over time (Figure 9). The 15p5 ratio works similarly to the JA ratio, but avoids the extra complication of introducing an additional age constraint in the formula, further broadening the available sample size.

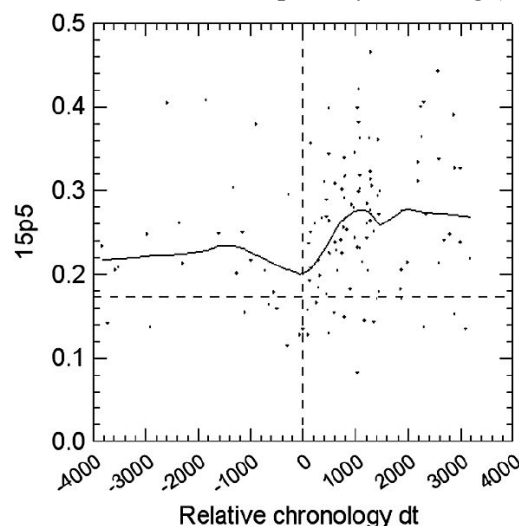


Figure 9 Observed profile of the 15p5 indicator in the northern hemisphere. (Bocquet-Appel 2008, pg. 37.)

Despite the increased flexibility of the 15p5 due to its inclusion of more data in general, data from individuals under five years of age remains unutilized. In his 2008 article, Bocquet-Appel provided an additional overview of the Neolithic Demographic Transition and also introduced the P(0-4) or 5p0 value. Although juveniles under the age of 5 are omitted due to poor preservation and representation in the archaeological record in most paleodemographic measures, Bocquet-Appel found that in cases with appropriate representation, the proportion of individuals aged 0-4 compared to the total population can provide similar results to the 15p5

indicator (Figure 10). Proper representation of juveniles under the age of 5 can be rare, but this provides another method to examine changes in birth rates when the circumstances allow. Robbins' (2011) sub-adult fertility formula similarly aimed to tackle the omission of individuals under the age of five. For situations where juveniles are well represented, the sub-adult fertility formula compares infants aged 0-1 to infants and subadults aged 2-19. Robbins found that the formula performed similarly to Bocquet-Appel's juvenility index in her case study, and when used on Coale, Demeney, and Vaughan's (1983) life tables.

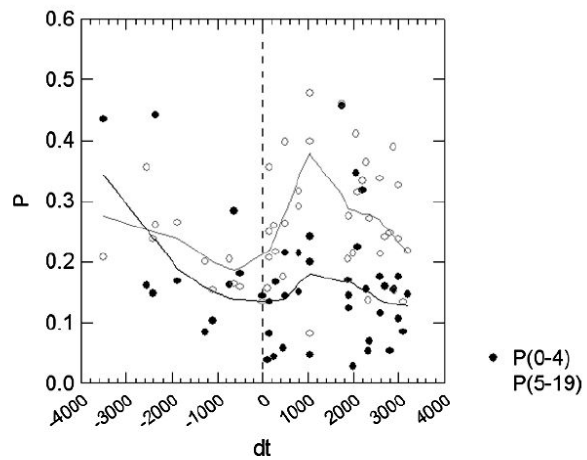


Figure 10 Comparison of 15p5 and 5p0 indicators. (Bocquet-Appel 2008, pg. 50.)

All these studies attempt to identify population trends and changes in birth rates. A key finding from these studies has been the identification of the Neolithic Demographic Transition, or NDT. In his 2002 study, Bocquet-Appel looked at Mesolithic and Neolithic sites in Europe and North Africa and identified a two-step transition associated with the introduction of intensive agriculture. There was a delay between the initial introduction of agriculture to an area, followed by a significant increase in birth rates. This was then followed by a decrease in birth rates, and an eventual stabilization in rates. Bocquet-Appel, Naji, and Bandy (2008) later investigated changes in birth rates in North America related to the NDT. Similar to the findings in Europe and North Africa, the authors again found a pattern of increasing birth rates after the introduction of agriculture followed by a later decrease and stabilization of birth rates.

A similar study by Guerrero, Naji, and Bocquet-Appel (2008) was conducted in the Levant. The researchers again found a similar pattern to the previous studies, but this time they noticed there was a change in the timing of the transition (Figure 11). Core areas exhibited changes faster than peripheral secondary areas. While previous studies found a transitional period of approximately 600-800 years, the transition in the Levant lasted approximately 2000 years. Although the general pattern had been the same around the world, the timing and intensity was shown to have varied. This variation in transition lengths was further explored by Kohler and

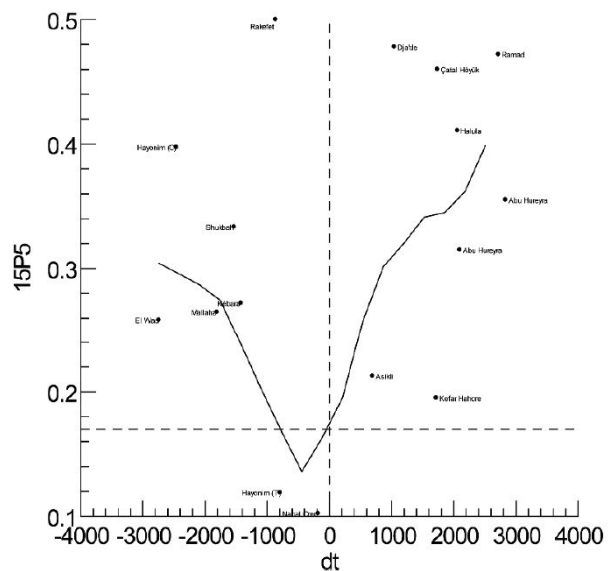


Figure 11 15p5 profile in 16 Levantine cemeteries. (Guerrero et al. 2008, pg. 68.)

Reese (2014) in the North American Southwest. The researchers found that irrigation-dependent societies increased their sociopolitical complexity quickly but didn't experience the population explosion that other areas experienced. However, groups that instead relied on dry or rainfed farming experienced greater changes in birth rates, while socio-political changes were more subdued.

While the findings from these studies provide critical information on the effects of agriculture on human populations, the methods have some key weaknesses that need to be discussed. The first is that the sample sizes used in these techniques are smaller than in most other methods. Organic remains are not preserved as well as other archaeological materials, so the resulting pool of information to draw upon is smaller than other population estimation techniques. In addition to issues of preservation, there are also cultural factors related to mortuary practices to take into account. Cemeteries don't always provide representative samples of the local population, and juveniles are sometimes interred separately or differently than adults, making this method more difficult, if not impossible to use, depending on the context.

Another issue with paleodemographic methods deals with the accurate assessment of the age of death of individuals. Historically, age estimations have identified younger individuals as being older than they truly were, while older individuals have been identified as being younger than they truly were (Buckberry and Chamberlain 2002; Wärmländer and Sholts 2011). Taking into consideration the strict age divisions relied upon in these analytical techniques, determining accurate ages of individuals is of key importance. Using the juvenility index (15p5) as an example, individuals under the age of 5 are omitted, and the remaining population is categorized as either subadults (aged 5-19) or adults (20 years and older). Therefore, the successful determination of whether an individual is 4 years old or 5 years old and whether an individual is 19 years old or 20 years old has a significant effect on the accurate estimation of birth rates.

The third main drawback to these methods involves the placement of individuals into appropriate chronological contexts. If grave goods or other related archaeological artifacts that can be dated, either directly or typologically, are absent from a burial, this makes it very difficult to determine when the individual died and was buried.

Despite such obstacles, these paleodemographic methods are an important piece of the puzzle needed to determine population changes in the past. No other method utilizes data that is closer to the final intended object of measurement – people. Combining these methods with others, such as summed probability distributions of radiocarbon dates (SPD), which will be discussed in the following section, provides a strong foundation to support claims of population changes in the past. When using new sources of data, we will continue to stay rooted to the individuals we are attempting to learn about (Downey et al. 2014).

5 – Radiocarbon Dates

Summed Probability Distribution of Radiocarbon Dates (SPD) studies have become increasingly popular as a way to estimate changes in population levels. Rick (1987) initially proposed the use of dates as data, making the assumption that the population of a site should be correlated with the number of radiocarbon dates obtained at that site. Essentially, an increase in

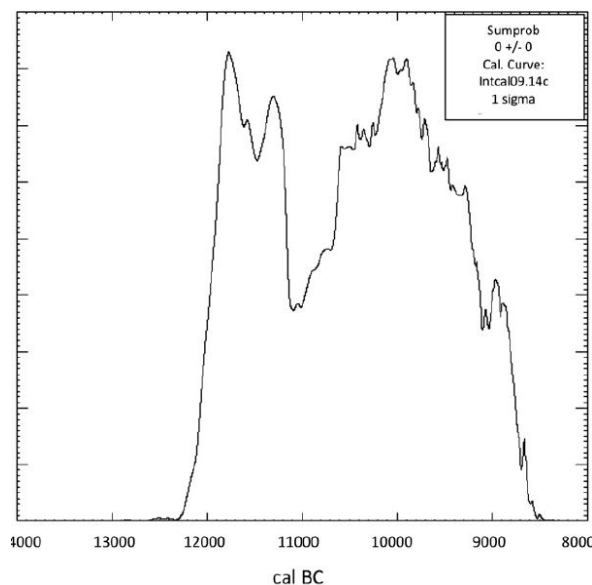


Figure 12 Summed probability distributions of radiocarbon dates example. (Bamforth and Grund 2012, pg. 1772.)

trash should indicate an increase in population. SPD studies interpret peaks in the probability distribution of radiocarbon dates as evidence of higher populations, troughs as evidence of lower populations, and base the speed of these population changes on the steepness of the distribution slopes (Bamforth and Grund 2012). Figure 12 provides an example of a calibrated summed radiocarbon probability distribution (Bamforth and Grund 2012). Rick's initial emphasis focused on dates obtained from charcoal, but current studies rely on a number of different organic materials preserved in the archaeological record. SPD studies have advanced significantly since Rick's (1987) initial exploration, not only in terms of statistical sophistication, but also in the increasing amount and precision of the data that these studies rely upon. Compared to other population estimation methods, SPD studies

benefit not only from large sample sizes, but by using dates themselves as data. The data is intrinsically well rooted chronologically. Therefore, as radiocarbon dating techniques improve, SPD studies will improve as well. However, the issue of whether or not the method provides an accurate assessment of population changes is still under debate.

If not handled properly, the data archaeologists collect and analyze runs the risk of being decontextualized. The use of dates as data is not alone in this regard. No matter what population estimation method is being used, issues of data bias need to be considered. SPD studies are often quite open regarding possible biases, and much has been done to try to address these biases. Some of these biases include the fact that: radiocarbon samples are often collected strategically to date stratigraphic sequences, and are therefore not random; instrumental error for each date and the calibration itself affects the shape of the distribution; budget has an effect on how much can be dated, and therefore affects the distribution of dates; and if other datable material is present, researchers might not rely on radiocarbon dating as much (Palmisano, Bevan, and Shennan 2017). These biases are not insurmountable, and their presence shouldn't discourage the use of this method. Acknowledgement of these biases serves to highlight areas of the study that should be carefully considered and approached on a case by case basis.

According to Contreras and Meadows (2014), there are five key things researchers need to be able to show when conducting SPD analyses.

1. The link between population and the production, preservation, and analysis of datable organic material needs to be sound in each particular case.
2. The ^{14}C dates used in the study can be considered a random sample.
3. The population events in question occurred over a period of time that is long enough to be able to distinguish them from the average measurement uncertainties.

4. Relative to the span of time under consideration, the sample size is large enough to be able to identify events of the magnitude postulated.
5. The observed patterns are not the product of the calibration curve.

Following the framework of previous researchers, I first want to touch on the link between population changes and changes in the amount of datable organic material in the archaeological record. Despite the popularity of SPD studies, the connection between the amount of “trash,” or archaeological discard, and the number of people in a community, might be more tenuous than is often assumed. Current techniques don’t account for changes in the amount or type of production settlements produce, and they also fail to compensate for changes in mobility. Both of these factors can affect the archaeological visibility of datable remains.

Whether an increase in radiocarbon dates is due to an increase of population as opposed to an increase in production from a stable population is an open question that depends on individual contexts. For instance, technological changes can affect the production of datable materials; an increase in the use of pottery might require more wood to be used in the firing of pots resulting in an increased amount of charcoal recovered (Rick 1987). It is also important to keep in mind that the production of datable artifacts produced by humans isn’t necessarily a predictable natural occurrence (Mökkönen 2014). Human agency shouldn’t be used to flippantly swat away theories, but it still needs to be considered as a factor in driving changes in human behavior and the archaeological remains that result from those decisions.

Changes in mobility patterns are another pressing issue. The concept that an increase in radiocarbon dates is proportional to an increase in population is best applied “during times when settlement size, site occupation length, and mobility were relatively constant” (Peros et al. 2010, 661). Studies acknowledge that the permanence or seasonality of sites are often unknown, and this can be a source of bias. But researchers rarely address the issue (Palmisano, Bevan, and Shennan 2017). People and societies change over time and models need to be able to recognize and account for these changes in behavior and associated production. This is not to say that there isn’t a correlation between increasing datable materials and increasing populations, but the relationship shouldn’t be automatically assumed in all cases.

In addition to changes in sedentism or production, the visibility and representativeness of the archaeological record needs to be factored in. In order to determine whether data from a study can be considered a random sample, taphonomic processes and the uneven distribution of excavations need to be accounted for. Taphonomy plays an important role in the amount of datable material found by archaeologists and the data used in these studies (Crema 2012; Mökkönen 2014; Rick 1987; Williams 2012). Essentially, the further back in time researchers explore, the less material they will be able to find due to normal taphonomic processes.

The breakdown of organic materials over time has a direct effect on datable artifact counts. Luckily, because taphonomic processes are largely natural in nature, they can be compensated for to some degree. A key step towards this was accomplished using volcanic records as an analogy for archaeological taphonomic loss over time due to general erosion or weathering (Surovell et al. 2009). Local effects, however, can differ from the average taphonomic effects. Factors to consider include the proximity to rivers, oceans, or other areas

prone to taphonomic loss, as well as general soil conditions. Soil conditions are of particular concern when relying on data related to organic remains. The adjustment procedure provided by Surovell et al. (2009) provides a baseline calibration, but it does not account for individual contexts. In this way, the issue of adjusting for taphonomic loss still needs to be further addressed (Williams 2012).

Where, how, and why excavations are conducted also plays a role in the visibility of the archaeological record, and therefore can affect whether data obtained from those excavations can be considered representative samples. As rescue excavations generally outnumber excavations focused on specific research topics, areas of increased excavations often coincide with areas of increased population (Bradley et al. 2016). For non-rescue excavations, research design affects what areas are investigated, which can lead to a biased non-random sample (Möckönen 2014).

Not only are archaeologists interested in specific time periods and geographic regions, but the type of sites also plays a role in what sites are excavated. In order to test for possible biases related to possible Neolithic European population boom/bust patterns, Torfing (2015) broke collected radiocarbon dates up into three different groups: dates from settlements only, dates from settlements and middens, and an inclusive set of all dates (Figure 13). He found that the data that relied solely on settlements didn't show the boom/bust pattern that the inclusive data set showed and he believes that including data from middens skews the data. Because middens typically preserve remains better than other sites, more radiocarbon dates can be obtained from them. This emphasizes periods where middens were present and used, which can be explained by changes in subsistence, as opposed to population changes alone (Torfing 2015).

This brings us to the issue of sample sizes. Although Torfing's (2015) subdivision of data seems a reasonable way to carefully curate data, Timpson, Manning, and Shennan (2015) caution that the process of subsetting the data reduces the sample size for each analysis. Williams (2012) explored the issue of sample size in

SPD analyses and stressed the need for larger sample sizes, suggesting 500 dates at a minimum. Other researchers, however, argue that small sample sizes can still work well in identifying population trends (Peros et al. 2010; Timpson et al. 2014). This balance between data quality vs data quantity is an ongoing area of dispute in SPD studies and probably won't be resolved anytime soon.

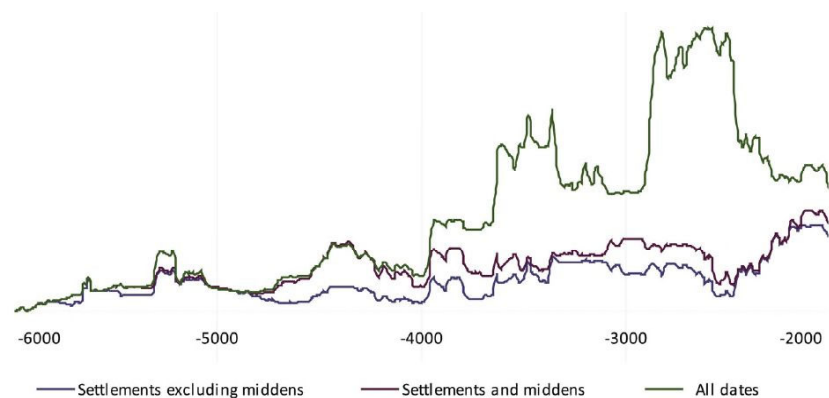


Figure 13 Comparison of the summed probability curves when including all sites, only settlements and middens, and only settlements with all dates from shells and shell middens removed. (Torfing 2015, pg. 195.)

Despite generally good chronological contexts, there are still issues regarding the accurate dating of remains used in SPD studies. Although there have been significant advances in radiocarbon dating techniques, including improved calibration procedures, researchers have found that calibration curves themselves can affect SPD analyses (Bamforth and Grund 2012). Ideally, comparing “calendar time” and “radiocarbon time” would result in a 1:1 slope, but in reality, sometimes the “radiocarbon clock” runs faster than calendar time, and other times it runs slower. This results in false peaks or “cliffs” and flattened “plateaus” at certain times in the calibration curve. A cliff occurs when the radiocarbon clock is ticking too fast, resulting in a shortened period of calendar time spread over a longer period of radiocarbon time, over-accentuating the representation of the period. When the radiocarbon clock slows down, a greater proportion of calendar dates are spread along a shorter period of “radiocarbon time,” resulting in a plateau that underrepresents the time period in question. Calibration curves aim to correct for these cliffs and plateaus, but Bamforth and Grund (2012) found that the calibration curves themselves introduced significant volatility into the data, decreasing confidence in the interpretation of the resulting SPDs. Coarser chronological scales appeared to help decrease volatility, but utilizing 500 year intervals such as those used by Surovel et al. (2009) removes one of the main benefits of the method, a refined chronological context.

One of the most promising aspects of SPD studies in recent years has been its approach to uncertainty. Some degree of uncertainty in archaeology is unavoidable, and can be difficult if not impossible to completely overcome. Because of this, accepting its presence and even embracing it can provide a more productive approach than fighting it.

In their analysis of pithouse clustering during the Middle Jomon period in the Chiba prefecture, Crema, Bevan, and Lake (2010) used two methods to address temporal uncertainty in the archaeological record, probability weighted spatial analysis, specifically aoristic weighting, and Monte Carlo simulations. The aoristic analysis breaks time up into equal blocks and provides probabilistic value of presence or absence for the time blocks based on the sum of aoristic values for each time block (Figure 14) (Crema, Bevan, and Lake 2010). This information is then used in the Monte-Carlo simulation, where multiple simulation runs are conducted assigning values of either present (w-1) or

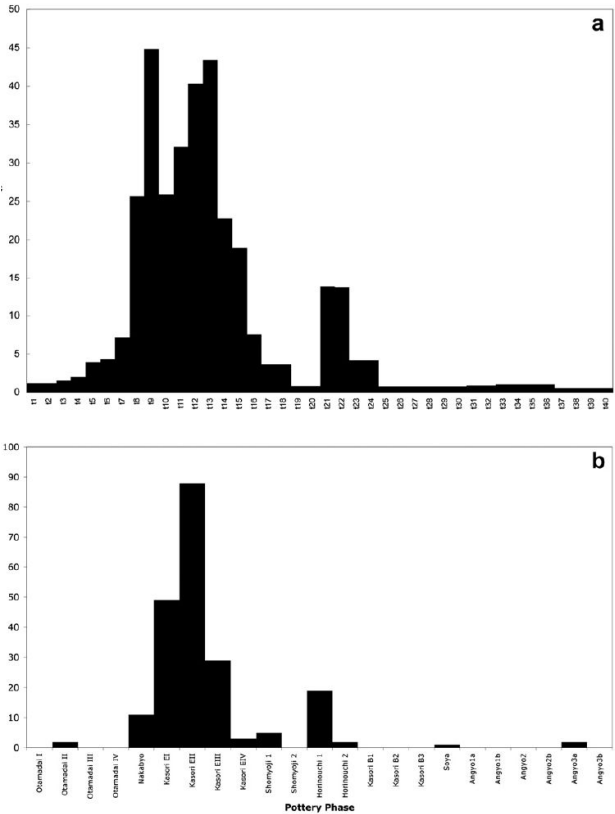


Figure 14 Sum of aoristic weights for each 50-year time block (top). Number of pithouses for each pottery phase (bottom) (Crema et. al 2010, pg. 1122.)

absent (w-0) for each time block based on the probabilistic weights determined from the aoristic analysis. The process of running the simulation multiple times creates a confidence envelope, providing a range in which the true values are likely to reside. A Ripley's K function was then applied to the time blocks that returned values of present (w-1) from the Monte-Carlo simulation in order to determine patterns of clumping and dispersal of pithouses. Figure 15 provides a visual overview of the workflow used in the study (Crema, Bevan, and Lake 2010).

The results showed a possible increase in mobility during the Middle Jomon period. As the authors note, the goal of this probabilistic approach is not necessarily “to create new information, but rather to make the best use of available information by integrating different degrees of knowledge” (Crema, Bevan, and Lake 2010, 1127). Although additional data is always welcome, more effort needs to be put into using the data available to archaeologists to the fullest extent possible.

Another approach that takes uncertainty in the archaeological record into account are kernel density estimates (KDE). Many SPD studies focus on population trends over large areas, showing little regional differentiation. Grove (2011)

emphasized a more focused geographic approach combining SPD data with kernel density analysis to map population density changes over time. KDEs provide “density estimates based on site distributions that attach probabilities to specific areas of the landscape, and thus avoid the present/absent dichotomy that threatens simpler models” (Grove 2011, 1014). While SPDs attempt to incorporate and account for chronological uncertainties, KDEs attempt to do the same for spatial uncertainties. KDEs treat spatial

points as distribution peaks, acknowledging that unrecovered data could have existed in the areas surrounding those points, and the probability of that existence decreases as distance from those points increases (Grove 2011, 1014). Using data from Atlantic Iberia, Grove (2011) created a summed probability distribution of Mesolithic sites, which were then sampled at even time slices of 5000, 6000, 7000, 8000, and 9000 cal BC. KDE plots were then created for each of the time periods (Figure 16). With the regional focus provided through KDE analysis, Grove identified patterns of fissioning, migration, and fusion over time, indicating possible events of resource depletion and/or internal conflict. In his study of Jomon period population trends in Tohoku, Nakamura (2018) used KDE analysis in a similar manner, but used archaeological sites as data points instead of using radiocarbon dates.

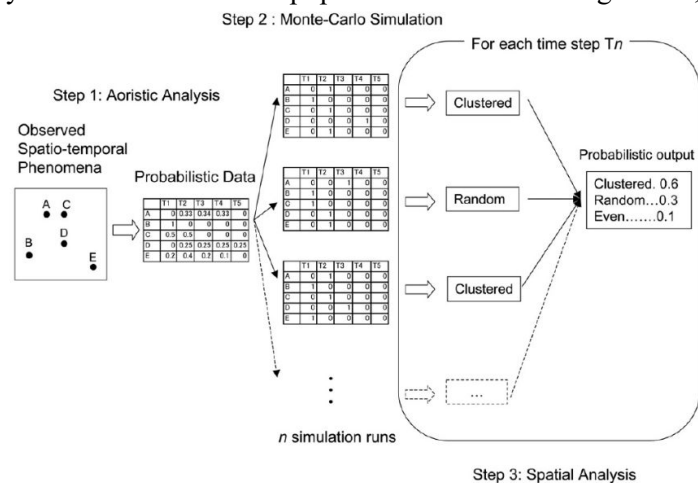


Figure 15 Example workflow combining aoristic analysis with Monte-Carlo simulations of a spatio-temporal pattern. (Crema 2010, pg. 1126.)

One criticism of SPD studies has been a qualitative approach to the interpretation of findings (Crema et al. 2016). Merely eyeballing fluctuations in trends can result in incorrectly applying significance to what might be simple

stochastic variations in the data. Luckily, there have been advances in this area as well. In a further exploration of pithouses in the Chiba prefecture (Figures 17 and 18), Crema (2012) continued with a probabilistic approach, combining aoristic analysis with Monte Carlo simulations, but this time the researcher focused on the rate of change between timeblocks as a way to try to identify statistically significant changes at a finer temporal scale. In order to determine whether the rates of change between time blocks were products of stochastic variations, he compared the rate of change data to a dummy set with the same sample size but with an equal probability to occur in every time block. When rates of change from the actual data set exceed the envelope of probability created from the dummy set, it can

be assumed that there was a statistically significant change occurring during that time block. It is important to note, however, how the statistical significance of these changes was affected by changing the temporal resolution of the analysis. For instance, a population collapse of the Late Early Jomon period is visible at a 200-year resolution. At a 50-year resolution, there appears to be a fluctuating pattern in the early 5th millennium cal BP. However, neither of these trends are visible at the 100-year resolution. Using the 50 year resolution, Crema (2012) was able to identify that the decrease in pithouse counts was strongest at around ca. 4500–4450 cal BP. This result supports theories by Imamura (1997) and Habu (2008) that weak monsoon events and marine transgressions were correlated to the decline. Coarse temporal resolutions, such as the 200-year scale used, make it difficult to correlate data to specific climatic events. However, finer resolutions of 50 years or 100 years were unable to identify the pit house decline at the end of the Early Jomon period, either due to insufficient information at those temporal scales, or due to a more gradual decrease than the Middle Jomon period crash. This highlights the importance of

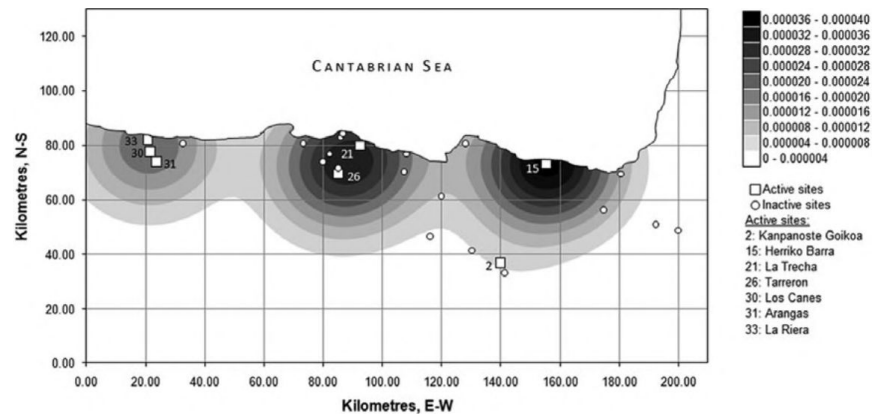


Figure 16 A bivariate KDE plot produced for the 5000 cal BC time slice. (Grove 2011, pg. 1026.)

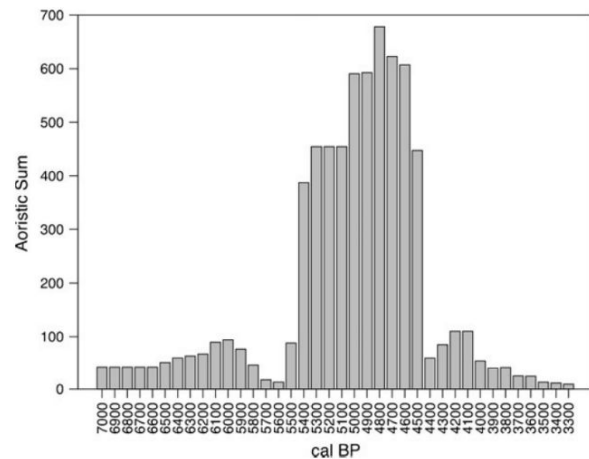


Figure 17 Aoristic sum of Jomon pithouses in SW Kanto between Early and Late Jomon period. (Crema 2012, pg. 448.)

not only viewing the past at different geographical scales, but at different temporal scales as well.

Similar to Crema's (2012) study, Shennan et al. (2013) also aimed to apply a more objective approach to interpreting SPD results by introducing significance testing. The authors created a null model by fitting a curve to all radiocarbon dates from the study. Z scores and corresponding 95% confidence intervals were calculated from the SPD data, and values that exceeded these confidence intervals were identified as statistically significant events. The analysis showed a boom-bust pattern in data. This boom-bust pattern, correlated with the introduction of agriculture, shows similarities to paleodemographic studies based on skeletal remains (Figure 18). This method was improved by Timpson et al. (2014) by including a false positive filter to compensate for 5% false-positives inherent in a 95% confidence interval. Shennan et al. (2013) showed that the approach works with smaller sample sizes, as well as with a mean of 313, ranging from 93 to 862 samples, compared to a range of 281-1732 samples and the mean of 623 (Figure 19). The authors did caution that, due to the smaller sample sizes, steep drops in the SPDs shouldn't necessarily be interpreted as a period of low density, but rather as a significant drop in density.

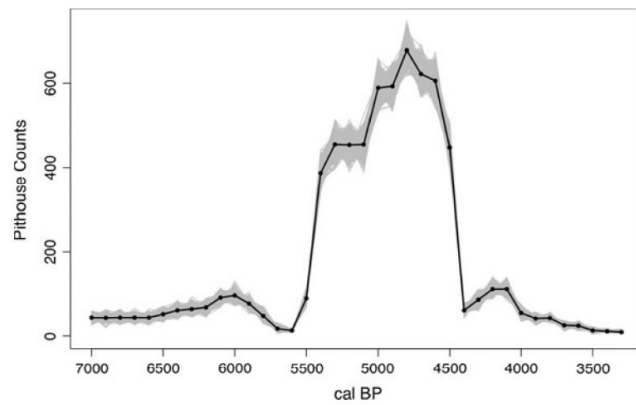


Figure 18 Plot of 1,000 time series created by MCMC simulation of Jomon pithouse counts in SW Kanto region. Gray shaded lines are the simulated time series and the solid line is the average number of pithouse counts for all simulation runs. (Crema 2012, pg. 452.)

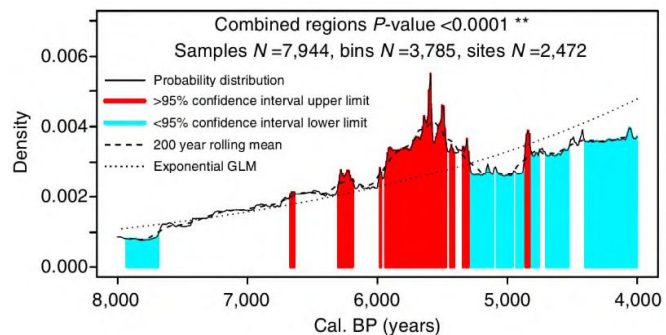


Figure 19 SCDPD-inferred population density change 8,000-5,000 cal.BP for all regions combined. Statistically significant deviations from the null model of long-term growth are indicated in red and blue. (Shennan et al. 2013, pg. 6.)

In an attempt to combine significance testing with a spatial representation of radiocarbon date densities, Crema et al. (2017) used radiocarbon data from the EUROEVOL dataset of European Neolithic sites to create a test to compare local and regional changes in growth to the overall growth rate. Areas that had statistically significantly higher growth rates than the trend were identified and visualized as hot spots, while areas with statistically significantly lower growth rates than the general trend were identified and labeled as cold spots (Figure 20). If we interpret more radiocarbon dates as an indication of greater populations, this tool provides a quick way to visually identify areas of increasing and decreasing population growth. The authors

state that this approach should not be used on its own, and that it should be followed up with Monte Carlo approaches or permutation routines to identify statistically significant anomalies.

One of the most pressing concerns of SPD studies is the relationship between radiocarbon dates and population estimates. Significant advances have been made in SPD studies, including compensation for calibration effects and taphonomic effects, and the addition of probabilistic approaches and significance testing. The core question about whether an increase in radiocarbon dates indicates an increase in population has yet to be fully addressed. However, the incorporation of SPD analysis with a paleodemographic study of prehistoric European cemeteries by Downey et al. (2014) represents a good step in that direction, and the results showed a correlation between the two demographic proxies (Figure 21).

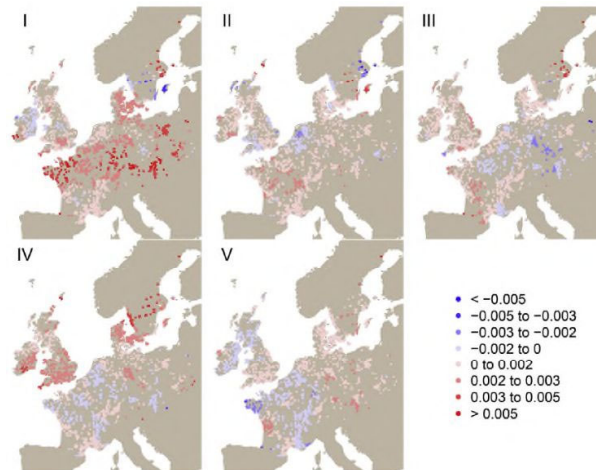


Figure 20 Local geometric growth rate for each transition in the EUROEVOL dataset(I:8-7.5k to 7.5k-7k BP; II: 7.5-7k to 7-6.5k BP; III: 7-6.5k to 6.5-6k BP; IV: 6.5-6k to 6-5.5k BP; and V: 6-5.5k to 5.5-5k BP. (Crema et al. 2017, pg. 6.)

Taking into consideration demographic differences between Mesolithic foragers and Neolithic farmers, the authors used ethnographic data from Murdock and White's Standard Cross-Cultural Sample to calculate scaling ratios for the groups. Bootstrap analyses comparing the groups indicated that average settlement populations for Neolithic sites should be between two and eight times greater than for Mesolithic sites, significantly increasing the population density estimates for the Neolithic sites. However, the authors were limited in data that could be gathered from actual Mesolithic sites, and there was a lot of variation in the groups that one might categorize as foragers and farmers. Blanket adjustment factors should be used with abundant caution. Although the density of many farming communities is likely higher than most foraging communities, the extent of differences between groups for the scaled density calculations should be treated with a certain degree of skepticism. In general, the evidence from the Neolithic period appears better supported than the Mesolithic period. For the skeletal analysis, only 10 Mesolithic sites were incorporated

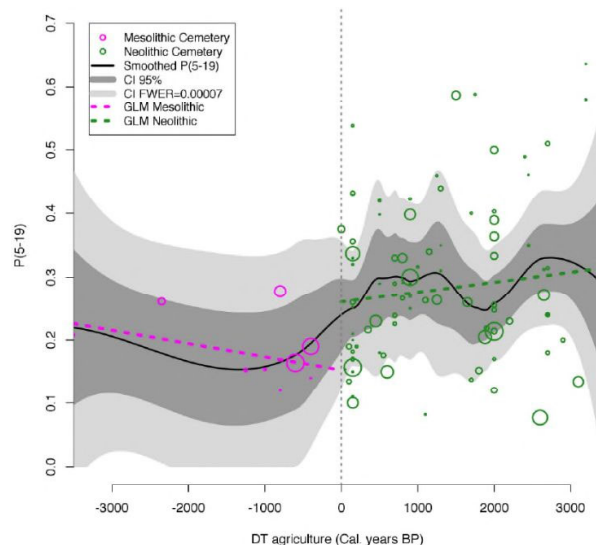


Figure 21 Analysis of the cemetery composition of immature skeletons using the juvenility index from 101 European cemeteries. Confidence intervals indicate uncertainty and point size indicates MNI from each cemetery. (Downey et al. 2014, pg. 6.)

consisting of 774 individuals, while 81 sites consisting of 5462.5 individuals were used in the Neolithic portion of the study. The sample size of the radiocarbon dates ($n=8023$) seems adequate. However, it is difficult to determine how the dates are distributed over time. While the SPD curve is presented, the dates themselves are part of the larger EUROEVOL dataset (Manning et al. 2016), which consists of over 14,000 radiocarbon dates, but the specific dates subsetting from the EUROEVOL dataset are not specified. Despite these criticisms, this study is an excellent example of using multiple lines of data to address potential weaknesses in SPD studies and to better determine population changes in the past.

6 – Summary

Although the wide variety of population estimation techniques all have their own strengths and weaknesses, none of them serve as a direct replacement for any other. Each line of evidence brings its own information and helps to shed more light on the topic at hand. Knowing how the size of sites change over time can help provide a better context in understanding the meaning behind changes in the overall number of sites. Determining dwelling counts and dwelling sizes can help provide further context into how changes in site sizes relate to how much of a site is allotted to living space.

Historical and ethnographic approaches can help to better root other population estimation techniques to more concrete numbers and provide a method to test the validity of other techniques. Paleodemography ties directly to the individual, and when sufficient data is available, can provide a biological line of evidence to compare against other production-based proxies. The use of radiocarbon dates as data, and the associated probabilistic techniques that accompany them not only provide a more robust chronological aspect to the studies, but also provide a better understanding of production and discard that is not included in other methodologies. The inclusion of multiple techniques can strengthen the findings of others when they agree. In situations where they don't agree, or if the timing of these changes don't align, they can provide a better understanding of the dynamics of how these population changes occur, or provide another opportunity to research these inconsistencies further (Crema et al. 2016).

3 – Residential Mobility

As mentioned in earlier sections on population estimation methods, changes in residential mobility can affect population estimations. While changes in the number of sites, the number of dwellings, or even the number of artifacts that have undergone radiocarbon dating might be present, they do not explain the dynamics behind those changes, and on their own do not confirm the existence of an actual population change. Changes in residential mobility affects all these measures. Although this possibility is mentioned in previous studies, it is not addressed or tested in any significant way. Addressing this aspect of population dynamics will help to provide a better understanding of past population changes and help to clear up one aspect of uncertainty present in previous population studies.

Before delving deeper into discussions of mobility however, it is important to stress that there is not a binary choice between mobility and sedentism. Descriptions of sedentary, semi-sedentary, or mobile lifestyles greatly simplify a wide range of residential mobility patterns present, both in the past and in today's times. Despite the vast multitude of possible patterns, and

the wide variety of lifeways, having some basic framework is necessary for the sake of comparison. To this end, Watanabe (1992) looked deeper into the concept of mobility and sedentism, and divided groups into six categories based on the degree of mobility they exhibited. He first divided groups into rough divisions; groups 1-3 were deemed mobile while groups 4-6 were described as sedentary.

On the sedentary side, Watanabe described group 4 as moving several times a year to fixed locations, while group 5 exhibited seasonal mobility, with separate summer and winter residences. Watanabe listed the Sahklin Ainu as a type 5 mobility group. The Hokkaido Ainu were described as a type 6 group, where they were able to exploit resources all year without moving. Watanabe also made the point that, although groups 3-5 moved locations, this didn't necessarily mean that the entire group moved. Some individuals could remain behind at the main camp. Watanabe's typology helps to emphasize the range of variation included in the concept of mobile or sedentary groups. Although the point isn't always emphasized, the level of mobility can have effects on a number of different analyses, especially those aimed at estimating population.

It should also be noted that these residential mobility patterns are not permanent either. Studies have identified alternating patterns of clumped and dispersed settlement strategies that would indicate changing lifestyles for these groups (Crema 2012; Suzuki and Suzuki 2009). Habu (2008) puts forth Sannai-Maruyama as a possible example of a group which not only transitioned from a more mobile to a more sedentary lifestyle, but also showed this transition working in reverse. The Sannai-Maruyama site was sparsely populated during the Lower-Ento A phase (5900-5650 cal BP) but grew to have a "relative abundance of associated pit-dwellings" in the Lower-Ento B-D phases (5650-5350 calBP) (Habu 2008, 127). This was a time in which a variety of structure sizes were present, from smaller family dwellings to large long house-type structures reaching ten meters in length (Habu 2008, 127). Habu considered this increased energy expenditure towards the creation of the large structures as evidence of a more sedentary collector-type lifestyle as opposed to a more mobile, forager-type lifestyle, with the site serving as a main residential base.

The following Upper-Ento A-C phases saw the introduction of new features at the site, such as burial pits, burial jars, additional mounds, as well as raised-floor buildings. This was interpreted as the site shifting away from a residential center towards a more ceremonial one. While others like Okada (1998) saw this as evidence of an increase in settlement size, Habu considered this, combined with a decrease in the number of pithouses at the site, as well as a decrease in the number of sites associated with pithouses in the period, as an example of the site transitioning away from a residential base, indicating a possible shift back towards a forager-type subsistence strategy (Habu 2008, 128-29).

Determining the seasonality of sites is one method used to better understand the residential mobility of past groups. Seasonality studies help us to understand whether sites were occupied year-round, and if they were not, such studies could help determine what time of the year a site may have been occupied. Uchiyama (2006) provided an example that directly pertains to the Jomon people. Uchiyama examined the seasonality of the Jomon period Torihama site, in Fukui prefecture. Through the analysis of the bones of deer, boar, and migratory birds and fish at

the site, Uchiyama determined that the site was used several times a year by the Jomon people. Torihama was used as a residential base in the summer and autumn, and then used again in the winter and spring as a boar hunting camp. During the winter and spring, Uchiyama believes that the group split into smaller groups, with some smaller groups moving into upland regions during the winter.

Looking at the site from a long-term perspective, Uchiyama notes changes in the intensity of use at the site, including a decrease in midden deposits occurring at the end of the Early Jomon period. While the cause of this change is unknown, it does reflect a pattern of alternating clumped and dispersed settlements during the Jomon period. These variations in settlement, both on the smaller seasonal scale and the long-term scale spanning thousands of years, illustrates the fluid nature of mobility patterns over time, and should serve as a warning to be cautious when applying general assumptions related to mobility patterns and levels.

In addition, the reliance on faunal analyses to determine the degree of sedentism should be used cautiously. Amongst other issues discussed, Milner (2005) provides a hypothetical site where sheep, typically associated with late winter to early spring, are slaughtered during a two-week period in March; shellfish, seen as a late spring to summer food source, are gathered and eaten in May and June; and migratory swans, interpreted as autumn/winter game, are caught on a single day in November. This could result in the site being interpreted as inhabited year round, despite very little time actually spent in the area (N. Milner 2005, 34). While this is a simplified example, and interpretations might change depending on additional available data, it highlights ways in which the data needs to be viewed with open eyes and with the understanding that a possible explanation should be supported by additional lines of evidence.

Another drawback to methods that rely on faunal remains like Uchiyama's study is that preservation of those remains can be quite poor, especially in Japan. While the alkaline nature of shellmounds helps to preserve faunal remains, the acidic soil conditions in Japan can have a great negative effect on organic remains outside the contexts of shellmounds. Gallivan (2002) approached sedentism based on the diversity of six non-organic measures: lithic tool diversity, house floor area, post diameter, frequency of structure wall posts, frequency of interior house features, and pit volume. He posited that the diversity of feature types in a settlement likely parallels the range of household tasks performed in a settlement, offering a measure of residential stability. While tracking feature types at the site level introduces difficulties in maintaining a strict chronology, tracking features such as house floor area, post diameter, frequency of structure wall posts, frequency of interior house features, and pit volume can all be measured within dwellings, allowing for a better confined chronological context.

The descriptions of the different dwelling types, spatial relationships, construction, and lifespan from the ethnoarchaeological study of native groups in Southwest Madagascar by Kelly, Poyer, and Tucker (2006) provide an excellent lens through which to observe settlement sites, structures, and patterns of mobility in the archaeological record. The authors list several factors which relate to mobility levels, including site size, investment in house construction, artifact and feature diversity, and distance to trash disposal, among others.

Kelly et al. (2006) explain that households in southwestern Madagascar moved among multiple houses flexibly and that the different housing types were related to the duration of the intended stay. Villages, forest hamlets, seasonal hamlets, and forest camps were occupied at different times of the year, with the longest stays in the villages and the shortest stays at foraging camps. Permanent villages consist of several hundred to several thousand inhabitants. Forest hamlets are made up of approximately 3 to 20 houses, which can either be occupied year-round or seasonally, depending on the group. Seasonal hamlets are usually smaller, are occupied for shorter periods of time, and consist of more expedient housing. Foraging camps are located close to hamlets and consist of few, if any structures, which are intended to be used only on a temporary basis.

The intended length of stay at each of these settlement types affects the types of structures made at these sites. The authors specifically focused on house size, post hole size, post hole variance, numbers of main and secondary post holes, and variance in these numbers as indicators of investment in house construction (Kelly, Poyer, and Tucker 2006, 86).

In villages, wattle and daub, as well as reed thatched structures, predominate. These structures not only take considerable effort to construct, but the gathering of resources to construct these structures can take more time than the construction itself. Wattle and daub houses can last from 20-40 years with proper maintenance, but gathering resources to build these structures can take more than two months. Reed thatched dwellings are smaller and are constructed with lighter posts than wattle and daub houses, and take approximately two to four weeks to build. These structures are less robust than wattle and daub houses, requiring the thatch and often posts to be replaced after approximately three years.

Houses in forest hamlets tend to be somewhat small, with approximately 5m² of floor space and roof eaves from 1 to 2 meters high. These homes were often not tall enough to stand in. They were made with fewer posts than village houses, buried approximately 45 cm deep and had walls made of thatch, which was held in place by sticks woven through the posts.

Seasonal hamlets usually consisted of more temporary structures such as lean-tos, three sided boxes, A-frames or Quonset huts. These structures can have hearths, and similar floor space to forest hamlet houses, but often have lower roofs. and are mostly intended to protect from rain. They are built in a few days and last a season or so.

In relation to the intended permanence of a structure, Kelly et al. (2006) explain that not only is there a correlation between posthole size and dwelling permanence, as is shown in Figure 22, but that material types play an important role as well. If a structure is intended to last a long time, builders might choose insect-resistant wood, and tend to overbuild. Variation in the size of post holes can also be related to the intended duration of occupation. Temporary structures tend to be built with easily available materials, resulting in less standardized construction and a greater variation of posthole and configurations. Another factor possibly tied to mobility and intended duration of stay is dwelling size. Although there were no significant differences between the dwelling sizes of forest hamlets and seasonal hamlets, village dwellings are typically larger in southwestern Madagascar, and the researchers anecdotally state that village homes did appear to house more belongings.

The authors state that, "It has been clear for some time now that the transition from nomadism to sedentism is not necessarily quick, irreversible, or pervasive" (Kelly, Poyer, and Tucker 2006, 86). Accepting this, it is important for archaeologists not only to attempt to identify levels of sedentism, but to understand that mobility levels can change over time, requiring the need to monitor them for changes. Additionally, this study emphasizes the ephemeral nature of many archaeological remains. While changes in robust buildings might be able to be examined over time in the archaeological record, the only remains present from temporary shelters and camps might be a small scattering of debitage, if the camp is ever found at all.

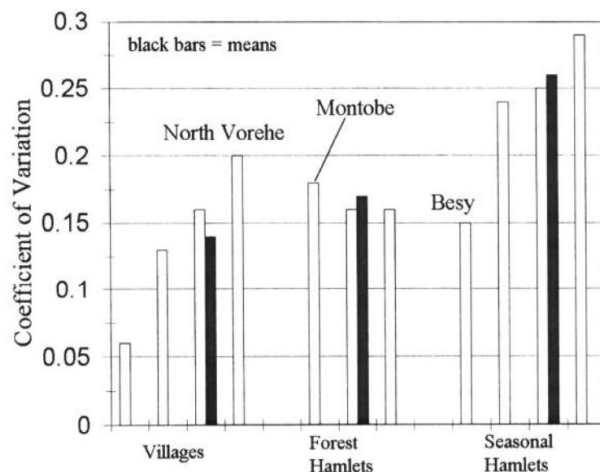


Figure 22 Histogram showing posthole diameter variation coefficients for villages, forest hamlets, and seasonal hamlets. Settlement posthole diameter coefficient means are indicated in white while settlement type posthole diameter coefficient means are indicated in black. (Kelly et al. 2006, pg. 94.)

Ames (1991) is another influential work investigating factors related to sedentism. Ames' study focused on properties of pithouses, as they were the main indicator of semi-sedentism in the American Northwest. Ames explains that semi-sedentary systems can have settlements that can appear as permanent as agricultural or industrial systems, with the main difference being that the locations are not occupied during all seasons of the year. The main measurements he based his analyses on included the floor area of the pit portion of the pithouse, the volume of the pit, population estimates based on total floorspace, total house volume which included the estimated space under the roofed structure (Figure 23), the pit volume divided by the population in the pithouse, or pitspace, and the totspace, which is the total house volume per person. Ames also utilized raw radiocarbon dates as well. Their integration wasn't as sophisticated as those previously mentioned, but the effort to include multiple lines of evidence is notable. In keeping with a holistic approach, Ames also describes other attributes related to hunter-gatherer residential patterns beyond a general measurement of sedentism, including the duration of how long a site is occupied per year, what seasons a site is occupied, how permanent, or how many times a site is

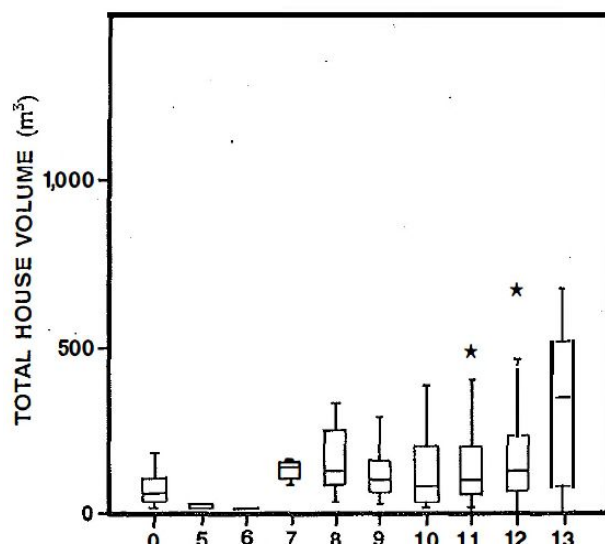


Figure 23 Total house volume box plots. 0 = no date; 5 = 8000-7000 B.P.; 6 = 7000-6000 B.P.; 7 = 6000-5000 B.P.; 8 = 5000-4000 B.P.; 9 = 4000-3000 B.P.; 10 = 3000-2000 B.P.; 11 = 2000-1000 B.P.; 12 = 1000-120 B.P.; 13 = 2000-120 B.P. (Ames 1991, pg. 125.)

reoccupied, the size and organization of a site, as well as how much time, labor, and materials were invested in a site (Ames 1991, 110).

The results of Ames' study are broken down into a number of smaller periods. From 5500 to 4000 B.P., sites were generally occupied year-round or during the winter, dwellings were occupied for 10 years or more, with signs of reoccupation appearing only after several hundred years of disuse. The dwellings at this time were the largest on average compared to other periods, and more than half of the houses were considered large, with an estimated 11-18 people living in these large dwellings (Ames 1991, 119). Hamlets are thought to have been comprised of between one to five dwellings, with a total population between 11 or 12 on the small side and over 70 individuals at larger hamlets. Ames believes that the organizational structure at the time focused on extended family, and points out that a considerable amount of energy was invested in the buildings at this time.

In the following period of 4000 to 3000 B.P., dwellings were generally only occupied for one or two seasons, typically the winter and/or the summer, although year-round occupation became more common towards the end of the period. Houses were smaller during this time. Small houses accounted for 60% of the dwellings, with an estimated population of 5-9 individuals per dwelling. Hamlets ranged from one to six houses or so, with a population ranging from 5 to 60 individuals. This time period correlates with a decreasing energy expenditure towards site development.

From 3000 to 2000 B.P., there is a shift back towards sites being occupied seasonally as well as year-round. It appears that the occupation of these sites was even shorter than the previous period, and the average size of dwellings in this period are smaller than any other compared, with 75% of dwellings considered small. Total hamlet population was estimated at between 5 and 50 people. Ames suggests that the majority of small dwellings present in this time period, as well as the one before it, suggests an organizational structure focusing on the nuclear family.

The final period of this study ranges from 2000 B.P. to 250 B.P., a time of significant changes. At this time, sites were occupied both year-round and seasonally, and were occupied for a short period of time, estimated at between one and four years. The average dwelling size increased slightly at this time, but there was a significant increase in size for the larger dwellings, including the introduction of extremely large dwellings which measured interior volumes of over 290m³. From 2000 to 1000 B.P., the percentage of large and extremely large dwellings increased from 34% to 42%.

During this time there are also examples of large groupings of dwellings together, with one site comprised of approximately 130 dwellings. Although these weren't all occupied at the same time, it demonstrates a shift to larger groupings of dwellings. Ames notes that not all of these structures are necessarily primary dwellings, suggesting their possible utility as sweat lodges, menstrual huts, and storage locations (Ames 1991, 125). This period shows a substantial increase in energy investment in dwellings. Ames suggests that this corresponded with a change in organizational structure that focused on corporate groups, and a split from a more egalitarian system.

Ames also found a series of changes through this research (Table 8). Ames states that in the earliest period, between 5500 and 3900 B.P., hamlets were comprised of between one and six larger dwellings that were occupied for relatively long periods of time (Ames 1991, 129). The following stage, which spanned from 3600 to 2200 B.P, saw a shift to smaller dwellings that were occupied for shorter periods of time. Although the number of dwellings remained relatively consistent with the previous period, Ames interprets this decrease in size as a decrease in population. He notes that storage features increased during this time, suggesting a stronger shift towards a collector-type subsistence strategy. From 2200 B.P., the number of dwellings started to decrease, but then, after several hundred years, the number of dwellings bounced back. At this point, extremely large dwellings were also introduced, and this is regarded as a time of significant population growth. The number of dwellings during this time is thought to fluctuate considerably, and the occupation periods of these dwellings were quite short.

During this 5000-year span, significant changes were taking place. Although a large amount of work was put into this analysis, Ames is quick to point out alternative explanations and possible issues with the study. For his population estimates, Ames provides three possible issues: there could have been issues with sampling errors; older structures might not have been preserved well and are not accurately reflected in the archaeological record; and residential patterns could have changed around 2000 B.P. which resulted in an increase of houses built without an increase in population.

Table 8 Dwelling data from Ames 1991, pg. 120.

	6000-5000	5000-4000	4000-3000	3000-2000	2000-1000	1000-120
N	6	18	24	31	74	73
Area						
n	4	12	17	19	65	71
mean	54.7	70.7	51.8	35.7	50.5	62.9
s	25.7	30	30.3	27.8	42.1	51.8
min	28.3	28.3	15.2	7.1	12.6	3.1
max	90	121	113.1	95	227	283.5
Volume						
n	4	12	14	19	49	51
mean	36.1	39.3	28.9	31.5	36.7	72.6
s	12.9	21.4	20.2	37.7	38.1	123.2
min	24	13.6	4.6	1.2	2.5	0.5
max	54	85.5	66	142.6	172.5	737.2
Population						
n	4	12	17	19	65	71
mean	10.4	12.1	10.1	8.3	9.9	11.3
s	2.8	3.2	3.3	3	4.5	5.6
min	7.6	7.6	6.1	5.3	5.9	4.8
max	14.2	17.5	16.7	14.7	28.9	35
House Vol.						
n	4	12	17	19	65	71
mean	139.2	163.5	126.3	119.1	150.2	200
s	32.3	100.4	78.5	111.1	130.7	234.7
min	98.1	38.8	33.9	19.1	20.8	8.7
max	167.2	334.3	296.3	391.4	766.7	1479.5
Total Space						
n	4	12	17	65	65	69
mean	13.8	12.9	12	13.3	13.3	14.9
s	3.6	6.6	5	5.6	5.6	7.9
min	9.1	5	4.6	2.9	2.9	1.7
max	13.8	22.7	20.1	26.5	26.5	42.2

During the final period of study, there was an increase in the number of houses as well as the introduction of extremely large houses. But at the same time, the occupation period is thought to have been as short as a single season in some cases. Without the ability to identify how many dwellings were being utilized at the same time, it seems very difficult to identify population growth from the data available. In regards to these changing residential patterns, Ames himself points out that increased mobility or an increased domestic cycle where families were constructing more houses over time could explain the apparent increase of houses in the archaeological record (Ames 1991, 116).

One last interesting note related to this study is that sedentism didn't correlate with site complexity. In the final phase described, the numbers of dwellings were increasing, the social structure of the groups shifted away from a focus on nuclear families to corporate groups, new energy-intensive structure types were being introduced, and yet the span of time that these structures were occupied was quite short. This pattern differs from others provided in this review and serves as a warning that assumptions must be taken with careful consideration, and should, as Ames has done, leave room for alternative interpretations.

Diehl (1992, 2001) focuses intensely on the topic of investment and how it relates to mobility patterns, and produces some results that contrast to those of Ames (1991). Moving beyond pithouse counts and size, Diehl (1992) also relied on data pertaining to construction materials and wall height in his examination of the relationship between architectural features and residential mobility. He stated that further measures such as wall thickness, support post diameter, and floor surface area would have been preferable to include, but these were lacking in the 39 sample societies used in the study (Diehl 1992, 6).

Diehl (1992) separated societies into three groups based on the number of residential moves per year. Of the societies used in this comparison, sedentary groups did not change residences, low mobility groups moved from one to twelve times per year, and high mobility groups moved twenty or more times per year (Diehl 1992, 8). Diehl found that high-cost dwellings were positively associated with longer use periods and negatively with short-term use, while medium-cost dwellings were positively associated with moderate use and showed a negative correlation with both long- and short-term use (Diehl 1992, 10). Diehl did not find a correlation between the variety of structure types and mobility, and contrasting with Kelly et al. (2006), Diehl did not find a correlation between floor area and mobility (Diehl 1992, 6).

Diehl delved further into the correlations between architectural features and mobility in 2001 by examining hearth construction, the presence of interior plaster, wall construction materials, the density of supporting posts per square meter, and the presence of remodeling of Mogollon pithouses (Diehl 2001, 41). A specific focus of the study was to examine both how long dwellings were occupied during the year, but also to try to determine how many years the dwellings might have been occupied (Diehl 2001, 39). Wall construction materials, support post densities, and remodeling are of particular interest in regards to Jomon pit houses. Diehl mentions the previous findings by Binford (1990) that more sedentary groups tended to use separate materials for walls and roofs, possibly related to stronger structural support needed for sturdier materials (Diehl 2001, 40). Support post density is seen by Diehl as both an increased investment in construction costs, as well as a method to facilitate repairs and maintenance. More

supports would reduce the strain applied per post, providing a longer use life. More posts would also make it easier to replace failing support posts, as adjacent posts would be able to bear more weight during the replacement process (Diehl 2001, 42).

From the Early Pithouse period (200-600 AD) to the Three Circle phase (825/850-100 AD) the percentage of dwellings with formal hearths, the percentage with signs of remodeling, the percentage of dwellings with interior plaster used, as well as the mean support post density, increased. This suggests that residential mobility decreased over time, while the length that dwellings were used during the year, as well as the total number of years the dwellings were used, appear to have increased (Diehl 2001, 46).

Compared to other studies mentioned, the work by Diehl appears to have the most direct correlation to this current study. Although some aspects, such as the use of plaster, don't have a direct correlation with Jomon period dwellings, there are still a number of measures which are applicable. The greater degree of rebuilding for Jomon period pithouses suggests longer periods of use. However, rebuilding can also make measures such as posthole density, and the examination of hearth configurations more difficult. Despite these difficulties, the study lays a good foundation for the current similar study on residential mobility during the Middle Jomon period.

Chapter 3 – Residential Mobility

1 – Introduction

Residential mobility can have a significant effect on population estimations, and as such, needs to be addressed in order to derive more accurate and reliable estimates. In this chapter, the portion of my research focused on residential mobility is introduced, as well as the materials and analyses used in this aspect of the investigation. To start this endeavor, excavation reports containing information on Middle Jomon period pithouses from the Tama New Town region were collected. Information on pithouse and posthole sizes were gathered from these reports and recorded for analysis. This data was then used to determine whether there were noticeable trends related to pithouse size, posthole size, posthole variation, as well as any changes related to the types of pithouses constructed over time.

2 – Materials

The core of the materials used in this study were identified using Kobayashi's (2012) Database of Colonies of the Middle Jomon Period in Tokyo, which focused on the Tokyo area. A total of 651 sources were listed in this study, but for the present study, the research was focused specifically on the 63 Tama New Town reports referenced in Kobayashi's database. Of these 63 reports, only 47 reports covering 41 sites contained specific information related to Middle Jomon pithouses. In the end, data for 887 pithouses was collected for the study. Of these 887 pithouses, data from 622 pithouses from 38 sites was used in the pithouse length analysis. Data from 585 pithouses at 37 sites was used in the floor space analysis. Finally, for analyses involving postholes, 1957 postholes were recorded from 404 pithouses, which came from 31 sites (Figure 24). The examination of hearth features was initially considered as another measure of sedentism, but difficulties in directly connecting hearth features to specific build phases made the measure difficult to determine and somewhat unreliable. The measure was therefore dropped from the current study.

Tama New Town Sites



Figure 24 Map of sites included in the pithouse analysis portion of the study. Created using QGIS (2020).

3 – Data Collection and Analysis

1 – Data Collection Method

1 – Pithouses

1 – Pithouse Types

While there have been other studies done on different pithouse types during the Middle Jomon period, such as that of Kushiara (2008), the goal in this study was to try to keep types as consistent as possible and to have this typology capture the differing levels of energy expenditure needed in the construction of these different types of buildings. Initially, pithouse types were divided into seven types, Pit (P-type), Wall (W-type), Main (M-type), Main/Wall (MW-type), Inset, Hand Mirror (HM-type), and Unknown (UK) (Figure 25).

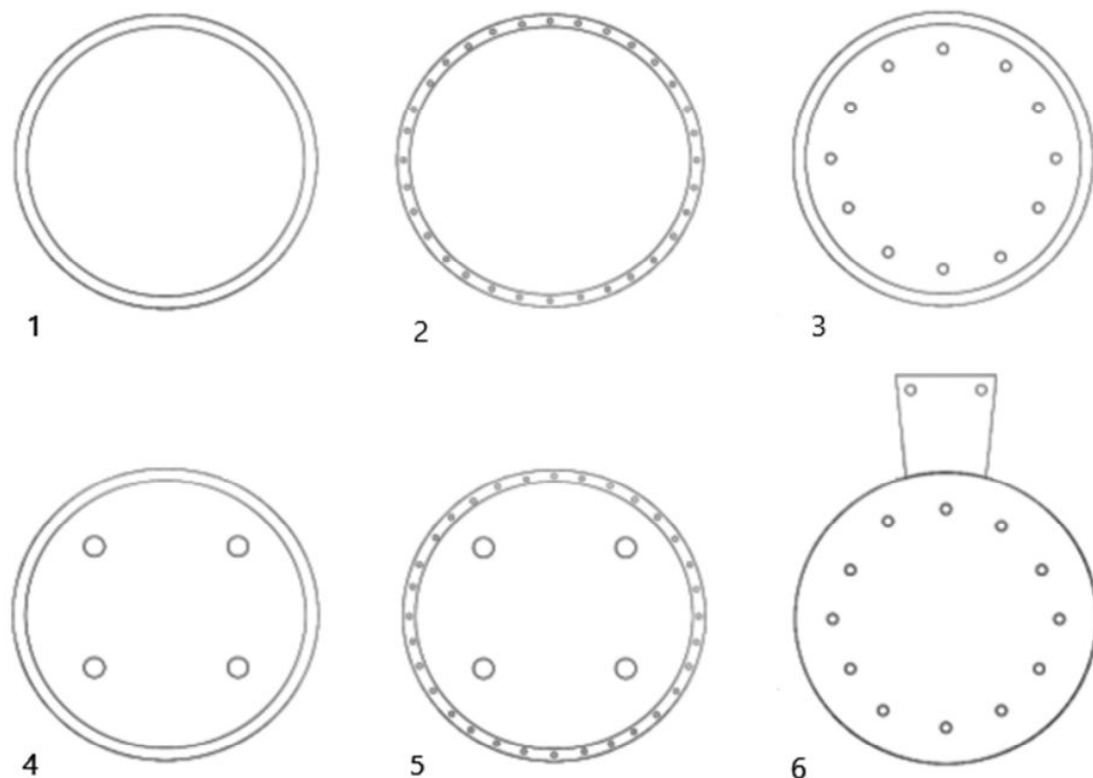


Figure 25 General pithouse types. From top left clockwise: 1. P-type, 2. W-type, 3. Inset, 4. M-type, 5. MW-type, 6. HM-type. Inset type was later combined with M-type.

P-type pithouses were identified as lacking any postholes. The main features would be the central dugout portion of the dwelling and an occasional hearth feature as well. If size is accounted for, this type represents the least amount of energy spent towards the construction of a pithouse, and as such, should be interpreted as being used for shorter durations of time, and having a shorter uselife compared to other pithouse types.

W-types were similar to P-types, in that neither had interior support posts or pillars, but W-types did include evidence of postholes around the circumference of the dwelling. These postholes were usually small and somewhat shallow. If preservation was poor, these types might only have a few clearly identifiable wall post traces, but these are usually accompanied by signs of a trench present where the wall posts were placed. Compared to other pithouse types of the same size, this type should be considered more energy intensive than the P-type, but less energy intensive than the Main, MW-type, and HM-types.

M-type pithouses are distinguished by the presence of larger postholes present within the interior of the dwelling. Main postholes are usually identified from the diameter and depth of the postholes as well as their placement. A variety of configurations exist for the placement of interior postholes, and when rebuilding is present, it can be difficult to determine which postholes belong to which phases. The work required to source and process the timber used in the construction of this pithouse type, as well as the time and energy required to dig the holes

required to place these main pillars, sets this type aside from the previous Pit and Wall pithouse types. It's important to note that, in addition to the larger interior posts present in this type, additional tie beams connecting these posts at the top would also be a part of the dwelling types, requiring additional energy.

The next pithouse type is the MW-type. The main factor differentiating M-types from MW-types is the presence of wall posts in the MW-types. The addition of these wall posts would have required additional energy and might have affected how the superstructure of the dwelling was constructed as well. The presence of wall posts might also indicate that separate materials are used on the walls and the roof, which might be indicative of a greater degree of sedentism according to Binford (1990). As such, if the size of the dwellings, the number of main posts present, and the size of the main posts were comparable, the MW-type pithouses were considered to be more energy intensive to construct than the M-type pithouses.

The final type of pithouse present in the Tama New Town Middle Jomon sites was the Mirror, or HM-type. From the viewpoint of energy expenditure, there are some confounding factors present in this type. The HM-type pithouse type gets its name from the extended entryway attached to the main dwelling. Normally, this might be somewhat difficult to distinguish, were it not for another key identifying feature of this type, floors that are paved with stone cobbles. The time and energy required to find, transport, and place these stones is not insignificant. This might indicate that a HM-type of the same size as a Main or MW-type might require a greater energy expenditure to construct. However, HM-types typically lacked the large interior support posts present in the Main and MW-types. Post arrangement for these HM-types were generally closer to the previously mentioned Inset types. Additionally, in excavation reports, it was quite rare for the main postholes of HM-types to be clearly identified, which prohibited posthole data from HM-types from being analyzed and compared to the Main and MW-types. This is a weakness which will be discussed in later chapters.

During the initial phases of data collection, there appeared to be a significant difference between the Inset types and the M-types. While M-type pithouses generally had between four to six main pillars, the Inset type pithouses had more than six posts. These posts were generally smaller in diameter than the M-type posts and were slightly inset from the walls. These posts were spaced fairly evenly, and appeared to be arranged in a roughly circular shape. However, as data collection proceeded and larger pithouses were encountered, the number of pithouses with seven or more larger "main" post sized postholes increased. This caused some inconsistencies with the previous description of M-type pithouses as having a maximum of six or seven main postholes. Larger buildings required more postholes, and rather than having to incorporate additional descriptive rules for pithouse types as they increased in size, I decided to combine the Inset types with the M-types. The Inset type not only had relatively substantial support posts, but typically had more of them than M-types of the same size. From an energy investment standpoint, the Inset type shared more in common with the M-type than the W-type or P-types. Combining the Inset and M-types reduced the total number of types in the study down to six: P-type, W-type, M-type, MW-type, HM-type, and Unknown. Table 9 shows how the numbers of pithouses were broken down by type.

Table 9 Pithouse counts and measures by type.

Pillar Position	n	Average Length	Min. Length	Max. Length
P-type	19	3.819444	2.4	5.15
W-type	29	4.440714	2	6.3
M-type	332	4.747987	1.6	9
MW-type	250	5.252558	2.9	9.6
HM-type	37	4.60963	2.1	7.2
UK	59	4.301	2.3	6

Even with these broad generalized categories in place, pithouse types could still be difficult to determine clearly. For instance, pithouse P269-1185-1 only consisted of wall posts, but unlike other W-type pithouses, some of the wall posts appear to have been just as big as main central posts in other dwelling types (Figure 26). In this analysis, generally W-type pithouses are seen as being less energy intensive to be built compared to M-type pithouses. However, in the case of P269-1185-1, that generalization isn't so clear. In this case the dwelling was recorded as a W-type, but the large main posts that comprised the wall were recorded as main posts.

Pithouse P269-2007-1 has another interesting configuration (Figure 27). Main postholes are present and there are two rings of wall posts, both interior and exterior to the wall trench. The main posts also appear quite narrow in diameter. For estimating energy expenditure, the current study would only take into account the presence of the main posts as well as the presence of additional wall posts. In this case, the smaller diameter main posts here would be used in the analysis. But the energy required to put in two rings of wall posts, as well as whatever superstructure would be connected to those posts, would not play a role in determining energy expenditure. This is another drawback that will be discussed later.

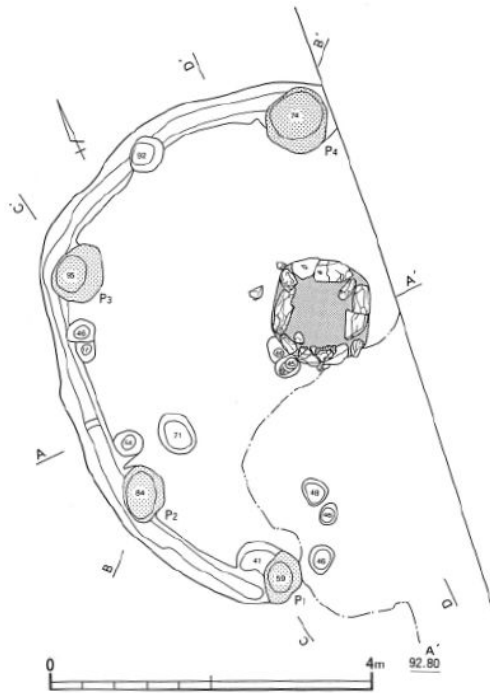


Figure 26 Pithouse P269-1185-1 displaying larger than usual wall posts. (ref 49.3 pg.170.)

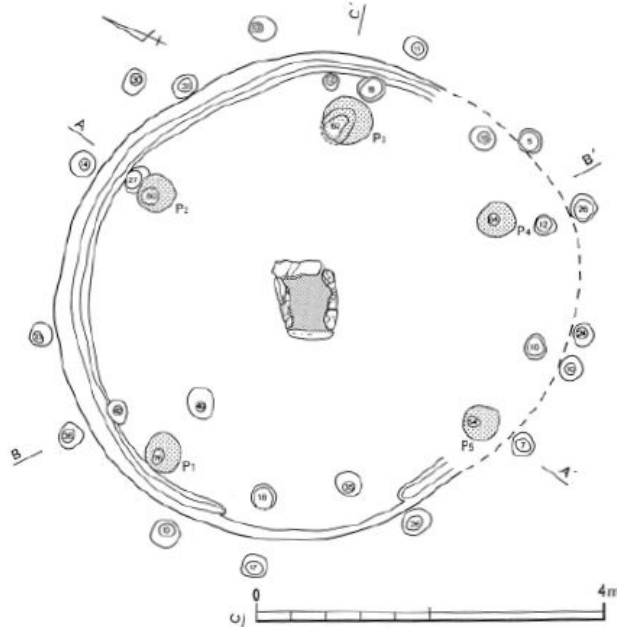


Figure 27 Pithouse P269-2007-1 displaying two rings of wall posts. (ref 49.3 pg. 218.)

2 – Pithouse Building Phases

A difficult yet very important issue involved in working with pithouses is determining how repairs and rebuilding were defined and addressed. The main issue here is whether pithouses showing evidence of rebuilding should be treated as a single dwelling, or whether each construction phase should be treated as an independent building. There are benefits and drawbacks of each approach, and there isn't a clear-cut answer about which method is better.

By subsuming multiple build phases into a single dwelling, you acknowledge that these buildings aren't static objects and that they have their own dynamic life cycles. It is not only plausible, but highly likely that there are instances where, as a pithouse breaks down over time, the family living there would replace weak sections. One or two posts might be replaced, slightly offset from the previous posts, which would yield the overlapping postholes often seen in excavated pithouses. At the time of repair, a family might decide that they wanted to expand the dwelling, which would result in additional posts, or further offset posts to one or more sides along with new corresponding wall sections. The expansion of a dwelling would change the interior dimensions of the home, requiring the interior hearth to be shifted or placed in a new location. These actions didn't take place at all pithouses, and there are a number of examples that show no evidence of rebuilding or repair at all. Looking at the issue from this point of view, it makes perfect sense to count multiple building phases as a single pithouse instance.

The trouble here lies in the types of data and degree of certainty of that data that is available to archaeologists. As previously mentioned, repairs and rebuilding are usually identified through overlapping or closely adjacent postholes, multiple hearth features, or multiple wall features. In situations where postholes overlap, we are sometimes able to determine the order in which the postholes were made, but the same determination can't be made for separate postholes that are adjacent to each other. Likewise, if there are multiple postholes that have been replaced, we might assume that they were replaced at the same time, but we can't necessarily be certain. There are also situations where there are no obvious correlations or relationships between postholes at all. In these situations, there's no way to determine whether there was a relationship between the original builders and subsequent ones.

Although Jomon ceramic typologies have been thoroughly researched and, in some cases, sub-century phases have been identified, even this level of precision leaves a large degree of uncertainty concerning the dating of pithouses. Pottery present inside a dwelling might be remnants of previous occupations at the site, resulting in the presence of several styles. Even if the associated pottery was of a single type, the time span associated with that pottery type can also far exceed the lifespan of a typical pithouse, which Muto (1995) estimates as only lasting between one to three years before repairs or rebuilding would need to take place. With the timeframe of a single pottery type outlasting the general pithouse, the presence of multiple pottery types yields a time frame spanning far longer than the actual amount of time that the dwelling was occupied.

The crux of the issue here is that for pithouses to be used as data for population estimations, you need to be able to apply the concept that one pithouse represents one family unit. In the context of a fully sedentary permanent structure, this isn't a problem. Unfortunately, applying the same standard to pithouses belonging to semisedentary groups introduces a degree of uncertainty which must be addressed. From an archaeological perspective, for each build phase, we don't know how long the dwelling was occupied, we don't know if subsequent build phases immediately followed periods of occupation or if there was a period of dormancy between the periods of occupation. If there were periods of dormancy, it's difficult to tell how long that period was. At this point it's important to note that the scale of investigation plays a large role in which approach is more applicable to one's research goals.

Depending on the material being investigated, a well preserved and carefully excavated pithouse can yield detailed information, allowing a better understanding of the relationships between build phases. Kobayashi (2008, 2012) delves quite deeply into the lifecycle of Jomon period pithouses and provides several examples where detailed analysis has been able to differentiate between pithouse repairs, renovations, and total rebuilds. This type of research is incredibly important and valuable to the field. Unfortunately, this degree of analysis hasn't been applied to all pithouses in the Tama New Town region, which prevents that high standard of analysis being used for broad scale analysis. When undertaking a broad investigation which utilizes a range of different sources without any shared standard of practice, it is nearly impossible to replicate the same degree of precision possible in a smaller, more focused study. In these situations, the goal should be to try to make the data included in the analyses as detailed and specific as possible, while still ensuring that the data is comparable across sources. The other problem here is that even if one is able to differentiate between a renovation and a rebuild, it is

difficult and sometimes impossible to tell whether the action took place during the course of occupation, or if the dwelling was left dormant or abandoned for a period of time before being rebuilt in the same location.

Therefore, I felt it was best to stick as closely to the direct evidence as possible. When evidence of rebuilding was present, each rebuilt phase was treated as a separate dwelling instance. This isn't to say that each phase is representative of a new or different family unit, but rather each building phase is representative of one period of occupation. Rebuilds are identified during data recording, which allows different build phases to be combined in future projects, if need be.

Even after this determination is made, there is still the issue of distinguishing rebuilt phases from what might be considered pithouse repairs. Differentiating between repairs and rebuilds can be difficult. Some reports include numerous post replacements as a single phase, while others such as P269-1193-1 might count a single post replacement as a separate phase (Figure 28). There are a variety of different patterns of rebuilding present in excavation reports. There are examples of dwelling expansions, where some posts appear to have been reused, while newer posts were located further away from previous posts, increasing the floor area of the dwelling. There are examples of multiple posts being replaced in the dwelling, either using the same area where the previous posthole was, or by placing a new post in an area adjacent to the previous post. There are also examples of completely new dwellings being built in the same location as previous dwellings. In this situation, the post configurations might be different from phase to phase and the dwelling sizes might be different as well.

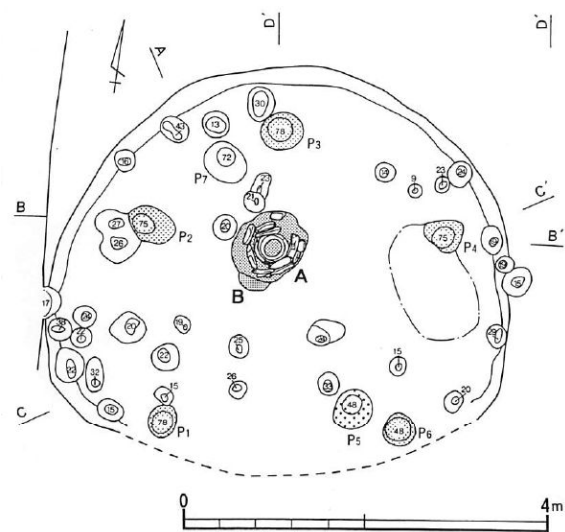


Figure 28 Pithouse P269-1193-1. (ref 49 pg. 159.)

In this study, if a single post appears to have been replaced in the same general location as a previous post, this was still treated as the same single building phase. If multiple postholes appear to have been replaced however, this was treated as a separate dwelling phase. This general rule was applied on the basis of main post percentage numbers. In a four-post structure, replacing two posts means replacing a full 50% of the dwelling's structural support. In a five-post structure, replacing two posts is replacing 40% of its structural support. Even in a six-post structure, you are still replacing a third of the main supports. In all cases, this is a significant and likely highly disruptive task.

The approach is rooted in the previous discussion of investigation scale. If all pithouses were excavated to the same degree of precision, and the interpretations of those results were made by individuals with the same level of expertise in regards to pithouse architectural

interpretation, each pithouse might be able to be approached in a case-by-case manner. However, in order to make the results as comparable as possible, we must attempt to avoid inserting additional interpretational bias into a process which already has a fair amount of bias due to differing levels of preservation and archaeological recording. Therefore, I decided it would be best to implement this methodology for differentiating between pithouse repairs and rebuilds.

3 – Pithouse Time Periods

Once pithouse build phases are determined, the next step is dating them. This is a crucial step in order to identify trends in pithouse counts or changes in pithouse architecture. In order to be as accurate and precise as possible, there are a few important things to consider in this process. The first step is to understand that, no matter how good the dating might be for the pithouse, there is going to be a degree of uncertainty present which needs to be factored into the process. The system needs to be able to incorporate time periods of different lengths as well. In the following chapter, I will discuss in detail how this recorded data is incorporated into the broader analysis. But with regards to pithouse dating, it is important to establish a recording framework that is able to handle the issues of variable time period lengths and varying levels of uncertainty.

For each pithouse build phase, the period assigned in the excavation report is recorded, and each pithouse phase is assigned a starting and ending phase. In situations where dating might be somewhat unclear, reports will sometimes assign pithouses to main Jomon period phases, such as Early, Middle, or Late Jomon. These can be further divided into small subphases, such as the first or second half of a primary Jomon period. Further refined subphases include the start of a period, the early, middle, or late portion of a period, or the end of a period. As pithouses are generally dated according to associated pottery type phases, these pottery phase names are used synonymously as pithouse date identifiers.

Once general starting and ending periods are assigned, the next step is to correlate that nominal period data with corresponding numerical values. Kenichi Kobayashi (2019) has done extensive work attempting to match Jomon pottery phases with associated radiocarbon dates. Kobayashi's (2019) research is used as a basis for the calibrated radiocarbon dates assigned in this project. Individual pottery phases were matched to the numerical values provided by Kobayashi (2019), and some of the broader named subdivisions were able to be directly matched as well. There were instances where a direct comparison was not able to be made, at which point additional interpretive decisions had to be made. While Kobayashi (2012) listed the number of pithouses in each time phase at each site, it did not include information identifying which specific pithouses were assigned to which phases. As such, pithouse phases had to be interpreted from the listed data in excavation reports which was then correlated with the calibrated dates provided in Kobayashi (2019). Table 10 shows the phases and dates used in this project, and specifically explains how phases not included in Kobayashi (2019) were interpreted.

Table 10 Project dating table providing dates for each period used in this analysis and explaining how phases not included in Kobayashi 2019 were interpreted.

PotteryTypeJpn	PotteryType	calBPmax	calBPmin	span	Notes
五領ヶ台 1 式	Goryogadai 1	5415	5360	55	Kobayashi 2019 C1 期
五領ヶ台 2 式	Goryogadai 2	5360	5310	50	Kobayashi 2019 C2~4 期
勝坂 1 式	Katsuzuka 1	5310	5230	80	Spans both C5 期 (落沢式) and C6 期 (新道式)
落沢式	Serizawa	5310	5270	40	Kobayashi 2019 C5 期
新道式	Shinmichi	5270	5230	40	Kobayashi 2019 C6 期
勝坂 2 式	Katsuzuka 2	5230	5100	130	Spans both C7 期 (勝坂 2 式古(藤内 1 式)) and C8 期 (勝坂 2 式新(藤内 2 式))
藤内 1 式	Tounai 1	5230	5200	30	Kobayashi 2019 C7 期
藤内 2 式	Tounai 2	5200	5100	100	Kobayashi 2019 C8 期
勝坂 3 式	Katsuzuka 3	5100	4950	150	Spans both C9a 期 (勝坂 3 式(井戸尻 1 式)) and C9b 期 (勝坂 3 式(井戸尻 3 式・終末))
井戸尻 1 式	Idojiri 1	5100	5030	70	Kobayashi 2019 C9a 期
井戸尻 3 式	Idojiri 3	5030	4950	80	Kobayashi 2019 C9b 期
勝坂式終末	Katsuzuka End	5030	4950	80	Kobayashi 2019 C9b 期
加曾利 E1 式	Kasori E1	4950	4860	90	Spans C10a 期 (加曾利 E1a 式・曾利 I 式古), C10b 期 (加曾利 E1b 式・曾利 I 式新), and C10c 期 (加曾利 E1c 式・曾利 II 式古)
加曾利 E1 式前半	Kasori E1 Early	4950	4905	45	Treated as first half of 加曾利 E1 式
加曾利 E1 式後半	Kasori E1 Late	4905	4860	45	Treated as last half of 加曾利 E1 式
曾利 I 式	Sori 1	4950	4890	60	Kobayashi 2019 split 曾利 I 式 into 2 phases, C10a 期 (加曾利 E1a 式・曾利 I 式古) and C10b 期 (加曾利 E1b 式・曾利 I 式新) which were combined to create 曾利 I 式
曾利 II 式古	Sori 2 Old	4890	4860	30	Kobayashi 2019 C10c 期
加曾利 E2 式	Kasori E2	4860	4730	130	Kobayashi 2019 C11 期
加曾利 E2 式古	Kasori E2 Old	4860	4770	90	Kobayashi 2019 C11ab 期
加曾利 E2 式新	Kasori E2 New	4770	4730	40	Kobayashi 2019 C11c 期
加曾利 E2 式前半	Kasori E2 Early	4860	4770	90	Nomenclature used in excavation reports, matched to C11ab 期 (加曾利 E2 式古)
加曾利 E2 式後半	Kasori E2 Late	4770	4730	40	Nomenclature used in excavation reports, matched to C11c 期 (加曾利 E2 式新)
曾利 II 式新	Sori 2 New	4860	4770	90	Kobayashi 2019 lists 曾利 II 式新, 曾利 III 式, and 連弧文系最盛期 in the same phase C11ab 期, which is used here

曾利 III 式	Sori 3	4860	4770	90	Kobayashi 2019 lists 曾利 II 式新, 曾利 III 式, and 連弧文系最盛期 in the same phase C11ab 期, which is used here
連弧文系最盛期	Renkomon	4860	4770	90	Kobayashi 2019 lists 曾利 II 式新, 曾利 III 式, and 連弧文系最盛期 in the same phase C11ab 期, which is used here
加曾利 E3 式	Kasori E3	4730	4540	190	Kobayashi 2019 C12 期
加曾利 E3 式初頭	Start of Kasori E3	4730	4700	30	Kobayashi 2019 C12a 期
加曾利 E3 式前半	Kasori E3 Early	4730	4635	95	Treated as first half of 加曾利 E3 式
加曾利 E3 式後半	Kasori E3 Late	4635	4540	95	Treated as last half of 加曾利 E3 式
加曾利 E3 式新段階	Kasori E3 New Stage	4600	4540	60	Treated as C12c 期
曾利 IV 式	Sori 4	4730	4600	130	Kobayashi 2019 split 曾利 IV 式 into 2 phases, C11c 期 (曾利 III 新~IVa 式) and C12a 期 (期曾利 IVb 式) which were combined to create 曾利 IV 式
加曾利 E4 式	Kasori E4	4540	4490	50	Kobayashi 2019 C13 期
加曾利 E 式前半	Kasori E First Half	4950	4720	230	Ends at midpoint between start of 加曾利 E1 and end of 加曾利 E4
加曾利 E 式後半	Kasori E Latter Half	4720	4490	230	Starts at midpoint between start of 加曾利 E1 and end of 加曾利 E4
曾利 V 式	Sori 5	4540	4490	50	Kobayashi 2019 C13 期
中期	Middle Jomon	5415	4395	1020	Time frame based on Kobayashi 2019 C1 期~14 期
中前期葉	Early Middle Jomon	5415	5075	340	Treated as first third of 中期
中期中葉	Mid Middle Jomon	5075	4735	340	Treated as middle third of 中期
中期後葉	Late Middle Jomon	4735	4395	340	Treated as last third of 中期
中前期半	Middle Jomon First Half	5415	4905	510	Treated as first half of 中期
中期後半	Middle Jomon Latter Half	4905	4395	510	Treated as second half of 中期
晩期初頭	Start of Final Jomon	3245	3130	115	Treated as B1 期 (安行 3a 式) from Kobayashi 2019
称名寺式	Shomyoji	4490	4235	255	In Kobayashi 2019 称名寺式 spans two phases, C14 期 (K1 期) 加曾利 EV 式・称名寺 1-2 段階 and K1~3 期 称名寺 2 式 which are combined for this phase
堀之内 1 式	Horinouchi 1	4235	4050	185	Kobayashi 2019 K2 期

There is an additional point that needs to be addressed when it comes to HM-type pithouses. This pithouse type is often thought to coincide with the introduction of the Kasori E1 pottery type (Yamamoto 2010). Kobayashi (2019) identifies this pottery phase as starting around 4950 calBP. The excavation reports, however, sometimes included a larger time span or earlier possible starting dates than Kasori E1. While there is a possibility that later examinations of excavated pottery might have further refined the dating of these HM-type pithouses, moving them more inline with Kasori E pottery phases, this study relies on the dating provided in the original excavation reports. As such, it allows for the possibility of starting dates before the introduction of the Kasori E pottery type.

These starting and ending dates for each pithouse serve as the bookends for the range of dates to be sampled, but before that, there was one additional factor that needed to be addressed. Pithouse topology, or the relationships between pithouses, is a necessary piece of information in order to assign accurate and consistent dates. Pithouse topology is generally identified through site stratigraphy. For two overlapping features, the feature that cuts into the neighboring feature is considered to be newer. For pithouses, overlapping features such as housepits, postholes, hearths, and walls are used to determine these relationships.

There are a few reasons why determining this relationship between pithouse build phases is important. The first reason involves the accuracy of assigned pithouse dates. Imagine two overlapping pithouses at a site, pithouse A and pithouse B. Both of these are dated to the same period, but the excavation clearly shows that features from pithouse B cut into pithouse A. This indicates that Pithouse B is clearly newer than pithouse A. However, even though we know that pithouse A is older than pithouse B, because both pithouses are assigned to the same period, a random sampling of that time period range might result in dates that would show pithouse B as older than pithouse A. These same results might occur in an instance of pithouse rebuilding, where a random sampling of the date range results in the original build phase being assigned a newer date than the subsequent rebuild phase. To avoid these situations, the topological relationships between pithouses and pithouse build phases must be identified and preserved.

The second reason why identifying and preserving this topological data is important deals with the precision of pithouse dating. For this example, we'll look at two real world examples, pithouse P269-1138-1 and pithouse P269-1134-1 (Figure 29). The dating of pithouse P269-1138-1 was somewhat unclear, and it was assigned to a possible timeframe encompassing the entirety of the Middle Jomon period, which ranged from 5415 to 4395 calBP, a span of approximately 1000 years. The dating of pithouse P269-1134-1 was more precise and was identified as being from the Kasori E3 period, which ranged from 4730 to 4540 calBP, a span of approximately 200 years. Looking at the topological relationship between the two pithouses, though, shows that P269-1138-1

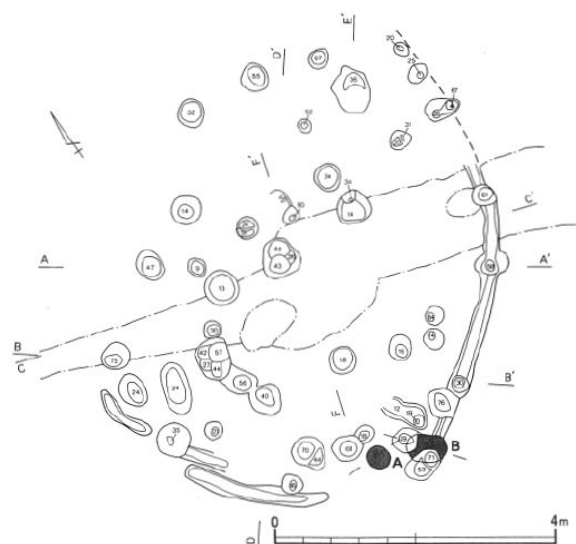


Figure 29 Pithouse P269-1134-1. (ref 49 pg. 138.)

was built after P269-1134-1. This means that the very earliest that P269-1138-1 could have been built was 4730 cal BP. By understanding and using the topological relationships of the pithouses, not only can we ensure that P269-1138-1 isn't assigned an earlier date than P269-1134-1, but we have also significantly refined the possible time frame in which P269-1138-1 was built to 4730 to 4395 cal BP, a span of only 335 years.

2 – Postholes

The goal of taking posthole measurements is to learn more about the posts that were placed in these holes, which in turn helps us to learn more about the pithouses themselves. Because the preservation of the posts themselves is quite rare, in most cases the remaining postholes are the best alternative data source available to researchers. This isn't a straightforward process however, and there are a number of challenges in gathering posthole dimension data from excavation reports.

To the detriment of this study, recording posthole measurements isn't a priority in all excavation reports. While some reports are quite thorough, providing individual posthole ID numbers for most posts, and including a table of measurements for those posts, other reports provide only generalized information, such as a range of depths or diameters. Unfortunately, there are times when posthole data simply isn't recorded and that pithouse is not able to be used in the posthole analysis. More often than not, though, there is at least some data to work with, which allows for deficiencies to be addressed and overcome in the data collection process.

1 – Getting Started

The first issues to discuss when using posthole data in this analysis is that they aren't a direct measurement of the posts that they supported. There are occasions where a fairly exact outline of the post remains intact and is visible, but these stovepipes, as they're referred to, don't always occur, so it is best not to hold out for these instances when conducting a study comparing a large number of postholes across multiple sites. The next best alternative is to try to get as close to those often-unknowable measurements as possible with the information available. The primary posthole measures of this study are posthole diameter and posthole depth. Secondary measures, such as posthole volume, and posthole size variation, are derived from the initial two measures of diameter and depth.

Because of the differing levels of detail pertaining to postholes in the Tama New Town excavation reports, a large proportion of data was derived from plan drawings. Plan drawings were used in the identification of primary postholes, distinguishing which postholes were associated with which build phases, the diameters of the postholes, and whether enough of the pithouse was excavated or survived to be included in the posthole portion of analysis. While profile drawings sometimes captured posthole depth, not all postholes had associated profile drawings, and the portion where a posthole was bisected wasn't always at its deepest depth, or in the location where the pillar was most likely located. Therefore, posthole depth was recorded from either the narrative description of the pithouse or posthole dimension tables, if present. Profile drawings were used to confirm how posthole depth was measured in certain circumstances, which will be discussed later.

Although a certain amount of interpretation was required in determining which postholes would be measured and how they would be measured, the process should be as open and reproducible as possible. For each posthole measured, both the excavation report

reference as well as the figure number of the plan drawing that was measured was recorded. Features measured for analysis have scaled according to the scale bars presented in each plan drawing, and those scale bar measurements were recorded for each plan drawing used.

On rare occasions, mistakes in scale bars were found, such as in dwelling P272-1106-1. In this instance, there were three build phases present, but in the drawing for the initial build phase, a different-sized scale bar was displayed. Matching features from the different build phase drawings were compared, indicating that the dwellings were all drawn at the same scale and that the scale bar was incorrectly sized. In situations like these, the issues are addressed in the notes, and in this particular case, a matching scale from the other phases was used.

Other mistakes included postholes being misidentified or labeled. For pithouse P272-1117-1 one of the main postholes described in the report was P17. However, P17 wasn't shown in the plan drawings for that pithouse. P7 however, which was not listed as a main posthole, was shown in the plan drawing and located in an area consistent with other main postholes. The assumption that there was a mistake in the report and interpreting P7 as a main posthole was again recorded in the notes. A careful balance should be maintained between having a skeptical eye towards excavation report content and putting a certain degree of trust in the excavators and reporters. Not all information is included in reports, and it is impossible to know whether there are certain unmentioned extenuating factors or circumstances that influenced the interpretations of archaeological features in the reports. Therefore, in attempting to keep the process as consistent and open as possible, the data gathered for this study follows the excavation report interpretations in most cases. In situations where a different interpretation was applied, the deviance is noted and explained when deemed necessary.

Aside from determining which individual postholes should be omitted or included in the study, there were also situations where a decision was made to omit all posthole data from the study. In these circumstances, the issue at hand was of proper representation. Not all pithouses are completely excavated, and if the state of preservation is poor enough, even fully excavated pithouses can be missing enough features to cast doubt on whether the features remaining accurately represent the true range of measured values. For this study, I determined that over 50% of anticipated main posts should be present in order to include the posthole data for analyses. For example, if a pithouse was thought to have originally included 4 posts, and only 3 were present, that data could be included. However, if a pithouse thought to have originally included 4 posts only had two present, that posthole data was not included, as only half of the expected postholes were present. Not only is it difficult to determine whether the remaining postholes were representative of all postholes in situations where 50% of postholes or less were all that remained, but to determine size variation, sample size is very important. Therefore, 2 posts seemed too few to reliably assess posthole size variation.

2 – Identifying Primary Postholes

The original concept of collecting and analyzing posthole data for this study included all postholes and posthole types, and initially posthole data for posthole types other than main postholes were collected. This practice was discontinued partway through the collection process however, and the data was removed from the database. The reporting practices and methods of wall posts, secondary support posts, and posts associated with entryways were quite irregular. As a result, an accurate comparison across pithouses and across sites using

these other post types would be difficult, if not impossible. With a new narrowed focus towards main posthole types, the first obstacle lies in identifying them.

Primary type postholes were generally identified either on the plan drawings themselves, or in the narrative section describing the pithouse. In some circumstances, primary postholes weren't explicitly identified, but could be easily interpreted from the report narrative and the plan drawing. If a pithouse was described as having four primary postholes and there were four postholes of appropriate size spaced evenly on the pithouse floor, it was safe to assume that those four postholes were the primary postholes identified in the report. Unfortunately, the identification of primary postholes wasn't always so easy, especially when there was evidence of repairs or rebuilding.

One of the first problems encountered when repairs or rebuilding occurred at a pithouse was when primary postholes were identified in the report, but there were multiple overlapping postholes present at the location identified. Although my initial plan in these instances was to make strict rules regarding which postholes were selected as main postholes, as I proceeded through reports, I found doing so would most likely produce results that were less accurate overall.

In some situations, choosing the innermost posthole seemed the best course of action. An overly large hole is more likely indicative of an area being dug out rather than the actual size of the base of the post. In other cases, however, if all other posts are of a similar diameter, but the innermost overlapping posthole is significantly smaller than the others, to the point where it wouldn't provide much structural support, then choosing the innermost posthole might be misguided.

Another possible method of identifying primary postholes would be to use posthole measurement consistency as a guide. Reports sometimes identify certain postholes as possible primary postholes, but the shallow depths of the postholes made it difficult to confirm. Obviously, larger posts buried deeper in the ground would provide more structural support than smaller posts that aren't buried as deep. But there were occasions when primary posts used were at times smaller, or were sometimes buried at a more shallow depth than usual.

P272-1066-1 provides a good example (Figure 30). The plan drawing is straightforward, the dwelling lacks extraneous posts that can cause difficulties in the interpretation of the pithouse, and its designation as a six-post structure seems justified. Although the number of postholes is limited, the depths of these postholes vary significantly, ranging from 23 cm to 77 cm. In two locations on the north side of the dwelling, there appear to be additional postholes, requiring an additional interpretation and selection of which postholes are the primary postholes in those areas. In both locations, there are shallow irregular holes and deeper more regular holes. The deep postholes measure 77cm and 75 cm, while the shallow posts measure 49 cm and 39 cm, respectively. Based on location, the deeper posts appear to be a better choice for main postholes. Based on depth consistency, the shallow posts provide a more consistent fit as the depth of three of the remaining four postholes are 36 cm, 23 cm, and 30 cm. On the opposite side of the dwelling however, the posthole is 64 cm deep, matching more closely to the deeper postholes. In a situation like this, it's quite difficult to be certain which postholes were the initial primary postholes, but it is apparent that the dwelling exhibited significant variation in posthole depths.

At the same site, P272-1062-1 provides another example (Figure 31). This dwelling also had a set of extraneous postholes which were significantly deeper than the postholes located in areas more consistent with primary postholes. In the southern corner of the dwelling, there were two adjacent postholes, one with a depth consistent with the other primary postholes for the dwelling and another that was more consistent with the deeper postholes present in the dwelling that were considered non-primary postholes. While there is definitely a possibility that rather than consistent groupings, more variation in posthole depth could have been present, this seems somewhat unlikely. This leads us to an issue of circular reasoning. In order to determine whether materials used in construction were standardized, you must allow for the inclusion of data that doesn't necessarily fit with the most consistent results. However, considerations of posthole depth, spacing, and orientation should undoubtedly influence how postholes are interpreted in a dwelling.

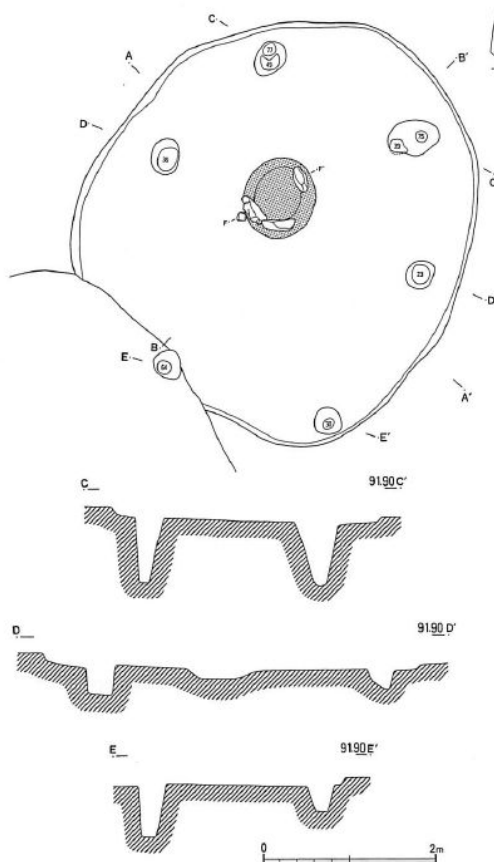


Figure 30 Pithouse P272-1066-1 (ref 52, pg. 527.)

Using set predetermined standards to retroactively identify what is or isn't a primary posthole limits the very real possibility of variation in the past. One of the goals of this study was to determine how posthole size varied over time. Therefore, imposing strict limits stating that a primary posthole must be a certain depth or diameter would run contrary to that aspect of this study. Strict rules would help to eliminate personal bias, but if the rules themselves are imperfect or not applicable in most circumstances, they could introduce their own additional bias.

Therefore, it seemed the best practice was to follow the report when possible, and when there was uncertainty present, or when there appeared to be a mistake present in the report, I relied on my own interpretation, noting the uncertainty or break with the report, and explained

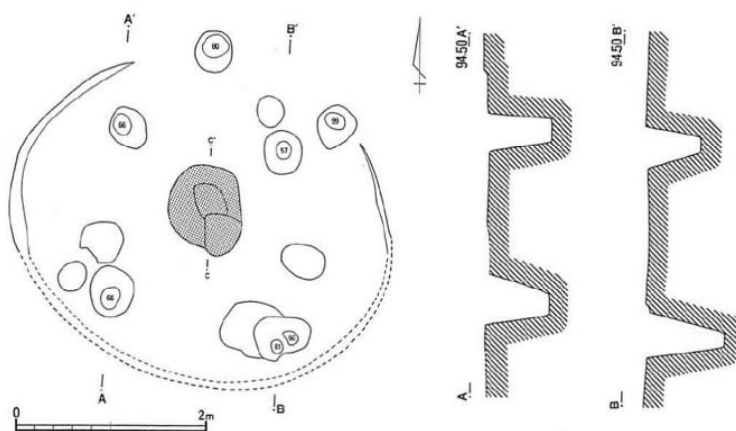


Figure 31 Pithouse P272-1062-1 (ref 52, pg. 489.)

the reasoning when possible. By including as large a sample size as is reasonably possible in the study, I hope to help mitigate the rare instances where main posthole determinations were incorrectly made, and include data regarding why these decisions were made so that they can be reviewed in the future, if necessary.

3 – Measuring Posthole Diameter

As mentioned earlier, posthole measurements aren't the same as the direct measurements of posts, but they are generally the closest we can get to those measurements with the evidence available to us today. Although some excavation reports included individual posthole measurements, there were a number that did not. Even when the information was present, the manner in which these measurements were made weren't standardized across all reports. Therefore, I determined that the best way to proceed would be through the use of top down plan drawings to determine posthole diameter.

If the stratigraphy is simple, plan drawings will usually represent a posthole with two rings. The larger outer ring typically represents the top of the posthole, while the smaller inner ring represents the bottom of the posthole. In the process of digging a posthole, the top portion of the hole can become enlarged through the process of removing loosened material from the hole. A larger diameter at the top of the posthole can also allow better access to digging tools as the hole is made deeper. In circumstances where the posts in postholes are removed, shifting a posthole from side to side can help make space for the post to be removed, and in this process the top of the posthole is enlarged. This shifting motion can also increase the diameter of the bottom portion of the posthole, but generally to a smaller extent. Comparing the two measures, the bottom posthole diameter measure should correlate more closely with the actual size of the post than the top of the posthole. While the posts themselves are generally round, postholes often have oblong or irregular shapes. By necessity, a post must be smaller than the posthole it is placed in, and as such, while the diameters of both the major and minor axes of a posthole must be larger than the post, the minor axis should provide a closer measurement. Therefore, that is the measurement used in this study.

Although this establishes the basis for the minor axis of the bottom of the posthole being used, from this point, things become more difficult. The first assumption from here is that generally postholes were only dug to diameters and depths as necessary. While we can assume that postholes weren't necessarily dug to a precise fit, there would be no reason to waste extra energy digging the postholes to an overly large size for no reason, either. Since we are attempting to monitor changes over time, as long as the general correlation of post to posthole size remains fairly consistent, these measurements should provide a usable proxy.

It is clear, however, that there are some cases in which the posthole dimensions found at the time of excavation were significantly larger than the original posts. The question arises about whether it is best to include the data as is, or if that posthole measurement should be omitted due to its irregularity. If three of the four postholes present in a pithouse ranged from 15 to 20 cm in diameter, but the fourth post measured 25 cm, we are left with three possibilities: 1) the four posts were of similar diameters but the fourth posthole was dug larger than necessary; 2) the posthole dimensions have little relation to posthole size and three were dug to a generalized size while the last posthole was dug larger for some unknown reason; or 3) the fourth post was indeed larger than the others and the posthole was dug larger

to accommodate the larger size of the post. The first two possibilities involve more work than was necessary to accomplish the required task, and while there is certainly a chance that they occurred on occasion, as a general rule, it seems unlikely.

However, what if the size difference was greater? Perhaps the first two postholes were approximately 15 cm in diameter, the third was 25 cm, and the fourth was 35 cm? There's a significant difference in energy expenditure for these sizes. Doubling the radius measurement would quadruple the cross-sectional area measurement. Therefore, our round post of 15 cm in diameter would have a cross section of approximately 177 cm², the 25 cm post would measure in at 490 cm², while the largest 35 cm post would have a cross sectional measurement of 962 cm². In this case, it doesn't seem unreasonable to assume that the fourth posthole was dug substantially larger than the original post.

This becomes even more likely in a situation where a posthole was replaced. Shifting a post in the posthole would enlarge the hole, and it might have been necessary to dig out a portion of the posthole to remove the post. There are several more options available if this is the case: you could omit that posthole from analysis, you could assign a calculated size based on the other postholes present, or you could measure the posthole as is. Omitting the largest posthole would make the average posthole diameter for the dwelling approximately 18.3cm. If we assigned that average value of 18.3cm to the fourth posthole, our new average posthole diameter would basically remain the same, at 18.3 cm. If we leave the largest posthole measurement as is, the average posthole size for the hypothetical dwelling would be increased to 22.5 cm.

Using a calculated average posthole measurement value doesn't really offer much of a difference compared to omitting the post, and the method also strains credulity to a degree. If posthole sizes as measured are 15 cm, 25 cm, and 35 cm, using the average posthole diameter value of 18.3cm would be replacing what could possibly be the largest post in the dwelling with a size smaller than the "new" largest size of 25 cm. Another possibility might be to use the largest "accepted" posthole diameter value of 25 cm instead of the average value.

The problem here is that we have already discounted the 35 cm post size as being larger than the rest by 10 cm, so how can we be sure that the 25 cm value doesn't suffer from the same issues as the 35 cm posthole? This slippery slope of replacing values introduces an unnecessary source of possible error and bias, and also negates the true possibility of greater variation of posthole measurements in a dwelling, a problem shared by omitting postholes deemed as outliers. Given these options, I opted to instead include the posthole measurements that appeared as outliers in my analysis. Almost certainly there are cases where this has introduced errors into the analysis and skewed the results to show greater variation in posthole sizes than was truly present. However, I avoided instances where true variation existed but where overzealous intervention has made the posthole sizes appear more homogenous than they truly were. Assuming that the data was not completely rife with these issues, the law of large numbers holds that a large sample size should be able to counteract some of the stochastic variations present in the data.

4 – Measuring Posthole Depth

In this study, posthole depths are generally taken from the values provided in the excavation reports. While there are still issues regarding how posthole depths are measured,

not all postholes have corresponding profile drawings needed for manually measuring posthole depths. Even when profile drawings are present, they don't always cross the center of the postholes or the locations where the posts would have been placed.

Despite the reliance on the depths provided by the reports, it was still necessary to confirm whether the depths provided were representative of the true depths dug for the pithouse posts. The most common issue of concern was that the posthole depth was measured from the floor level discovered at the time of investigation, as opposed to what the depth would have been at the time the pithouse was constructed. Depending on the location where the pithouse was built, floor levels could be uneven when excavated, with a portion of the floor washed away due to erosion. In these circumstances, areas where erosion did not occur or was minimal would yield posthole depths that were close to the actual depths at the time of construction, while eroded sections produced depths that were much more shallow than at the time they were originally dug. In some instances, the posthole depths provided are measured from the estimated floor height as opposed to the height at the time of investigation. This isn't always clearly stated in the report however, so I needed to devise a system to check for the general accuracy of posthole depths provided in the excavation reports.

The profile drawings of each pithouse were examined to check for signs of erosion. If the floor level appeared uneven, the posthole depths were checked to ensure that the depth measurements were not skewed. First, posthole depths were measured from the top of the posthole to determine if that was the method of measure used for that pithouse. In some reports, if the pithouse floor was partially eroded, a line indicating the estimated floor height at the time of construction was included in the profile drawing. If an estimated floor height line was present in the drawing but the recorded measurement was from the present day pithouse floor height, I measured from the estimated floor height to the bottom of the posthole, and recorded the value in the FlrLevDep column. If the posthole depth measurements were recognizably impacted by erosion, and estimated floor heights were not provided, the posthole depth data for that dwelling was excluded. Likewise, if it appeared that the pithouse floors were eroded, but profile drawings for primary postholes were not included, the posthole data for the dwelling was excluded as well.

I had considered an alternate system in which a reference post was used to calibrate posthole depths. If a survey height was provided in the drawing, I could check to see if there was a posthole that appeared to terminate at the original floor height. The distance from the survey line to the top of the reference post height could be used to set an estimated floor height. Postholes depths could be measured from the survey line down and then subtract the distance from the survey line to the estimated floor height to derive an estimated posthole depth at the time of construction. The drawback with this methodology was reliance on the profile view intersecting the posthole at its maximum depth, which was not always the case. Additionally, there a number of postholes did not have associated profile drawings, which would require their removal to be consistent. When evaluating possible errors related to the correct assumption of original pithouse floor height, and the extra time needed to create floor level reference lines, this system was abandoned as being overly complicated, error prone, and requiring more time to complete than was available.

That being said, the system of omitting posthole depths from analysis if floors were uneven, and lacked estimated floor heights, had issues as well. We can't be sure that the original pithouse floor heights were level at the time of construction. If the floor of a pithouse had a gentle slope at the time of construction that was not corrected and a level floor was

assumed at the time of excavation, two postholes that appeared to be significantly different depthwise might have actually been of similar depths if the sloping floor was accounted for. Considering that additional wall features are usually missing as well in dwellings with unevenly eroded floors, this situation isn't probable, but it still remains within the realm of possibility.

2 – Data Analysis Method

1 – Temporal Uncertainty

Temporal uncertainty is an important but difficult problem in the field of archaeology. A number of methods are used to estimate the age of artifacts and features. Whether they are dated using a relative methodology such as ceramic typology or are dated with an absolute method such as radiocarbon dating, there is still a degree of uncertainty within those age estimates. In some circumstances, the ranges can be quite precise (Kobayashi 2019), but quite often ranges span from hundreds to over 1000 years. When radiocarbon dates are stated, they are often accompanied by a standard deviation value which expresses the degree of uncertainty inherent in the stated date. In relativistic dating methods, this measurement of uncertainty is often missing, with only a midpoint value used to express the age of the object or site in question. Unfortunately, coalescing a range of dates into a single representative date can lead to issues in interpretation, as could be seen in the population estimations done by Koyama and Imamura. Both Koyama (1978) and Imamura (1996) identified the increase and decrease during the Middle Jomon period, but while Koyama's analysis showed an increase heading through the Early and Middle Jomon periods and a decrease heading into the Late Jomon, Imamura's analysis, using 100 year time blocks, showed alternating shorter patterns followed by a much more extreme increase and decrease in population occurring over the span of several hundred years instead of 1000. The difference here is how the data and time frames associated with that data were utilized and interpreted.

In addition to issues concerning the length of timespans to use, there is also the problem of how to approach uneven spans of time. The data available to archaeologists is variable and imperfect. In Japan, the population census is conducted every five years. At this chronological resolution, it is possible to see population shifts occurring within a single generation. This is a degree of precision that is unfortunately out of the realm of possibility when studying the Jomon period. For the Jomon period, a single generation scale resolution of 30 years is practically impossible, a resolution of under 100 years based on a pottery subphase would be considered very good, and a period long span of around 1000 years would be attributed to most remains. There are a number of different ways to approach these varying lengths of time that archaeological features use for dating. If the goal is to include as much data as possible, using longer time spans would allow the coarsest chronologies to be included, but would lessen the temporal precision of the analysis.

On the other hand, if a high degree of precision is desired, the coarser measurements could be dropped, but this comes at the expense of a larger sample size. Luckily, as described earlier, Crema (2012) provides a way to incorporate these varying temporal scales while still allowing for an emphasis on a higher degree of temporal precision through the combination of aoristic analysis and Monte Carlo simulations.

This process was conducted using the R statistical software program along with several other additional packages (R Core Team 2020; Kassambara 2020; Wickham et al. 2019). For the initial assignment of pithouse dates, the code references two types of dating

information contained in the imported data frame, numerical start and end dates, and unique pithouse IDs used to express topological relationships between pithouses. The numerical start and end dates are the oldest and newest possible dates able to be assigned to the pithouses, and the topo_after columns contain pithouse ID numbers that were identified as having come before the pithouses in that particular row. If a pithouse was rebuilt once, the first build phase ID number would be placed in the topo_after column of the row for the subsequent rebuild phase.

The first step of the process is for the program to select a random sample value between the given start and end dates for each pithouse as it proceeds down each row of the imported data frame. After the initial sampling for that row is completed, the program then checks the newly sampled date against the topo_after columns. If the row being sampled had no additional relationships to other pithouse phases, or if there were no conflicts between the sampled date for that pithouse and sampled dates for other related pithouses in the topo_after columns, the newly sampled date was confirmed for that pithouse. If the sampled date of a pithouse was older than one of the sampled pithouse dates in the topo_after columns, the row was flagged to be resampled.

At the completion of that loop, the flagged pithouses were resampled and again checked against the corresponding dates in the topo_after columns. Again, if there were no conflicts, the date was confirmed. If conflicts exist, the pithouse is flagged again for resampling. This loop is continued until there are no discrepancies between the sampled pithouse dates and the topological connections between them. This completes a single simulation run, which only represents one possible set of pithouse dates. Repeating this process again produces another set of possible dates, which may or may not be similar to the initial simulation run.

The numbers that are selected in the sampling portion of the analysis have a direct result on the subsequent analyses. This is especially apparent when looking at the LOESS regression plots. Looking at Figure 32, you can see that not all regressions start or end at the same time. This is because the earliest and latest dates selected in the sampling process can differ depending on the MCMC simulation draw. Each regression line numbered one to five shown in Figure 32 is calculated from the corresponding sample set shown below in Table 9. Earliest sampled dates for each simulation run are highlighted in the same color as the corresponding regression lines. The sample dates for each data set were drawn from the same range of possible dates outlined in the original data set which are listed on the right side of Table 11.

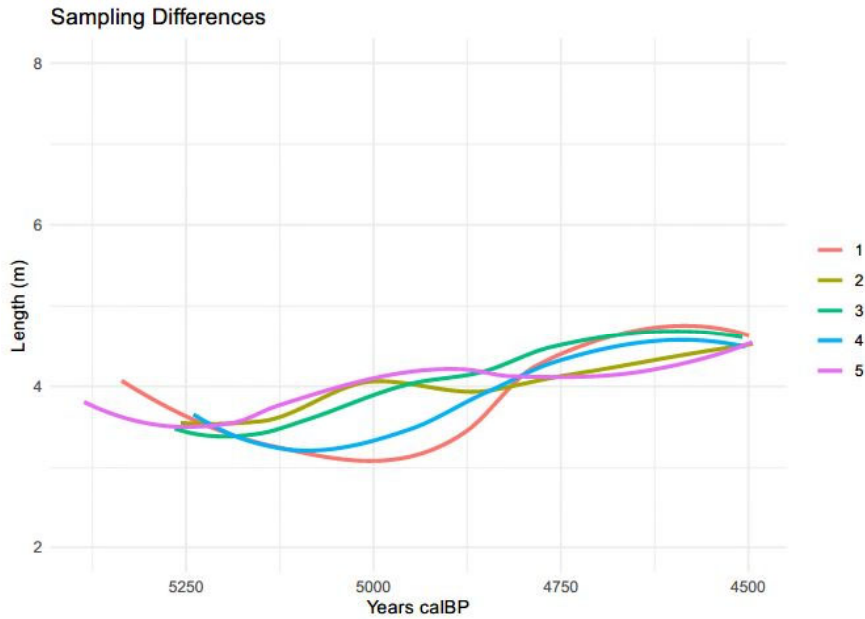


Figure 32 Lines 1 to 5 are LOESS regressions based on five different data sets created by sampling of dates from the same original data set listing a range of possible dates.

Table 11 Sampled dates for 5 MCMC simulation runs. Data point's minimum and maximum possible values shown on the right side of the table.

Data Point	Run 1	Run 2	Run 3	Run 4	Run 5	Range Min	Range Max
1	-5336	-4999	-5151	-4554	-5386	-5415	-4395
2	-4876	-4577	-5225	-4967	-4637	-5415	-4395
3	-4920	-4914	-4949	-4860	-4878	-4950	-4860
4	-5268	-5257	-5265	-5240	-5267	-5270	-5230
5	-5141	-5177	-5100	-5168	-5158	-5230	-5100
6	-5142	-5154	-5145	-5133	-5219	-5230	-5100
7	-5177	-5194	-5107	-5227	-5189	-5230	-5100
8	-5267	-5251	-5238	-5234	-5268	-5270	-5230
9	-5311	-5243	-4998	-4949	-5226	-5415	-4905
10	-4761	-4494	-4855	-4601	-4883	-4950	-4490
11	-5200	-5114	-5104	-5191	-5129	-5230	-5100
12	-4752	-4736	-4764	-4759	-4760	-4770	-4730
13	-4783	-4792	-4843	-4850	-4817	-4860	-4730
14	-4795	-4839	-4808	-4762	-4856	-4860	-4730
15	-4709	-4637	-4645	-4557	-4556	-4730	-4540
16	-4499	-4503	-4508	-4504	-4495	-4540	-4490

The greater the difference is between the possible start and end dates, the greater the degree of uncertainty there is for that particular pithouse. By repeating this process over and over, we are not only able to see a general range of possibilities for these dates but are also able to see what the most likely distribution of dates might be. As the number of MCMC draws increases, there comes a point when these results start to converge (Figure 33). At some point however, increasing the number of simulation runs starts to yield diminishing returns, so a balance must be made between computation time and increased convergence. For this study, 1000 simulation runs provided an acceptable level of convergence without requiring an excessive amount of computational time.

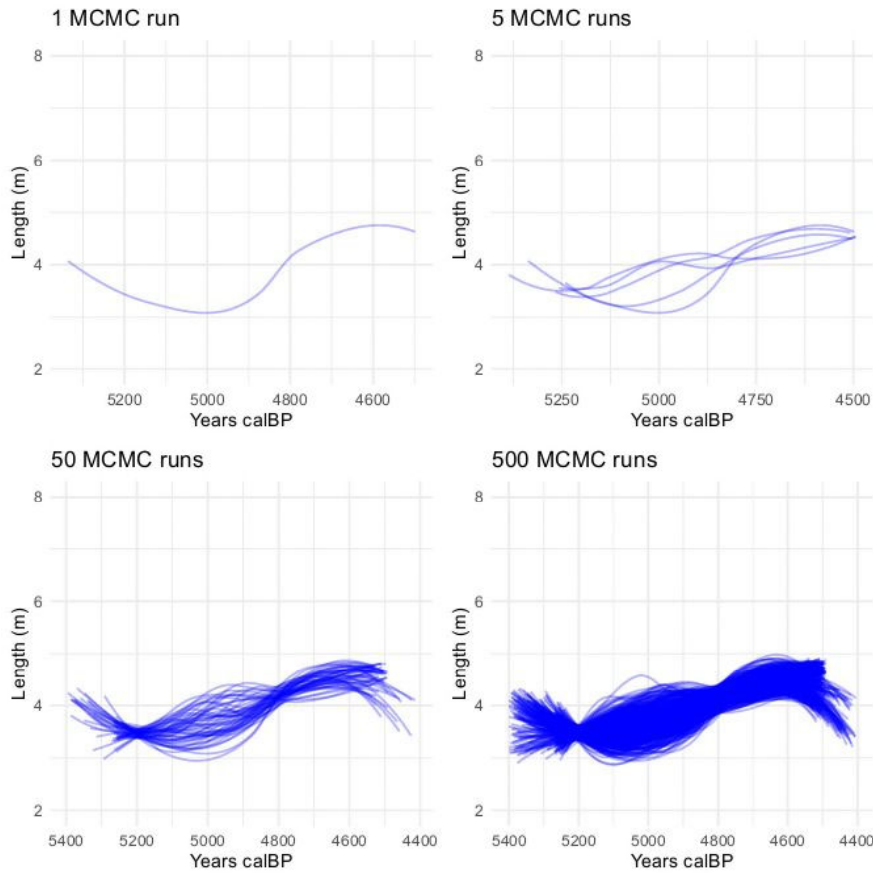


Figure 33 Plots showing how MCMC simulation runs converge as more simulation runs are incorporated in a plot.

The Middle Jomon period runs from 5415 cal BP to 4395 cal BP according to Kobayashi (2019). Pithouses in the Tama New Town area spanned the entirety of the Middle Jomon period, which means that, as the data stands now, there are over 1000 possible dates that these pithouses could be assigned. As mentioned earlier, the data associated with this period isn't able to be reliably dated to the span of a single generation, let alone a single year. As such, the dates produced from the MCMC samples need to be combined into more realistic time spans. This process of binning dates together is done in two different ways. The first method is to combine the dates into separate bins by rounding values to the nearest 100. To do this, the sampled pithouse dates were first divided by 100, at which point the floor function from the base R package was applied to the results, which rounded values to the next lowest integer (R Core Team 2020). The values were then multiplied by 100, resulting in all dates being rounded down to the nearest 100. These rounded dates were saved to a separate data frame to be used in later analyses.

Binning was also separately conducted for the creation of the hexplots explained later in this chapter. The `geom_bin` function used to create these plots allows for the bin size to be adjusted as needed. For these plots, a smaller bin size was used in order to avoid an overly stark contrast between blocks. While some data treatments, such as correspondence analyses, benefit from a fewer number of longer time blocks, which helps to prevent the noise

introduced from too many comparisons, treatments that are more visual often benefit from a greater number of smaller bins, representing a finer gradation in the data.

2 – Pithouse Counts

Pithouses are counted in two different ways in this study. The first method is a generalized combined count of all pithouses. The second method is to provide different pithouse counts for each pithouse type. To keep the counts comparable, pithouses whose types were unable to be determined were removed prior to conducting the count.

The generalized combined count is comparable to studies like Imamura's examination of Middle Jomon pithouses in the Kanto region or Yano's investigation of the Chubu region (Imamura 1996; Yano 2014). These provide a baseline comparison used to evaluate whether the number of dwellings increased or decreased over time. The drawback to this method is that it treats all pithouses the same. The time and effort required to make a small basic pit-style pithouse isn't the same as the time and effort required to make a larger MW-type pithouse. As one of the goals of this study is to attempt to identify changes in residential mobility, combining these different types together obfuscates additional changes that might be occurring in addition to the number of pithouses being built.

Pithouse counts are displayed in several different ways to provide different contexts to the data. A LOESS regression, using the pre-binned data, was used to display changes in the overall number of pithouses over time. Each individual regression line represents one simulation run, and combining all simulation runs on the same plot allows for a quick identification of areas with greater or lesser degrees of uncertainty. At lower sample numbers, this type of regression breaks down, so only combined pithouse numbers are displayed using this type of analysis.

The data binned into 100-year blocks is displayed as two separate barplots, one showing total pithouse counts and another stacked barplot which displays the different counts for each type. The use of boxplots provides a firmer grasp of actual counts over time for each time block, but possibly displays changes between blocks as overly drastic. The other issue here is that plotting the results of the MCMC simulations will result in count totals multiplied by the number of simulation runs conducted. To adjust for this, the counts for each time block were divided to 1000 to provide scaled output that should more closely match the actual number of pithouses present in Tama New Town.

3 – Pithouse Size

There are several different measurements recorded in the Tama New Town excavation reports to express pithouse size. Depending on the report, pithouse length, width, and total floor space might be recorded. Unfortunately, due to varying levels of preservation as well as different reporting styles, these measures were not all recorded in every report. The most common measurement is length, followed by width, and then finally total floor space.

These recorded sizes were derived from one of three different types of measurements. The first type was a direct measurement of the entire feature, the next was a direct measurement of a partial feature, and the third was an estimated measure. These estimated measures were included due to a good general understanding of the pithouse size and shape, despite the incomplete data available to archaeologists. For the purposes of this study, both direct measures of entire features, as well as estimated measures, were used. Direct measures

of partial features do not provide a measure of total size and were therefore not used. If a measurement was of a partial feature or an estimate, it was noted in the comments section.

To determine the relative amount of energy put into the dwelling's construction, the ideal measurement to use would be total area. Unfortunately, relying only on reports and pithouses that included recorded floor space measurements would have severely limited the sample size of the study. In an attempt to capture the relevant floor space data without limiting sample size, I created a simple system where two formulas were used to determine area depending on the shape of the pithouse. If pithouses were classified as circular and provided only a single length measurement, the formula $A = \pi r^2$ was used. If a pithouse was not circular and contained both length and width measurements, the formula $A = l * w * 0.8$ was used. The circle formula area measurements were approximately 10% larger on average than the actual area measurements, while the oval formula area measurements were approximately 4% larger than actual measurements, on average. While these derived measurements varied somewhat from building to building, they appeared to be close enough to actual measurements to be useful.

Another issue to consider when attempting to determine pithouse size involves cases where there is evidence of rebuilding. In this study, pithouse build phases were treated as separate dwellings. As such, in situations where multiple build phases were present, pithouse size measurements needed to be assigned to each phase. In some reports, building phases were clearly identified and individual size measurements were recorded for each phase. Other times however, reports were not as clear. In cases where only a single measure was provided for a pithouse consisting of multiple phases, if the other phases appeared to be the same general size, the measure was applied to those additional phases. If multiple phases were present but the sizes varied between them, the size data would only be recorded for the measured phase.

4 – Pithouse Size by Type

Relying solely on the combined measures of pithouse size, without regard to the differential energy requirements inherent in different pithouse types, would be ignoring possible evidence of residential mobility changes over time, the same way that combining pithouse types for the purposes of examining pithouse counts would. So, in this research, pithouse types are again examined individually and as a whole. While this is fairly straightforward for most types, the HM-type pithouses posed a problem that I was not able to overcome.

In addition to the stone paved floors of these types, the other key identifying feature was an extended entryway into the dwelling. The particular problem here was that these entryways were often only partially intact. Due to a relatively small sample size and an unreliable understanding of the entryway size, I wasn't able to incorporate that additional portion of the dwelling into the area measurements. As such, the measurements for the HM-type pithouse size does not include the entryway portion of the dwelling, meaning that the total measures underestimate the actual size of the dwellings. Although this is less than ideal, because the method of measurement is consistent, any trends related to pithouse size should still be visible in the analysis.

Pithouse length was examined in two ways, using the mean length of the different pithouse types, and using the sum length of the different pithouse types.

5 – Pithouse Length and Floor Space Comparison

I had some concerns about which pithouse size measurements should be used in this study. I had initially planned to use both measures, but if both pithouse length and floor space measures followed the same trends, this would essentially result in presenting mostly duplicate findings for each different analysis. Each measure has its own benefits and drawbacks. Pithouse length is usually a direct measure, which allows the analysis to stay closer to the primary data. By its nature though, this measure would ignore pithouse width, and if there were substantial changes in the proportion of pithouse length and width over time, relying on pithouse length alone would miss these changes. On the other hand, while the pithouse area is connected more closely with the end goal of measuring the energy expenditure needed to construct a pithouse, relying on the previously described formulas introduces a possible source of error and adds in an additional step separating the results of the analysis from the primary data source.

To help decide which measure to use, I conducted a Spearman's correlation analysis comparing the pithouse length results with the pithouse floor space results for each of the pithouse types, as well as all the types combined together. While these types of comparisons are often done using the more common Pearson correlation coefficients, the data being analyzed is not normally distributed, and therefore the use of Spearman's correlations are more appropriate.

The data was first subset into 6 different groups based on pithouse type, P-type, W-type, M-type, MW-type, HM-type, and combined types. Pithouse length was compared to pithouse floor space for each of these data sets using the `stat_cor` function included in the `ggpubr` package (Kassambara 2020).

The detailed results of this comparison are included in Chapter 5, but as these results directed how further analyses were conducted, it is important to address the basic results here. The correlations for the results yielded from pithouse length measurements to the results from pithouse area measurements ranged between 0.9 and 0.98. The trends visible from the floor space plots were slightly more prominent than the plots relying on pithouse length. But because the trends were so similar and pithouse length was a more direct measurement compared to the calculated floor space measures, I decided to focus on pithouse length in my subsequent analyses.

6 – Posthole Size

In order to provide a holistic view of the posthole measurements included in this study, several different analyses and visual representations were produced for each measurement. The data is presented in the forms of LOESS regressions, 2d histograms produced from hexagonal binning, and correlation analyses. These three analyses combined serve to identify overall trends in the data, identify areas of concentration, and help to identify whether the changes in values are a response to changes in pithouse size or if they are acting independently from those changes. The same analyses are applied to all three measurements of posthole size: depth, diameter, and volume. Additionally, Main and MW-types were calculated together, as well as separately, to examine any differences in posthole size trends that the different types might exhibit.

1 – LOESS Regressions

The first analysis for each measurement is a locally estimated scatterplot smoothing (LOESS) regression. LOESS is a non-parametric technique used to fit a smooth curve to noisy data (Cleveland and Devlin 1988; Cleveland 1979). A LOESS regression is essentially a locally-weighted least squares regression. The total data set is broken up into smaller subsections, and least squares regressions are fit for each smaller subsection, with more weight assigned to points closer to the focal points. The benefit of the process is that the smoothed curve of the LOESS regressions provides a generalized overall view of increasing or decreasing trends present for each posthole measure. For this analysis, the LOESS regression was applied through the use of the `stat_smooth` function included in the `ggplot2` package (Wickham 2016).

Prior to running the regression, mean values for posthole depth, diameter, and volume needed to be calculated. Posthole mean depths were derived from the data in the `FinalDepth` data column, while posthole mean diameters were derived from the data in the `D_Scaled` (diameter scaled) column. The initial posthole volume measurements were calculated from the depth and diameter measurements using the formula $\text{volume} = \pi \cdot (0.5 \cdot \text{diameter})^2 \cdot \text{depth}$. Data was grouped by `PithouseID` and mean values for depth, diameter, and volume were produced using the `summarize` function from the `dplyr` package (Wickham et al. 2020). Once these mean values were calculated, the 1000 MCMC simulations were run. After the dates from the MCMC runs were produced, values sampled outside of the range of 5400 to 4400 calBP were dropped from the data set, and three different dataframes were produced. One was comprised of only M-type pithouses, one was comprised of only MW-type pithouses, and the third dataframe included both Main and MW-type pithouses. With the data now prepared for further analysis, each of these data sets were further subset for each posthole measurement: depth, diameter, and volume. For each measurement, a LOESS regression was performed for each simulation run using the `stat_smooth` function in `ggplot2` (Wickham 2016). Each regression was plotted, resulting in 1000 regression lines combined on each plot.

2 – Hexagonal Binning

The next analysis involves the use of hexagonal binning, which is then displayed through the use of hexplots, which were created using the `geom_hex` function in `ggplot2` (Wickham 2016). Hexplots work as a form of 2D histogram. Hexagonal binning aggregates groups of data points based on the bin size selected. These bins are then treated to display differences in the number of counts that each bin contains, either using a color ramp or using different displayed sizes. While the binning process can be used with rectangles and triangles as well, the use of space is less efficient in these other shapes.

Before the hexagonal binning was applied, three initial subsets were created, one for each posthole measure: depth, diameter, and volume. Data values sampled outside of the range of 5400 to 4400 calBP and pithouses with posthole measurements labeled as unknown were dropped from the data set.

As the counts contained within each bin of the hexplot are intended to represent actual pithouse counts, it was necessary to scale the data produced from the 1000 MCMC simulation runs. This was accomplished through scaling the plot labels by dividing values by

1000. While the use of this process fixes the issue of displaying counts 1000 times greater than the actual numbers, it has the drawback of including values under 1. Rather than removing all values under one, I decided to leave the values included as they were. The reasoning behind this is that data is quite limited for some pithouse types, and any individual isolated pithouses that had a sampled time span that crossed the threshold between two bins would then be removed from the plot. Instead, the data was left in and the reader is cautioned that some bins contain partial values, which can be identified by using the scale attached to each plot.

3 – Pithouse to Posthole Size Ratios

One possible assumption for the cause behind an increase or decrease in a posthole measurement could be a corresponding increase or decrease in pithouse size. To determine whether changes in posthole size were indeed linked to changes in pithouse size, the data was examined in two ways. The first method was to create a direct ratio value between the mean posthole and pithouse size measures. Data was prepared by creating new columns including: “length_depth_ratio”, “length_diameter_ratio”, and “length_volume_ratio” which took the corresponding mean posthole measures for each pithouse and divided them by the length of each pithouse. LOESS regression curves were then plotted for the simulation runs of each posthole measurement. Hexplots and density plots were also created for each of the pithouse to posthole ratio measures in order to help visualize where the data points were located in relation to the LOESS regression curves.

4 – Spearman Correlations

The second method of examining the relationships between pithouse and posthole sizes was through the use of correlation analyses. The LOESS regression helped to identify broad trends in posthole sizes, and hexagonal binning allowed a better understanding about where data is concentrated and what influences might be affecting the LOESS regressions. Both of these analyses focus specifically on the posthole measures themselves, ignoring other factors that might be affecting the measures. The intention behind measuring posthole sizes was to determine whether more energy was knowingly being applied to these dwellings to make them sturdier and able to last longer. One other possible explanation for postholes being dug deeper or wider is an overall increase in pithouse size. To see if pithouse size was a possible driver of changes in posthole size, the two measures were compared using Spearman’s rank correlation coefficients.

Spearman’s correlation coefficients were calculated in R using the Spearman method option of the `stat_cor` function included in the `ggpubr` package (Kassambara 2020). In the initial analysis, pithouse dates were not necessary for the overall comparison of pithouse and posthole sizes, so the data set compiled before the MCMC simulations were conducted was used for the correlation analysis. The data was subset into three groups so that the M-type pithouses, the MW-type pithouses, and the two types combined could be analyzed separately. For each of those groups, the data was subset again to separate posthole depth, diameter, and volume measures. Each of the posthole measures and the corresponding pithouse sizes were then compared.

While this provides an overall understanding of how pithouse size and posthole sizes might relate, this process is insensitive to changes over time. To examine the correlations between pithouse and posthole sizes over time, the chronological data needs to be combined into discrete comparable groups. This temporal binning process has already been discussed in the temporal uncertainty section earlier in this chapter. Using the binned temporal data, pithouses were grouped by their newly rounded dates. Then, using the `spearman.ci` function included in the `RVAideMemoire` package, Spearman-ranked correlation coefficients were calculated along with their corresponding confidence intervals (Hervé 2020). The outputs were plotted together with matching scales so that the M-type, MW-type, and combined results could easily be compared.

7 – Posthole Size Variation

Posthole size variation is used as a measure of how standardized the materials used in pithouse construction were. Similar to posthole size measurements, several different analyses and visual representations were produced for each measurement. These different analyses are presented in the forms of LOESS regressions, 2d histograms produced from hexagonal binning, and correlation analyses. These three analyses combined serve to identify overall trends in the data, identify areas of concentration within the data, and help to identify whether the changes in values are a response to changes in pithouse size or if they are acting independently from those changes. The same three analyses are applied to the three measures of posthole size variation: variation of posthole depth, variation of posthole diameter, and variation of posthole volume. Main and MW-types were calculated together as well as separately in the same manner as the previous posthole size measurements in order to examine whether there were any differences in posthole size variation trends between the different pithouse types.

1 – LOESS Regressions

In the same way that posthole size measures were addressed, the first analysis for each measure of posthole size variation is a LOESS regression, which was conducted through the use of the `stat_smooth` function included in the `ggplot2` package (Wickham 2016). Posthole size variation was measured using the standard deviation of posthole sizes for each pithouse. Posthole depth standard deviations were derived from the data in the `FinalDepth` data column, and posthole diameter standard deviations were derived from the data in the `D_Scaled` (diameter scaled) column. The initial posthole volume measurements were calculated from the depth and diameter measurements using the formula $\text{volume} = \pi \cdot (0.5 \cdot \text{diameter})^2 \cdot \text{depth}$. Data was grouped by `PithouseID` and standard deviation values for depth, diameter, and volume were produced using the `summarize` function from the `dplyr` package (Wickham et al. 2020).

Once the standard deviation values were calculated, I proceeded with the 1000 MCMC simulation runs. After the dates from the MCMC runs were produced, values sampled outside of the range of 5400 to 4400 calBP were dropped from the data set, and three different dataframes were produced. One was comprised of only M-type pithouses, one was comprised of only MW-type pithouses, and the third included both Main and MW-type pithouses. Each of these data sets were again subset for each posthole variation measurement: depth, diameter, and volume. For each of these measurements, a LOESS regression was performed for every simulation run using the `stat_smooth` function in `ggplot2` (Wickham

2016). Just as was done for posthole size measures, each regression for posthole size variation was plotted, resulting in 1000 regression lines combined on each plot.

2 – Hexagonal Binning

The next analysis conducted was the production of hexplots created from the hexagonal binning of posthole size variation values. Before the hexagonal binning was applied, three initial subsets were created, one for each measure of posthole size variation: depth, diameter, and volume. Data values sampled outside of the range of 5400 to 4400 calBP and pithouses with posthole variation sizes recorded as unknown were dropped from the data set.

The plots displaying the data produced from the 1000 MCMC simulation runs were scaled by dividing the count values by 1000. As was the case with the hexplots for posthole size measurements, the posthole size variation plots also had the drawback of including values under 1. For the same reasons explained for the posthole size hexplots, rather than removing values under one from the plots, the posthole size variation data was left as is, and the reader is again cautioned that some bins contain partial values.

3 – Pithouse to Posthole Size Variation Ratios

Just as posthole size changes might be a result of pithouse size changes, posthole size variations could also be related to changes in pithouse size. To examine the possibility, direct ratio value between the mean posthole size variation and pithouse size measures were created. Data was prepared by creating new columns “length_depth_sd_ratio”, “length_diameter_sd_ratio”, and “length_volume_sd_ratio”, which took the corresponding posthole variation measures for each pithouse and divided them by the length of each pithouse. LOESS regression curves were then plotted for the simulation runs of each posthole variation measurement. Hexplots and density plots were also created for each of the pithouse size to posthole size variation ratio measures in order to help visualize where the data points were located in relation to the LOESS regression curves.

4 – Spearman Correlations

Spearman’s correlation coefficients for posthole size variations and pithouse size were calculated in R using the Spearman method option of the `stat_cor` function included in the `ggpubr` package (Kassambara 2020). In the same way that pithouse size measures were approached, the data set compiled before the MCMC simulations were conducted was used for the posthole size variation correlation analyses. The data was subset into three groups so that the M-type pithouses, the MW-type pithouses, and the two types combined could be analyzed separately. For each of these groups, the data was subset again to separate posthole depth variation, diameter variation, and volume variation measures. Each of the posthole variation measures were compared to their corresponding pithouses.

To examine the correlations between pithouse and posthole sizes over time, the chronological data was combined into discrete comparable groups using the same temporal binning process that was used for the posthole size data. Using the binned temporal data,

pithouses were grouped by their newly assigned dates and Spearman-ranked correlation coefficients were calculated along with their corresponding confidence intervals using the `spearman.ci` function included in the `RVAideMemoire` package (Hervé 2020). The M-type, MW-type, and combined results correlations were plotted together with matching scales so that they could be compared easily.

4 – Research Limitations

One of the biggest obstacles to overcome in this study was that of individual interpretation and bias. Although this study relies mostly on quantitative measures of pithouse and posthole size, it still includes other measures more open to interpretation, such as pithouse type designations. Even the seemingly straightforward quantitative measurements used can be affected in a variety of ways. The methods used to measure the size of postholes for a pithouse can vary, and clear explanations for these methods aren't always clearly stated in reports. Most pithouse size measurements are made from the wall traces, but if wall posts or trenches are missing, or only partial traces of these features remain, these values are often estimated.

Posthole measurements have even more ways in which the data can be affected or biased. The determination and designation of main posts or pillars is straightforward in some cases but can be quite difficult to interpret in others. Complicating this even further is the issue of rebuilding, where postholes might be reused from phase to phase, or it is unclear which phases postholes might belong to. In this analysis, an attempt was made to rely on the interpretation of the excavation report writers as much as possible, but there were instances where clear mistakes were made, or where the authors decided not to make any interpretations at all. This necessitated the need to add my own interpretations to the data, adding another layer of potential error or bias.

The recording and analysis of posthole measurements among the Tama New Town excavation reports differed significantly, requiring even more intervention on my part. Even if recording methods were perfect, the reuse of postholes between rebuilding phases can alter their size and shape, making them significantly larger than the posts placed in them. Omitting all “irregular” postholes would not only add another layer of bias but would also reduce the sample size of usable data, introducing an additional form of bias and error to the analysis. An example of this type of omission would be situations where archaeologists noted that a posthole is located in an area where one would assume a main posthole should be located, but the posthole in question wasn't designated as a main post due to a shallower-than-expected depth. Posthole depth, diameter, and location are important variables used to determine whether the posthole in question held a main posthole or not, and this decision plays an important role in understanding the lifecycle of a pithouse.

While it appears that the recording and analysis of postholes has been given a greater amount of attention now than was given in the past, a great deal of information left unrecorded from those past investigations is gone and is unable to be recovered. Even with recent, well recorded excavations, reports lack the visual records needed to reassess the interpretations of excavators and they also lack explanations about why archaeological features were interpreted as they were.

While remedies for some of these issues are severely lacking, it is important in the very least, to understand and acknowledge that they exist. The approaches taken in order to

try to mitigate these potential sources for error in this study included utilizing large sample sizes, attempting to standardize measurement methods, and focusing on overall trends. But even these weren't enough to fully compensate for the issues we know exist in the data, let alone issues that are as of yet unknown to us. For that reason, acknowledgement that these sources of bias and error exist, and being as transparent and open as possible with the analytic process, are equally as important for the promotion and furtherance of this study.

Chapter 4 – Skeletal Study

1 – Introduction

Multiple lines of evidence are necessary in order to gain a clearer understanding of past population changes. In addition to examining changes in pithouse architecture, I also reexamined birth rate proxies derived from skeletal data in the Kanto and Chubu regions in this study. These birth rate proxies are developed following Bocquet-Appel's (2002) method of deriving 15p5, or juvenility index values. I first explored this line of evidence in 2017, but at the time I relied on date range midpoints for my analysis which resulted in a large amount of data being clumped into a limited number of dates. Although fluctuations were present in the data, the confidence interval never crossed 0.173, the value determined to represent a stable population level. While the previous study examined both the whole of Japan as well as the Kanto and Chubu regions separately, I focused strictly on the Kanto and Chubu regions here. While calculating the juvenility index was done in the same manner as before, the chronological portion of the data was approached using MCMC simulations in an attempt to avoid the arbitrary clumping that resulted from using time span midpoints present in the previous analysis.

2 – Materials

The large portion of the material used in this analysis, and the initial foundation of my previous examination of Jomon period birth rates comes from Yamada's skeletal database (2006). Yamada surveyed Jomon period skeletal data across the whole of Japan, providing an invaluable resource which allowed for the examination of a wide number of topics related to skeletal data (Noxon 2017; Nakao et al. 2016). While Yamada (2006) offers a broad expanse of data, there are some areas where data has been generalized in order to facilitate the creation of a cohesive database.

Of key import here is the periodization used to describe what time period the skeletal remains are from. Yamada only uses the main Jomon periods: Initial, Early, Middle, Late, and Final. This results in two problems. While there are times in which these coarse periods are the closest estimates that can be made, this isn't always the case. As a result, a lot of useful data, especially in terms of population changes, is being discarded when smaller attributable time spans are being set aside and being replaced with general time periods that can span over 1000 years. The second problem is, if all skeletal remains present in the Middle Jomon period are being assigned the same generic time span, they also share the same midpoint, creating the lumping effect mentioned earlier. Luckily, there are some additional sources for skeletal data in the Kanto and Chubu regions that retain finer chronological data, allowing a greater variation of possible dates and time spans to be included in the study.

While skeletal data from 371 individuals from the Kanto and Chubu regions comes from Yamada's database, the large excavations of the Kitamura and Kosaku sites provided data on an additional 156 and 29 individuals, respectively. Data for these sites was obtained directly from the excavation reports (Hirabayashi, Machida, and Hara 1993; Okazaki 1983). A total of 766 entries were gathered from the Chiba skeletal database (Chiba Prefecture Cultural Property Center 1999). The large number of preserved skeletal remains in the prefecture is due to the large number of shell mounds present in the area. The site locations are shown below in Figure 34.

Sites Used in Skeletal Analysis

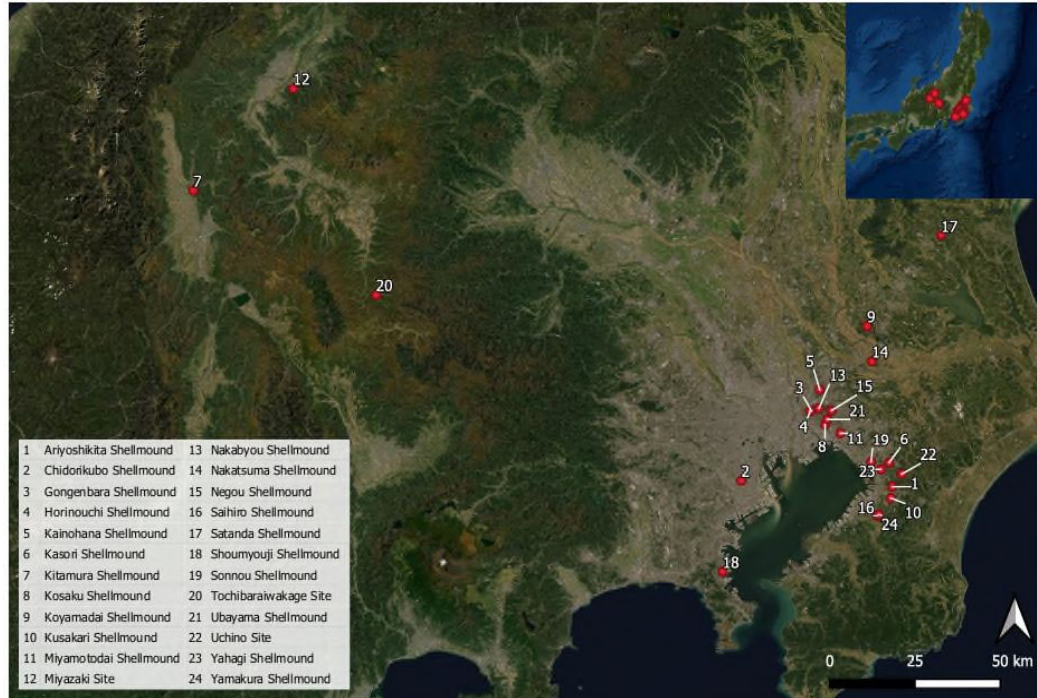


Figure 34 Map of sites included in the skeletal analysis portion of the study. Created using QGIS (2020).

3 – Data Collection and Analysis

1 – Data Collection

Data for the skeletal analysis portion of the study was collected from Yamada’s skeletal database, Chiba prefectures skeletal database, and the Kitamura and Kosaku archaeological site excavation reports (Yamada 2006; Chiba Prefecture Cultural Property Center 1999; Hirabayashi, Machida, and Hara 1993; Okazaki 1983). Three key pieces of information needed to be gathered in order to proceed with calculating the birth rate proxies used to determine how birth rates changed over the course of the Jomon period. These were location, time period, and age at death. Raw data was pulled directly from the sources listed above, but some additional processing was needed to arrange the data in a uniformed format so that juvenility index values could be calculated. Data was recorded in the same format for all sources.

2 – Data Analysis Method

Before proceeding with the juvenility index analysis, there were several additional steps needed to prepare the data for further processing. Dates associated with the skeletal remains in question, as well as the ages of the individuals at the time of death, needed to be interpreted and transposed into usable numerical formats. For instances where individuals were recorded in more than one reference source, a single source needed to be chosen after all data was collected. The definition of sites as a combination of spatial and temporal constraints also needed to be determined prior to exploring birth rate proxies.

1 – Site Definition

In order to compare birth rates at different sites and different time periods, the definition of a site needed to be considered. While the definition of what makes a site and how neighboring sites should be treated is a topic of importance, in this analysis, I relied on the defined groupings determined and used in the reference sources for the geographic component. In some cases, this definition was sufficient on its own. However, as some sites were occupied for long periods of time or were home to several different occupations over time, adding a temporal component into the description of a site was necessary. The Kitamura site is a good example of this. The earliest remains at the Kitamura site were dated to the Kasori E3 period, which spans from 4730 to 4540 calBP, while the most recent remains from the Middle Jomon period were dated to the Kasori B1 period, which spans from 3900 to 3750 calBP. Rather than generalizing all individuals from the Kitamura site as part of a single group, the site was split up into smaller groups according to their associated time periods. The temporal definition of a site was therefore determined by the individuals buried there. Individuals at the same geographic site were combined together based upon the times they were estimated to have occupied the site, and each grouping was considered a separate spatiotemporal site.

2 – Dating and Temporal Uncertainty

A change in the dating methodology is the major update to this reexamination of skeletal remains. While this researcher Noxon (2017) used the midpoint of date ranges in establishing site chronologies, the examination of Jomon period juvenility index values will follow the same procedures used in the examination of pithouses. As mentioned earlier, site definitions included both spatial and temporal components. For each of these defined sites, starting and ending dates were recorded and were sampled in the same way that pithouse dates were sampled. For each MCMC simulation run, sample dates were drawn for each site as part of the MCMC simulation process. The number of simulation runs was increased to 2000 for the skeletal analysis, as opposed to the 1000 runs for the pithouse analysis, due to the smaller sample size available in the skeletal analysis. The binning process, utilizing the floor function in base R to round values down to the nearest 100 value used for pithouse dating, was not included here as the skeletal analysis only includes hex plots which include their own binning processes, and loess plots where the variety of different dates is beneficial. This makes the jittering of values clumped along a limited number of dates unnecessary (R Core Team 2020).

3 – Age at Death

While some individuals in these reports have estimated numerical age ranges provided, alternative named age categories are often listed in addition to these categories, or are used in place of numerical ranges. Equivalent numerical ranges for these named age categories are not always provided, resulting in the need for a method of translating this nominal data into a numerical form. Age categories listed are similar to the five categories used in Krogman (1962) and Ubelaker (1989): *Infans* (0-13), *Juvenis* (14-19), *Adultus* (20-39), *Maturus* (40-59), and *Senilis* (60+). For Yamada's database, nine named age categories were used: *shinseijiki* 新生児期 (neonatal), *nyūjiki* 乳児期 (infant, up to ~2), *yōjiki* 幼児期 (child, 2-5), *shōniki* 小児期 (child, 6-12), *shishunki* 思春期 (adolescent, 13-16), *seinenki* 青年期 (adolescent, 17-20), *sōnenki* 壮年期 (adult, 21-39), *jukunenki* 熟年期 (middle age, 40-

59), and rōnenki 老年期 (advanced age, 60-). In addition to these, other terms such as: taiji 胎児 (fetus), shōnen 小児 (juvenile), jakunen 若年 (youth), seijin 成人 (adult), and chūnen 中年 (middle aged), are used outside of Yamada's database. Ages can also be referred to by their particular decades, using nijūdai 20 代 to describe someone in their twenties, and descriptions can also include modifiers such as zengo 前後 (approximately), zenhan 前半 (first-half), or kōhan 後半 (last-half). The system in which nominal age at death data is converted to numerical data is the same that was used in my previous master's degree work and is displayed in Table 12 (Noxon 2017).

Table 12 Age Category Adaptations. Data from Noxon 2017, pg. 98.

Age Category	Publication Age Ranges	Adjusted Age Range
taiji 胎児 (newborn)	under 1	under 1
taisei 胎生 (newborn)	under 1	under 1
nyūji 乳児 (infant)	under 1 / as 0-4	0-4
yōji 幼児 (child)	1-10	1-10
shōnen 少年 (child)	8-15	8-15
jakunen 若年 (youth)	10-24*	10-24
seinen 青年 (adolescent)	15-29	15-29
seinen 成年 (adult)	20-50**	20-39
sōnen 壮年 (adult)	30-40	30-40
chūnen 中年 (middle age)	30-49	30-49
jukunen 熟年 (middle age)	late 30s-50***	35-49
rōjin 老人 (advanced age)	50 and over	50-70

Sources: Chiba Prefecture Cultural Property Center 1999, Kansai Jomon Culture Research Society 2000, Toyama Prefecture Cultural Promotion Foundation 2014, Yamada 1978. *generally under 20 but Ubayama site had one individual listed at 15-19; **generally under 40; ***generally 40s.

4 – Reference Source

Yamada's skeletal database covered the entirety of present-day Japan. However, as mentioned earlier, in order to arrange the data collected into a manner in where comparisons could be made, some aspects, particularly the dating of individuals, was quite coarse. The Chiba skeletal database and the Kitamura and Kosaku excavation reports provided finer chronological resolutions on average, but there were some data discrepancies between the different sources. Yamada conducted much of his own analysis for his database, and this information differed at times from the original reports. This was most apparent in cases of group burials.

References used for each skeletal remain are listed in the data table. References were chosen based on the completeness and precision of data contained within the sources. For the Kitamura and Kosaku sites, the original excavation reports were used, and for instances where skeletal remains were listed in both Yamada's and Chiba prefecture's skeletal databases, the data from Chiba's database was used (Yamada 2006; Chiba Prefecture Cultural Property Center 1999; Okazaki 1983; Hirabayashi, Machida, and Hara 1993).

5 – Minimum Thresholds

There is a balance that often has to be struck between the quantity and quality of data to include in an analysis. Large sample sizes are desired, as they help to offset the effects of stochastic variations. However, this benefit can be negated to some degree if unreliable or questionable data is included in analyses. There is an additional level of complexity involved in deciding where to strike this balance when it comes to calculating juvenility indexes. Individual juvenility index values are calculated at the site level, so in terms of maximizing

sample sizes, one would expect to try to include as many sites as possible in the analysis. However, each site is made up of the number of individuals recovered from those sites. Looking at the issue from single sites, the researcher would want to use sites with the greatest number of individuals per site if possible.

Different studies have used different thresholds for the minimum number of individuals (MNI) needed at a site to be included in the study. Working with the Health and Nutrition in the Western Hemisphere database, which consisted of over 12,500 skeletons from 218 sites, McCaa (1998) discarded all sites with fewer than 85 individuals from his analysis. On the smaller side, there have been studies which included sites with as few as 3 individuals (Guerrero, Naji, and Bocquet-Appel 2008; Kohler and Reese 2014). It should be noted that in Kohler and Reese (2014), sites were weighted based on the number of individuals over the age of five at the site, a method which will be discussed in the following section. In Noxon (2017), I examined the data at several different minimum thresholds. I compared minimum thresholds of 5, 10, and 15 individuals at a site. Although there were some differences between the different thresholds, all three thresholds showed similar trends. Confidence intervals for the LOESS regressions tended to be tighter when the minimum threshold for inclusion was set at 5 or more individuals at a site due, to the greater number of sites able to be included in the analysis. For this reason, I decided to set the MNI for this reexamination at 5 or more individuals.

6 – Sites without Juveniles

After the minimum threshold was decided upon, there was one additional data filtering decision that needed to be addressed prior to calculating the juvenility indexes for sites – what to do about sites without juveniles. If the juvenility index comparing all individuals five years old and over to individuals between 5 and 19 years of age is supposed to represent a proxy for birth rates, and a site lacks individuals between the ages of 5 and 19, the birth rate proxy for that site was zero. Absent migration from outside areas, a group with a birth rate of zero would only span a single generation. While this situation is possible, it is also quite improbable.

There are several different treatments used in this analysis to help explore and correct the issue. Weighting values based on the number of individuals at a site is one way to help compensate for the issue of non-representative sites. Although Kohler and Reese (2014) had found in their study that sites with few individuals tended to overestimate birth rates, for Jomon data, sites with few individuals tend to lack subadults, so applying a smaller weight to those sites has the effect of compensating for a general lack of subadults in those groups. The other approaches used involves filtering out sites that lack subadults. The first solution is to filter out sites that lack individuals under the age of 20. While individuals aged 0 to 4 are not included in the 15p5 ratio calculations, the presence of these individuals suggests that if preservation conditions are good enough to preserve these smaller, more gracile individuals, older, more robust subadults, if present, should also be preserved. This should also help to alleviate issues of differential mortuary treatment of adults and juveniles. Again, if adults and individuals aged 0 to 4 are present at the site, there is little reason to expect that individuals aged 5 to 19 would be treated differently. The other approach is to ignore the presence or absence of individuals aged 0 to 4, and only filter out sites that lack individuals aged between 5 and 19. All of these methods result in an overall increase in juvenility index values compared to results where these measures are not taken. The problem here is that, based solely on skeletal data, we are unable to determine which results are more accurate. The issue

is similar to the debate between Torfing (2015) and Timpson et al. (2015) regarding whether it is better to be more active curating data to be included in your analysis, or if it is better to include more data when possible and rely on the law of large numbers to help handle outliers. As no clear answer exists to this predicament, I decided to include both data sets in my analysis, one which filtered out sites that lacked individuals between the ages of 5 and 19, and another data set that included them.

7 – Juvenility Index Calculation

Juvenility index values, represented in this study by 15p5 ratios as described by Bocquet-Appel (2008), were calculated using R during the data preparation phase prior to running MCMC simulations (R Core Team 2020). Skeletal data for the Kanto and Chubu regions was imported into the program, and the data was cleaned by filtering out individuals where the minimum or maximum ages at death were unknown or missing.

To determine the 15p5 ratio, individuals under the age of five had to be dropped from the analysis and the number of individuals aged 5-19 are compared to the number of all individuals over five years of age. As age ranges don't always fit within the determined boundaries of 0-4, 5-19, and 5+, percentage values were applied to each category. While the 0-4 age category is discussed here, the 5+ category represents the total population for this analysis. If an individual had an estimated age range of 3-6 years old, a value of 0.5 would be attributed to the 0-4 age range, since two years of that 4-year span lies within that range. The 5-19 age range would also have a value of 0.5 applied to that category, as half of that estimated age span was within the 5-19 age category. For the total population value, 0.5 would also be applied to the 5+ age category, as half of the estimated age span was in the range of 5 or older. If an individual had an estimated age range of 1-2 years-old, a full value of 1 would be applied to the 0-4 range, as the whole estimated age range resided within the 0-4 age category, and nothing would be applied to the 5-19 or 5+ age categories. An individual with an estimated age range of 18-21 would likewise have a value of 0.5 applied to the 5-19 range and 0.5 applied to the 5+ range, while an individual with an estimated age range of 35-40 would have a full value of 1 applied to the 5+ age category.

Once these values have been applied to every individual, the individuals are grouped together based on the spatiotemporal sites they were assigned to as described in the previous site designation section. The values for the 5-19 and 5+ age categories were summed for each site, and 15p5 ratio values were calculated by dividing the summed 5+ age category by the 5-19 age category for each site.

8 – LOESS Regressions

As in the previous chapter, in this analysis the LOESS regression was applied through the use of the `stat_smooth` function included in the `ggplot2` package (Wickham 2016). One LOESS regression was run for each simulation run, and the combination of these runs provided the probability envelope for juvenility index values.

One additional point of consideration present in the skeletal analysis that wasn't available in the pithouse and posthole analysis is that the gathered skeletal data goes beyond the bounds of the Middle Jomon period. Edge effects are mentioned in a number of previously discussed population investigations based on the use of radiocarbon dates as data (Contreras and Meadows 2014; Shennan et al. 2013; Timpson et al. 2014). Due to a lack of data leading up to the start of the period of investigation and a lack of data for the time period

after the end of the period of investigation, there is often a higher degree of uncertainty at these edge areas. One way to combat this problem is to expand the data used in the analysis beyond the time span in question.

Juvenility index values were plotted in three different ways to examine how edge effects could be mitigated: 1) a baseline plot of only Middle Jomon period sites; 2) an expanded time period with sites 1000 years before and after included in the analysis; and 3) a total data set plot which included all Kanto and Chubu sites that met the minimum number of individual threshold criteria. The regression covering strictly Middle Jomon period sites used sites ranging from 5400 to 4400 calBP. The expanded time span plot used sites dated from 6400 to 3400 calBP, but only the results ranging from 5400 to 4400 calBP were displayed. The total data set used all sites meeting the minimum number of individual thresholds, but results were only shown for the range of 5400 to 4400 calBP. An additional horizontal line at 0.173 was added to the plots indicating the juvenility index level estimated for a stable population level (Bocquet-Appel 2008).

9 – Hexagonal Binning

Hexplots were also produced using the `geom_hex` hexagonal binning function in `ggplot2` in order to provide a better view of how sites influenced the LOESS regressions (Wickham 2016). Sites dated between 5400 and 4400 calBP were used for the hex plots. As the data used in the hexagonal binning process was the result of all 2000 MCMC simulation runs, the scale for the plots was adjusted by dividing the original scale by 2000. As with the LOESS regression plots, an additional horizontal line at 0.173 was added to the plots, indicating the juvenility index level estimated for a stable population level (Bocquet-Appel 2008).

4 – Research Limitations

Although this examination of Middle Jomon period skeletal remains in the Kanto and Chubu regions improves on some aspects of Noxon (2017), there are still some weaknesses present in the current study. While a Bayesian approach to site dating acknowledges and attempts to address the inherent uncertainty involved in the dating of archaeological sites and features, issues of age at death estimations, small sample sizes, and the degree to which those samples represent the populations that they came from are all sources of possible bias for this study.

1 – Age estimations

Age estimation from skeletal remains is improving, but limitations still remain. While a number of skeletal features can be used in the age estimation of juveniles, such as the loss and eruption of teeth, the appearance and closure of epiphyseal portions of bones, as well as the size of certain bones, these features are unable to be used for estimating the ages of mature individuals (Ubelaker and Khosrowshahi 2019, 1). In regards to features that are available to estimate the age of mature individuals, researchers have pointed out that a central bias is present, stating that for age estimation based on auricular surface following Lovejoy et al. (1985), “The method consistently underestimated the age of older individuals, and overestimated the age of younger individuals” (Buckberry and Chamberlain 2002, 232).

In addition to this central bias for mature individuals, Wärmländer and Sholts (2011) broached an even more important issue for age estimation studies, that of representational

sample populations to compare to. By identifying regional differences in pubic bone development, the authors stress that appropriate reference samples need to be used, adding that the use of multiple different measures for age estimations would be ideal if possible. Unfortunately, multiple measures are not always possible for Jomon samples due to poor preservation of remains, as well as the use of group burials, which can introduce additional uncertainty if large numbers of remains are present.

Despite the limitations present, there has been recent research examining bone mineral density, dental pulp, and exploring different methods of biochemical analysis which might help to improve the accuracy and precision of age estimations (Ubelaker and Khosrowshahi 2019). As techniques improve, reexamination of skeletal remains can help to refine previous age estimations. But for the purposes and scope of the current study, I have relied solely on the estimations provided in the source materials.

2 – Sample sizes

In the examination of skeletal remains for the whole duration of the Jomon period in Noxon (2017), I was able to draw on 1777 individuals from 97 sites for a sample population. While the number of individuals per site can vary significantly, as a point of comparison, we can use an overall average of approximately 18 individuals per site for that study. However, this must be put in the context of being representative of an occupation lasting over 16,000 years for the whole of the Japanese archipelago. The current reexamination of the Kanto and Chubu regions is more limited in scope, focusing on an area covering only 10 prefectures over the span of approximately 1000 years, but it has a more limited sample size. As the site dates vary for every simulation, only summary values are present, but there are an average number of 186 individuals (range of 121 to 328 individuals), coming from an average 16 sites (range of 12 to 21 sites). If sites lacking subadults aged 5 to 19 are omitted from the analysis, the sample size is reduced to an average of 171 individuals (range of 110 to 316 individuals), coming from an average of around 14 sites (range of 10 to 19 sites). These already reduced numbers would be reduced even further if the minimum number of individuals threshold used for the study was increased.

At the current threshold of five individuals per site, the minimum resolution of index values is 0.2. If five individuals were recovered at a site, and they were all adults, that site would have a juvenility index of 0. If one of those five individuals was between 5 and 19, the juvenility index would jump to 0.2, above the 0.173 estimated value of a stable population. If two of the five individuals were between 5 and 19, the index value would jump again to 0.4, which is quite high. If the minimum threshold was raised to 10 individuals, the resolution would increase to 0.1, and if we were able to further increase the minimum threshold to 25 individuals, we could achieve a resolution of 0.04. In the Kanto and Chubu region during the Middle Jomon period, there was only an average of 1 site (range of 1 to 3 sites) with 25 or more skeletal remains, and an average of only 5 sites (range of 3 to 9 sites) with 10 or more. Although I believe that the sample size available with the current minimum threshold of five or more individuals is able to provide some insight into changes in birth rates over time, the analysis is still vulnerable to stochastic variations, and any results should be viewed with that in mind.

3 – Issues of Preservation and Representativeness

Studies relying on the analyses of skeletal remains are inherently limited to areas that provide sufficient preservation of those skeletal remains. Chiba prefecture makes up a large

proportion of this study, specifically due to the large number of shell middens present around the Tokyo Bay area. While these areas provide a fantastic opportunity to understand more about the lives and lifestyles of those residing in these regions long ago, a variety of other environments and regions don't benefit from this degree of preservation of skeletal remains. As such, there is a question about whether the results from these areas of good skeletal preservation can be applied to other areas. This is a valid question, and while I believe that they may be applicable in some contexts, I don't believe that they can be applied to all other contexts. Limiting the area of research to the Kanto and Chubu regions helps to some degree, but a great variety of different environments still exist within that limited range. This is another area where the results of the study need to be viewed critically within their contexts.

There is another, more focused aspect of representativeness involved in this study, and that is the degree of representativeness of recovered skeletal remains for the local population of the time. The use of the juvenility index relies on the proportion of juveniles between 5 and 19 years old to all individuals in the population five years old or older in the actual population to be the same as in the recovered skeletal remains. For this reason, the 15p5 ratio omits juveniles under the age of five, as not only do the smaller, more gracile bones not preserve as well as larger, more mature bones, but also mortuary practices for younger individuals can differ from older juveniles and adults (Bocquet - Appel 2002, 639; Chamberlain 2009, 282). While this act of omitting juveniles under the age of five might help mitigate some issues of the representativeness of recovered skeletal sample populations for the original populations, the question of whether the sample is truly representative is unknowable. We are unable to confirm with certainty whether additional unidentified burial locations existed for the community, whether migration might have affected the makeup of individuals recovered, or whether a cemetery used by multiple groups would be representative of all the individual groups using that cemetery. This is another limitation of the analysis, and one which must be kept in mind when interpreting the results.

Although there are various ways in which some of these research limitations might be alleviated, the results will still hold some degree of bias. While age estimation techniques might improve, there will still be a degree of uncertainty present, no matter how much the techniques improve. A large proportion of Jomon-period skeletal remains come from the Kanto and Chubu regions, which helps improve sample sizes. But the numbers are still limited, and they are even more limited in other regions of Japan. By omitting an underrepresented age group, the 15p5 ratio attempts to address some issues of representativeness in the skeletal record, but the effect of that action has its own limitations and drawbacks, and the question of a truly representational sample will always be in question to some degree. This stresses the need for multiple lines of evidence when attempting to understand past population dynamics. By approaching past demographic processes from multiple angles, we are provided a broader, more holistic, and hopefully more accurate view of the past.

Chapter 5 – Results

In this chapter the results are given for both the sedentism portion of my research based on pithouse data as well as the examination of birth rate proxies using skeletal remains. The results of these two analyses are conveyed separately, and each are subdivided and organized into smaller subsections. Figures are provided for each section, as well as an initial interpretation of the results. Broader interpretations of the results are presented later in Chapter 6.

1 – Sedentism Study Results

This section provides the results of the investigation into Middle Jomon settlement patterns based on data obtained from pithouses. This section is divided into four major sections, pithouse counts, pithouse size, posthole size, and posthole variation. Pithouse count results are provided in the first subsection. The next sections on pithouse size and posthole size are further divided into smaller subsections. In section 5.1.3, measures of pithouse length and floor space are discussed and compared. In section 5.1.4, the results for individual pithouse types are provided and compared. Section 5.1.5 provides the results for posthole size analyses. The results for posthole depth measures are given in section 5.1.5.1, the results for posthole diameter measures are given in section 5.1.5.2, and the results for posthole volume measures are given in section 5.1.5.3. The final subsection, 5.1.6, contains the results of the posthole size variance analyses are provided.

1 – Pithouse Counts

Figure 35 shows the LOESS regression curves for all Middle Jomon period pithouses gathered from the Tama New Town excavation reports. Figure 35 shows a significant increasing trend through to 4800 cal BP. From 5400 to 5200 calBP the number of pithouses increases rapidly. This is followed by a period of slower growth from 5200 to 5000 calBP, and then followed by another rapid increase from 5000 to 4800 calBP. From 4800 cal BP to the end of the Middle Jomon period at 4500 calBP, the number of pithouses decrease over time.

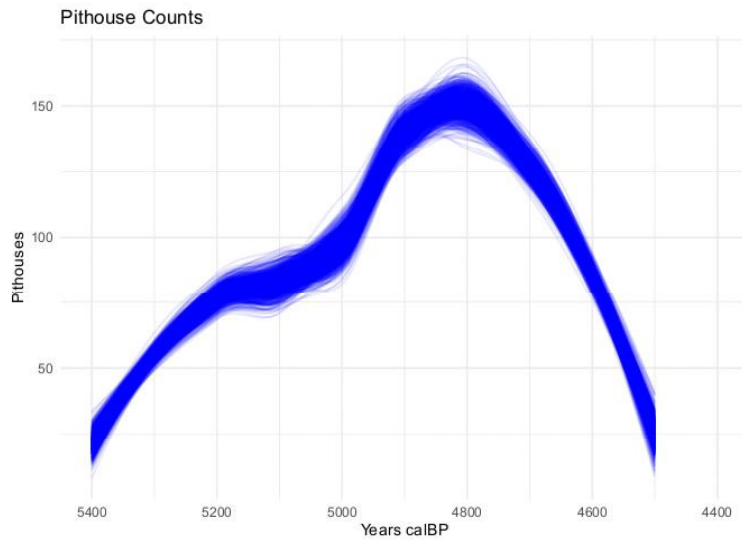


Figure 35 Combined LOESS regression curves for all 1000 MCMC simulation runs.

Figure 36 shows the cumulative pithouse counts for 1000 MCMC simulation runs. The scale has been adjusted by dividing the total counts by the number of simulation runs in order to provide an average value all combined runs. The barplot includes the two jumps in the number of pithouses seen in Figure 35, but shows that the initial increase appears sharper at the beginning, with a slight increasing trend from 5300 to 5000 calBP, at which point a second jump in the number of pithouses occurs. This is followed by an equally drastic decrease from 4800 to 4700 calBP. The number of pithouses appears to stabilize for approximately 200 years before another drastic drop occurs at the end of the Middle Jomon period.

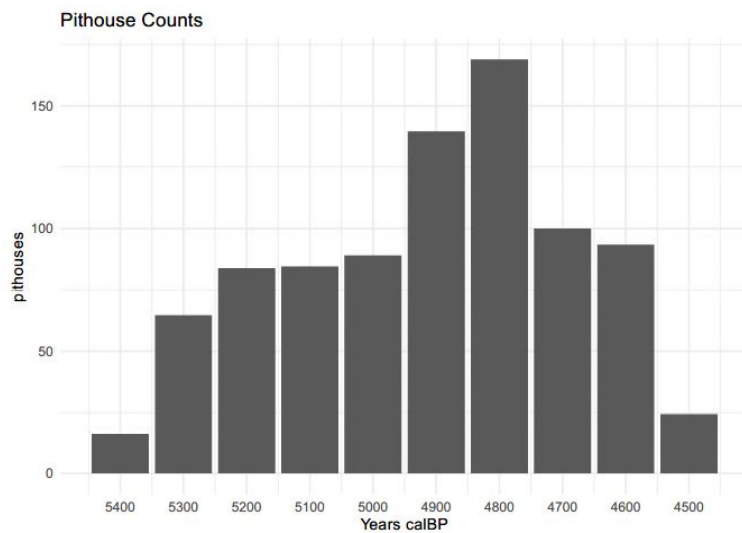


Figure 36 Barplot showing pithouse counts for each 100 year time block. Plot is drawn using the combined pithouse count data from all 1000 MCMC simulation runs and then scaled by dividing the results by 1000.

Figure 37 overlays a kernel density estimate (KDE) over the total pithouse counts shown in barplot form. The KDE curve matches fairly well with Figure 35's 1000 LOESS regression curves.

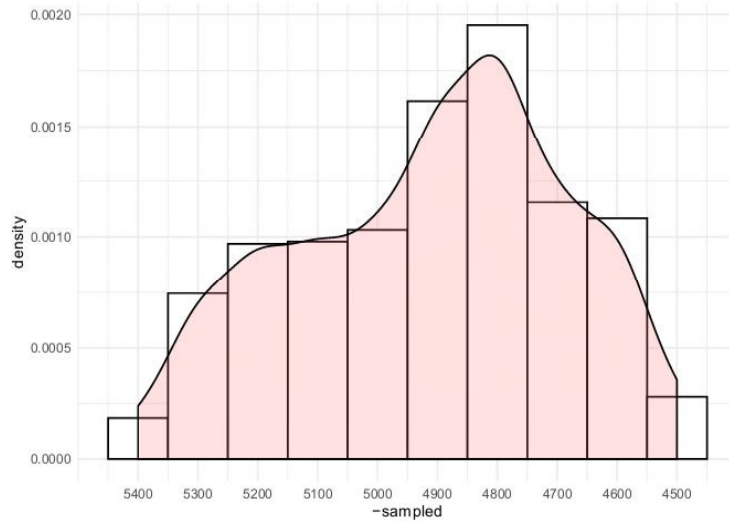


Figure 37 Pithouse count KDE curve overlaid on pithouse count barplot.

While Figures 35 through 37 provide total pithouse counts, they do not differentiate between different pithouse types. As discussed earlier in Chapter 3, all pithouses are not created equally. Different pithouse types would have required differing levels of energy to construct with the pithouses' ability to withstand the elements and need for less maintenance likely increasing if more energy was put into the initial construction of the pithouses. For this reason, Figures 38 and 39 are provided, showing individual pithouse counts for each pithouse type. Figure 38 includes all pithouses, including unknown types, which makes it directly comparable to the previous figures. Figure 39 has the unknown pithouse types removed to help provide a clearer picture of the relationship between different pithouse type counts. Like Figure 36, the figures are based on the pithouse counts from all 1000 MCMC runs and have been scaled by dividing the results by 1000.

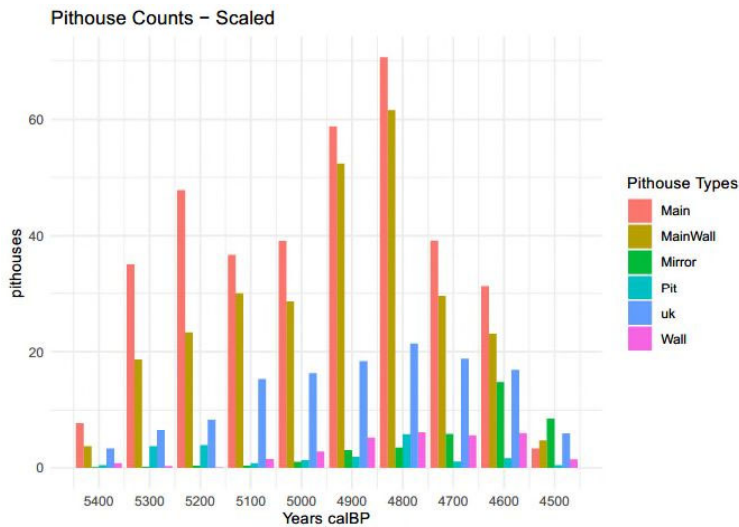


Figure 38 Pithouse counts for each pithouse type. Plot is drawn using the combined pithouse count data from all 1000 MCMC simulation runs and then scaled by dividing the results by 1000.

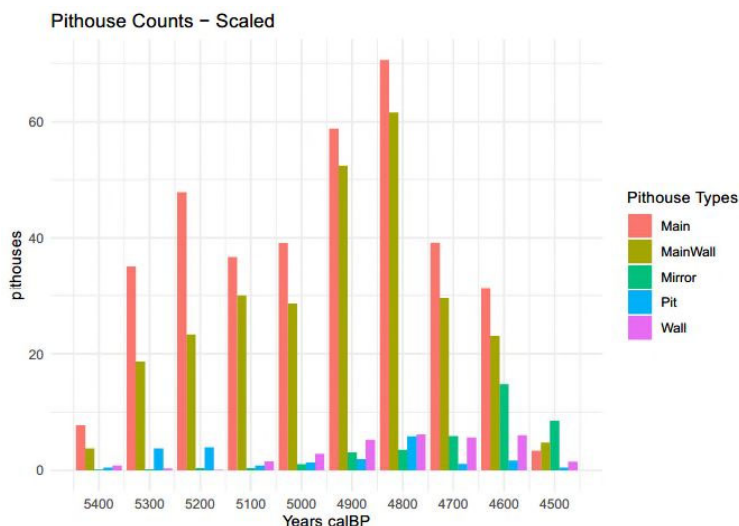


Figure 39 Pithouse counts for each pithouse type with unknown pithouses removed. Plot is drawn using the combined pithouse count data from all 1000 MCMC simulation runs and then scaled by dividing the results by 1000.

Figures 38 and 39 show some clearly different trends amongst pithouse types. Main and MW-types make up a majority portion of the number of pithouses over time. While the two types show similar trends, early on for the 5300 and 5200 calBP time blocks there were substantially more M-types than MW-types. From 5100 on however, that gap closed significantly, and at the very end of the Middle Jomon period, there were more MW-types than M-types. Figures 38 and 39 also show the introduction and increase in the number of HM-type pithouses in the Tama New Town area. While the numbers were quite limited in the middle of the period, towards the end of the Middle Jomon period, HM-types made up a significant portion of the pithouse in Tama New Town, peaking at approximately, and being the most common type at the very end of the period.

This relationship between different pithouse types is important for a number of reasons. While there might have been an aspect of certain style preferences, it's also possible, if not probable that functional needs also played a role in these changes. This discussion will be continued further in the next chapter.

2 – Pithouse Length vs Floor Space

As previously described in Chapter 3, the suitability of pithouse size measures were examined prior to applying the chosen unit of measure across all related analyses. While a measurement of total volume would be ideal, it unfortunately isn't possible as intact standing structures have not been recovered. Theoretically, the next best measurement would be floor space, with a measure of pithouse length being the least precise measure of pithouse size. However, just as the archaeological record doesn't support the ability to accurately measure pithouse volume, the floor space of pithouses can also be difficult to ascertain. Spearman's correlation analyses were conducted comparing the pithouse length results with the pithouse floor space results for each of the pithouse types as well as all the types combined to determine if there was a significant difference between the measures. The results of these analyses are shown in Figure 40.

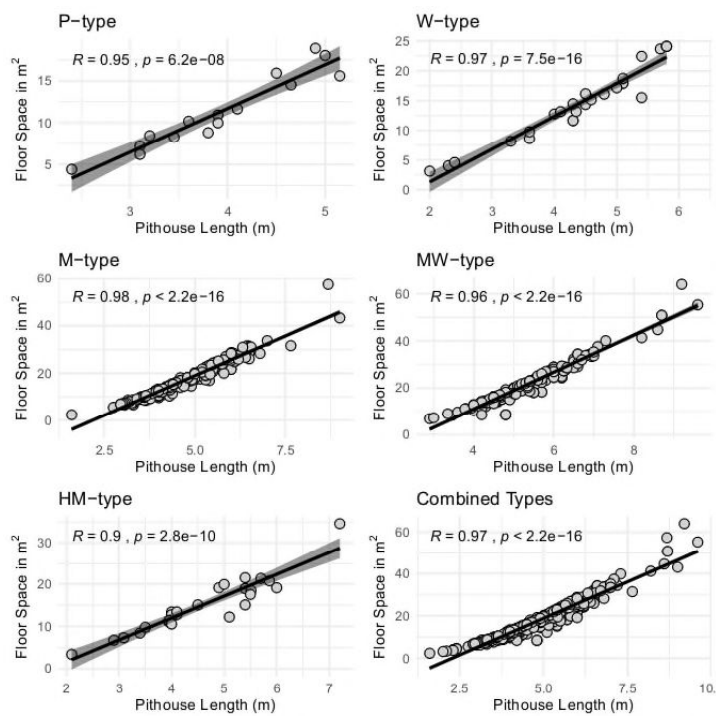


Figure 40 Spearman's rank correlations comparing pithouse length to pithouse floor space for individual pithouse types as well as all types combined.

As Figure 40 shows, the correlations of pithouse length measurements to pithouse area measurements ranged between 0.9 and 0.98. HM-types displayed the least degree of correlation while M-types displayed the highest degree of correlation.

Figures 41 and 42 show LOESS regressions for pithouse length and floor space over time for each of the 1000 MCMC simulation runs. The floor space trends were slightly more pronounced than those for pithouse lengths. As mentioned earlier however, because these

trends were so similar and pithouse length measurements are not only more plentiful but are a more direct measurement compared to the calculated floor space measures, pithouse length measurements were used in subsequent analyses.

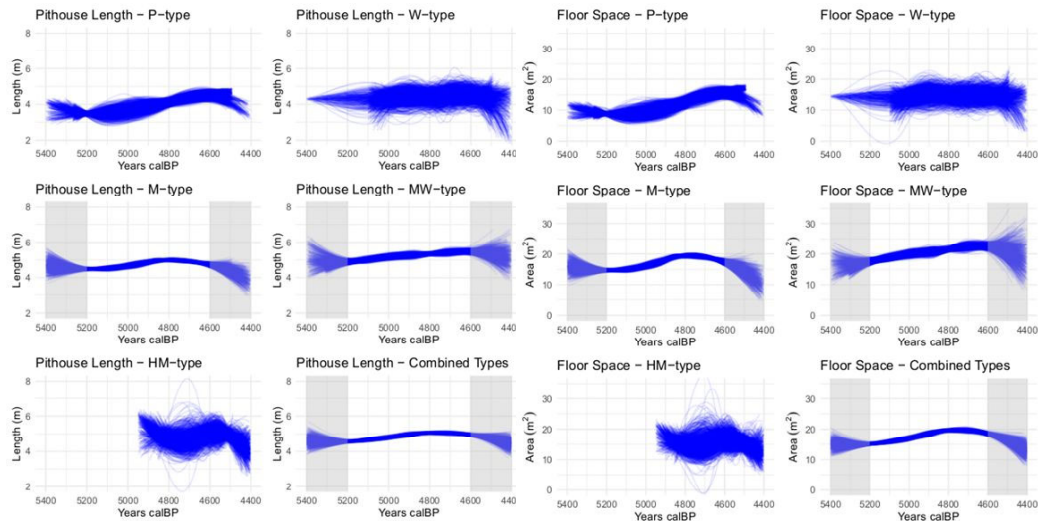


Figure 41 Combined LOESS regression curves indicating changes in pithouse length over time for all 1000 MCMC simulation runs. Individual pithouse types as well as all types combined are plotted separately. Gray boxes indicate areas of increased uncertainty due to edge effects.

Figure 42 Combined LOESS regression curves indicating changes in pithouse floor space over time for all 1000 MCMC simulation runs. Individual pithouse types as well as all types combined are plotted separately. Gray boxes indicate areas of increased uncertainty due to edge effects.

3 – Pithouse Size by Type

1 – P-type

The LOESS regressions for pit-type pithouse length in Figure 43 show a gradual increasing trend from approximately 5200 to 4600 calBP. While there is some uncertainty in the trends, especially around 5100 to 4900 calBP, the increasing trend is fairly clear for the pit-type pithouses. As can be seen in Figures 44 and 45, the pit-type pithouse data is sparse, but there does seem to be a general trend of the pithouses getting larger over time.

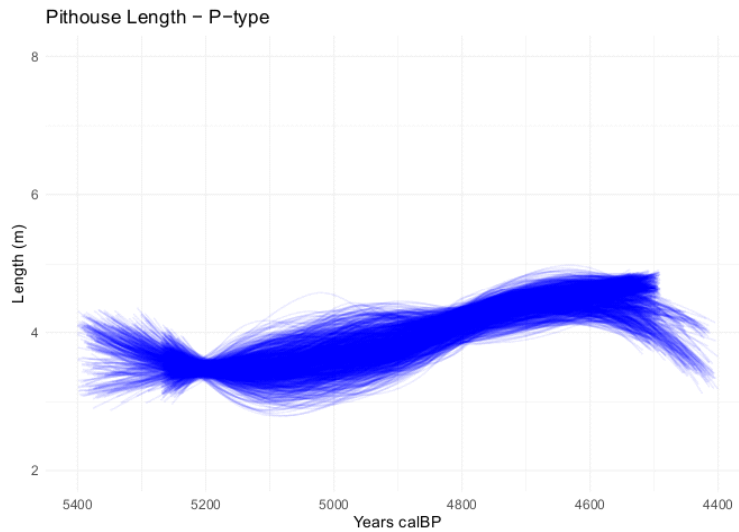


Figure 43 Combined LOESS regression curves indicating changes in pit-type pithouse length over time for all 1000 MCMC simulation runs.

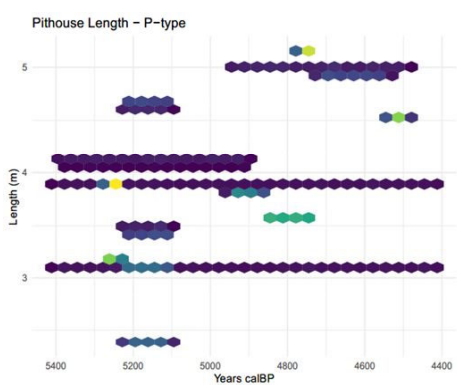


Figure 44 Hexplot indicating changes in pit-type pithouse length over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

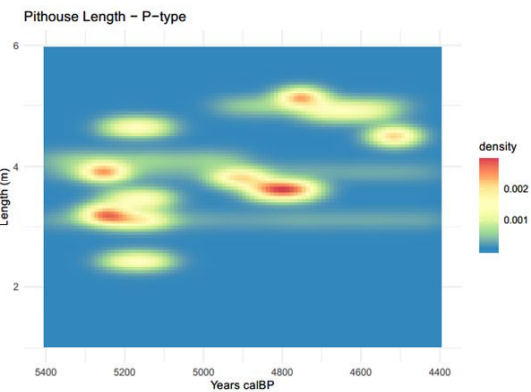


Figure 45 Density plot indicating changes in pit-type pithouse length over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse size.

2 – W-type

The LOESS regressions for W-type pithouse length in Figure 46 show a large degree of uncertainty as far as pithouse size trends are concerned. The sizes for the W-types was quite varied, which leads to the large degree of uncertainty present in Figure 46. This variation is also clearly visible in Figures 47 and 48. While there is a concentration of W-type pithouses between four and five meters in length, there is no clear uniformity for W-type pithouse sizes over time.

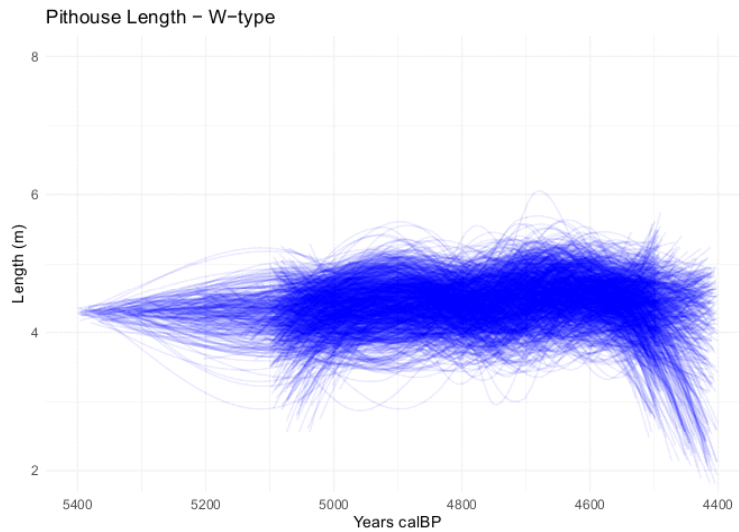


Figure 46 Combined LOESS regression curves indicating changes in W-type pithouse length over time for all 1000 MCMC simulation runs.

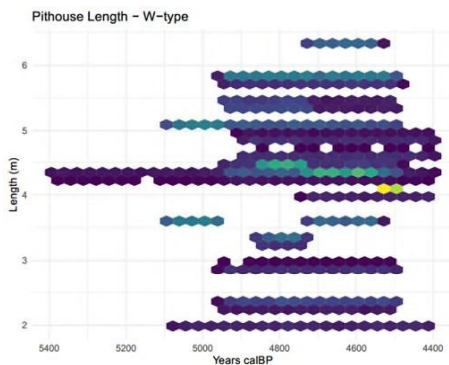


Figure 47 Hexplot indicating changes in W-type pithouse length over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

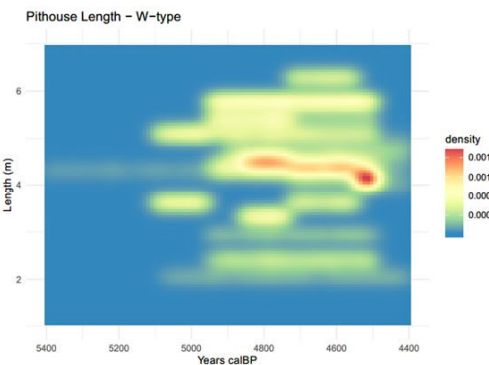


Figure 48 Density plot indicating changes in W-type pithouse length over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse size.

3 – M-type

Figure 49 shows the LOESS regression curves for M-type pithouse lengths over the Middle Jomon period. Edge effects are clear from the large degree of uncertainty at the very start and end of the period. There appears to be a slight increase in pithouse length from approximately 5300 cal BP to 4800 calBP. From 4800 to 4600 calBP pithouse length shows a decreasing trend which appears to continue on towards the end of the period, but the higher degree of uncertainty towards the end of the period makes it difficult to confirm. Looking at Figures 50 and 51, while variation of M-type pithouses are present throughout the Middle Jomon period, most of that variation is somewhat bounded. In the early portion of the period, pithouse length generally ranged from approximately 3.5m to 5m. There is a clear concentration of M-type pithouses at approximately 4800 calBP, at which time the majority

of M-type pithouses ranged between four and six meters long. By around 4600 calBP, the size range decreased back to 3.5m to a little over 5m long.

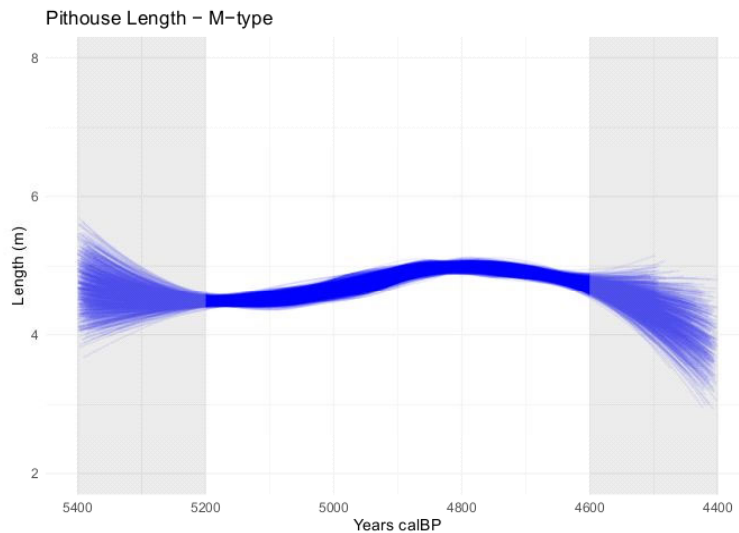


Figure 49 Combined LOESS regression curves indicating changes in M-type pithouse length over time for all 1000 MCMC simulation runs. Gray boxes indicate areas of increased uncertainty due to edge effects.

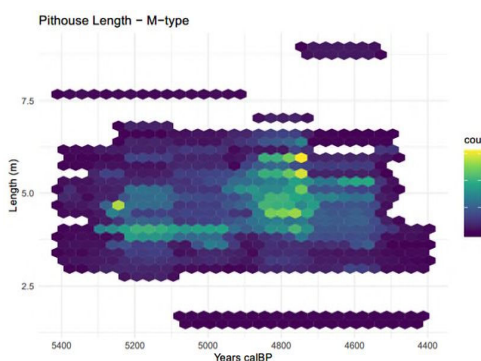


Figure 50 Hexplot indicating changes in M-type pithouse length over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

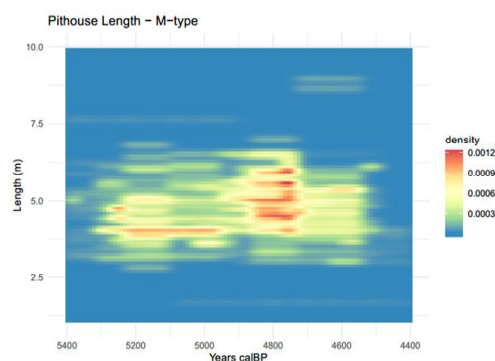


Figure 51 Density plot indicating changes in M-type pithouse length over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse size.

4 – MW-type

While MW-type pithouses display a slight increasing trend for pithouse length through the Middle Jomon period as seen in Figure 52, the MW-type pithouses don't show the same type of consistency seen in the M-type pithouses. Looking at Figures 53 and 54, there is a concentration of pithouses at approximately 4800 calBP with a core cluster between four and six meters long, but in addition to that, there is a slightly sparser concentration of pithouses that span from slightly below 4m to around 7m in length. In addition to those, there are outliers that span over 8m in length. While earlier in the period most MW-type pithouses

stayed within the four to six meter range, heading towards the peak at 4800 calBP, pithouses longer than 6m were not only outliers, but were part of a wider range of pithouse sizes. That increased variation continued on through to 4600 calBP, although the number of MW-type pithouses decreased. After 4600 calBP both the number of MW-type pithouses and the variety of MW-type pithouse sizes decreased.

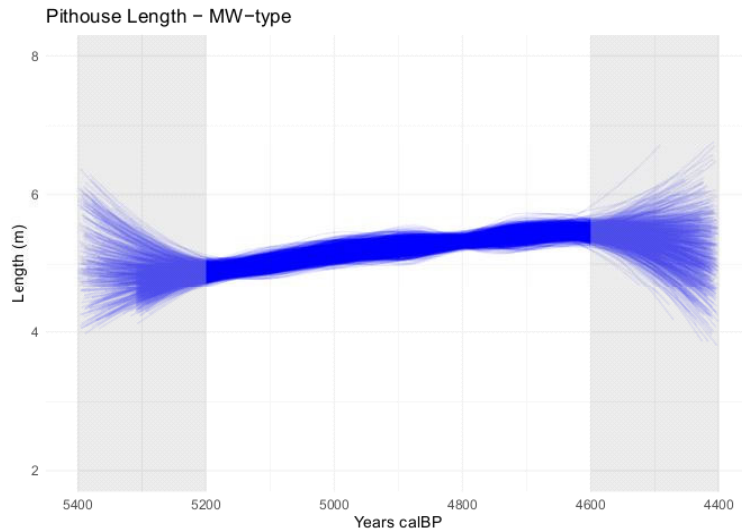


Figure 52 Combined LOESS regression curves indicating changes in MW-type pithouse length over time for all 1000 MCMC simulation runs. Gray boxes indicate areas of increased uncertainty due to edge effects.

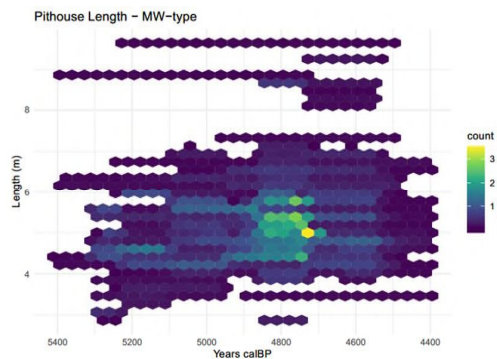


Figure 53 Hexplot indicating changes in MW-type pithouse length over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

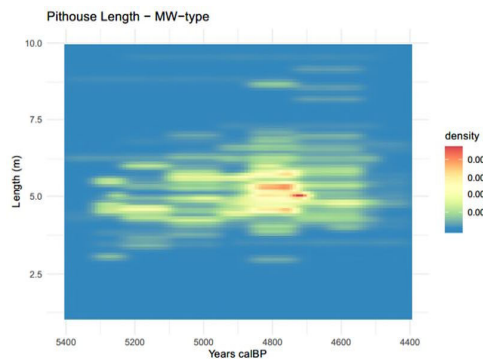


Figure 54 Density plot indicating changes in MW-type pithouse length over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse size.

5 – HM-type

Figure 55 shows an odd trend for HM-type pithouses length. There is a high degree of uncertainty present in the LOESS regressions, but there appears to be a significant decrease in HM-type pithouse length from 5200 calBP to 4700 calBP. From 4700 calBP to 4600 calBP, HM-type pithouse length appears to increase somewhat, only to decrease once again through to the end of the period. Looking at Figures 57 and 58, helps to clarify some of the

confusion in Figure 55. While most HM-type pithouses don't start to appear until a little after 5000 calBP, there appears to be one large HW-type pithouse that was listed with a possible starting date near 5200 calBP. The decreasing trends between 5200 and 5000 calBP are attempting to fit this outlier in with the rest of the HM-type pithouses. Looking at the data, pithouse P152-1029-1 turned out to be the main issue. The site pithouse P152-1029-1 is from, Tama New Town 107 only listed a time range for the site occupation from the middle of the Katsuzaka period to the end of the Kasori E period which was treated as ranging from Katsuzaka 2 to Kasori E4. Although there is still a large degree of uncertainty for HM-type pithouse length over time, Figure 56 shows that removing this particular pithouse from the LOESS regressions removes the early decreasing trend starting from approximately 5200 calBP. Even with this particular pithouse removed from the analysis however, the appearance of the HM-type pithouses still begins with a decreasing trend in pithouse length.

Looking at Figures 57 and 58, the effect of pithouse P152-1029-1 can be seen in the horizontal line at approximately 7m. The general range of sizes doesn't appear to shift much over time however, typically falling between approximately three to six meters long. I should point out that these lengths do not include entryways, but rather than main circular portion of the dwellings.

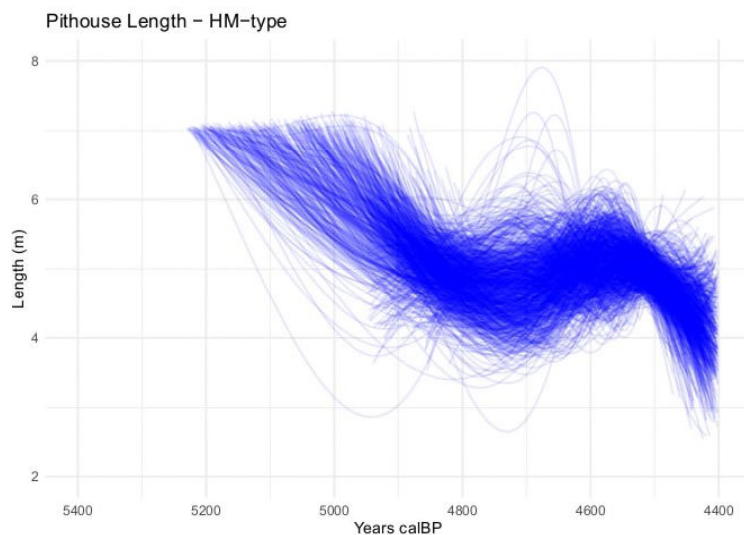


Figure 55 Combined LOESS regression curves indicating changes in HM-type pithouse length over time for all 1000 MCMC simulation runs.

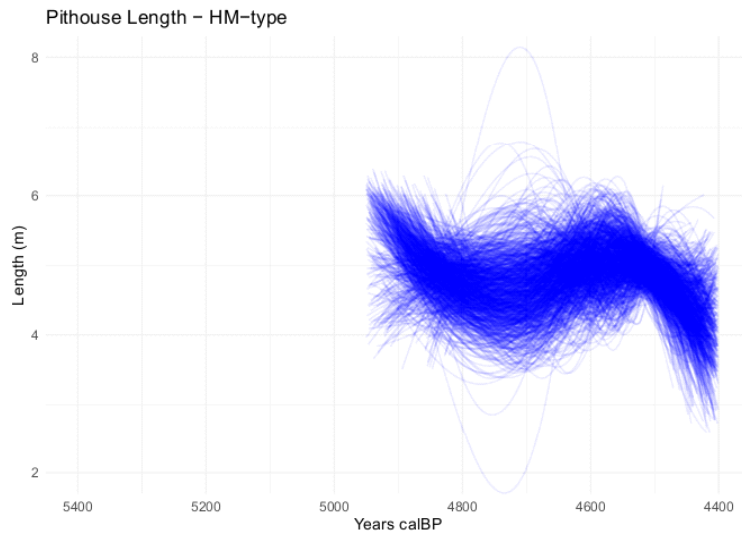


Figure 56 Combined LOESS regression curves indicating changes in HM-type pithouse length over time for all 1000 MCMC simulation runs with pithouse P152-1029-1 filtered out of the analysis.

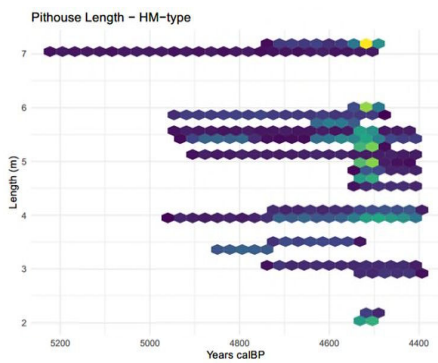


Figure 57 Hexplot indicating changes in HM-type pithouse length over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

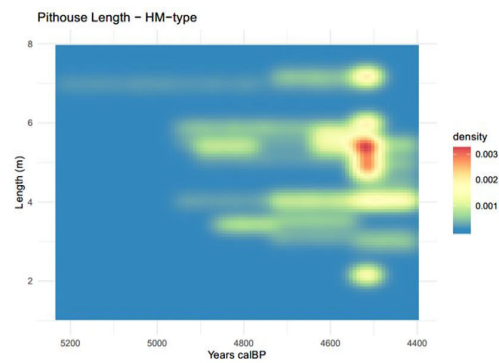


Figure 58 Density plot indicating changes in HM-type pithouse length over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse size.

6 – Comparison

Figures 59 and 60 provide views of how each pithouse type changed in size over time. Figure 59 shows the mean length for each of the five pithouse types. Unknown types were removed from Figures 59 and 60 for clarity.

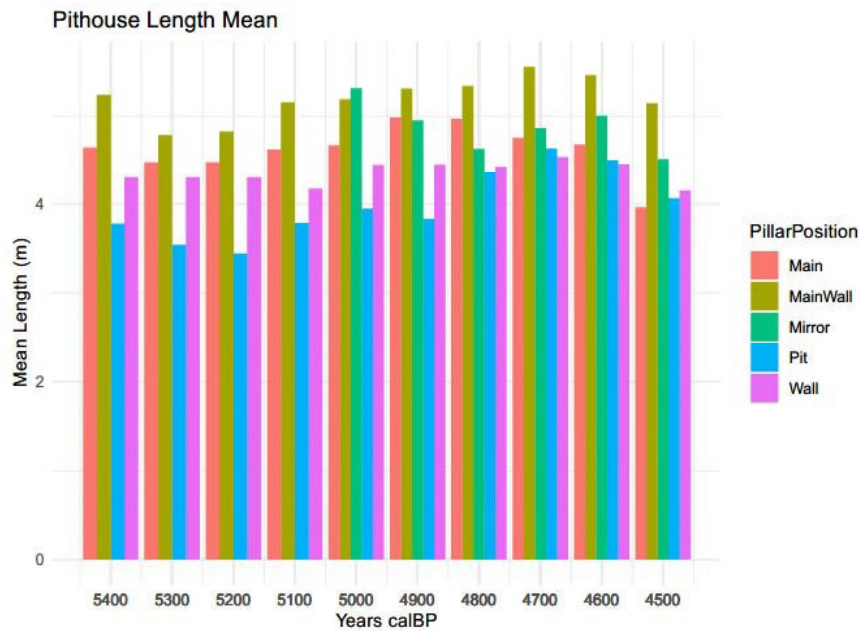


Figure 59 Average pithouse length for each known pithouse type. Results shown for each 100 year time block and were averaged from 1000 MCMC simulation run data. Unknown types and pithouse P152-1029-1 removed from results.

While some shifts in size are visible in Figure 59, Figure 60 displays the sum length of pithouses for each type. Values were scaled by dividing the results from all 1000 MCMC simulation runs by 1000. Displaying a sum total length for each pithouse type aims to provide a rough portrayal into the energy put into the construction of each pithouse type. If pithouse types A and B had similar counts for a 100 year time bloc, but the average size of pithouse type A was substantially larger than pithouse B, it is reasonable to assume that more energy went into the construction of A types than B types in that period. We can see in Figure 60 that throughout most of the Middle Jomon period in the Tama New Town area, significantly more energy went into the construction of M-type and MW-type pithouses overall. This starts to change around 4600 calBP when the number of M and MW-type pithouses decreased while HM-type pithouses increased. At the end of the period HM-types overtake M and MW-type pithouses in terms of the sum total length of pithouse types.

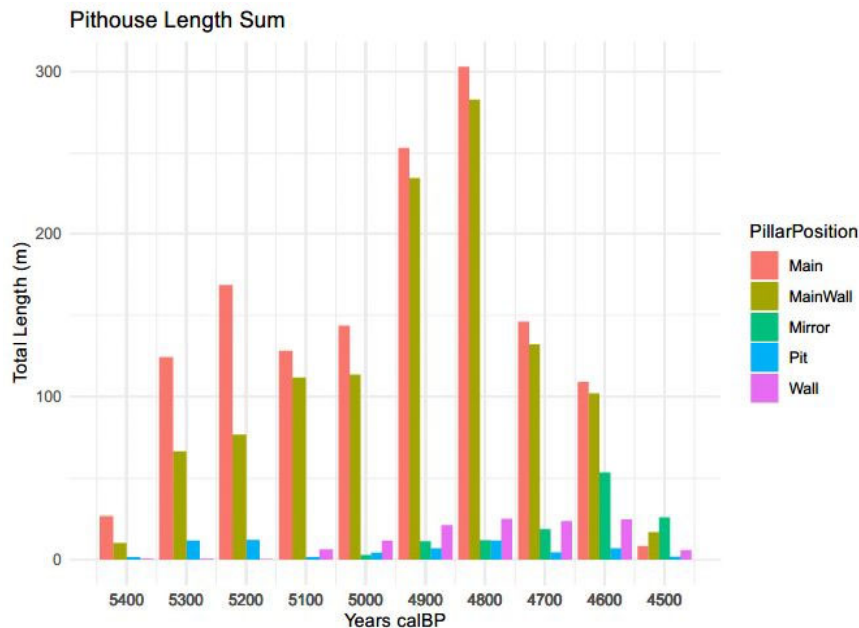


Figure 60 Summed pithouse length for each pithouse type serving as a proxy for energy input into residential structures over time. Results shown for each 100 year time block and were scaled from 1000 MCMC simulation run output by dividing results by 1000. Unknown types and pithouse P152-1029-1 removed from results.

4 – Posthole Size

1 – Posthole Depth

1 – Combined Types

Figure 61 shows the LOESS regression curves for mean posthole depth for the combined sample of M and MW-type pithouses. Edge effects are clearly visible at the beginning and end of the period as evidenced by the large degree of uncertainty on both ends. The combined posthole depth averages remain fairly consistent through the middle Jomon period, but there does appear to be a slight decrease in posthole depth from approximately 5100 to 5000 calBP. Looking at Figures 62 and 63 however, shows a large degree of variation throughout the Middle Jomon period. There are two main concentrations of data points. The first occurs at approximately 5200 calBP and clusters between an average of 0.6m to 0.75m in depth. The second larger cluster occurs at approximately 4800 calBP and shows a clustering that starts at slightly more shallow depths between 0.5 to 0.75m in depth. This suggests that posthole depth isn't necessarily trending towards being shallower, but rather that with the concentration of pithouses at the time, there is a wider range of depths present at 4800 calBP.

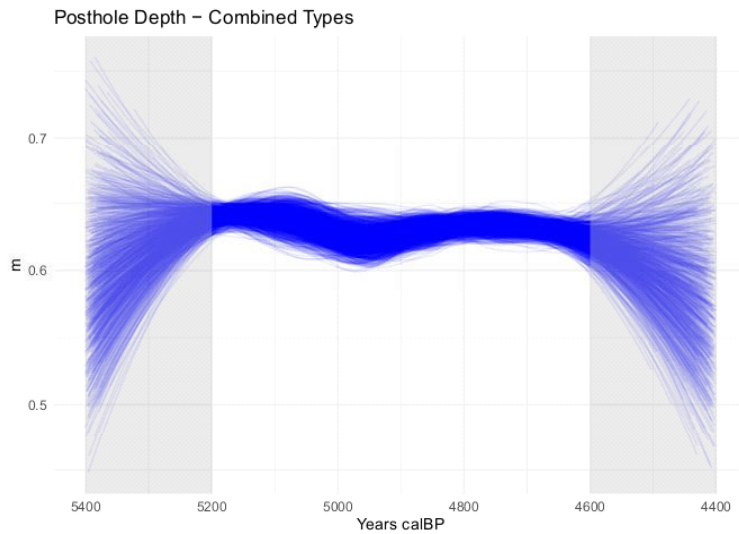


Figure 61 Combined LOESS regression curves indicating changes in posthole depth over time for all 1000 MCMC simulation runs. Posthole depth values were calculated using the average posthole depth for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

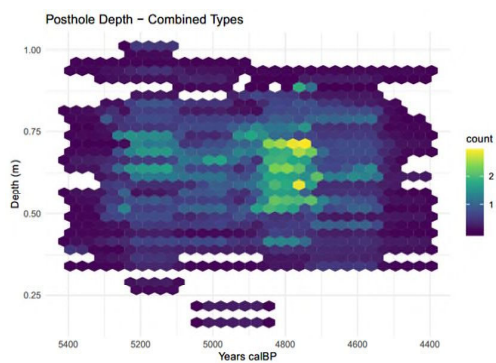


Figure 62 Hexplot indicating changes in posthole depth over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

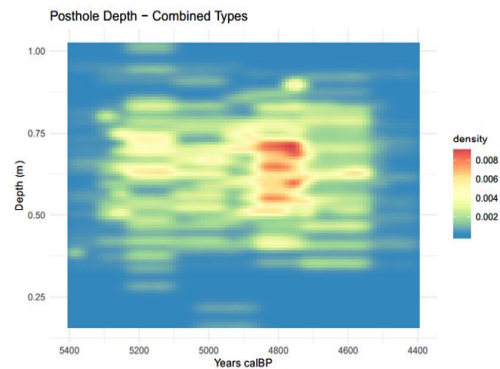


Figure 63 Density plot indicating changes in posthole depth over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole depth.

2 – M-type

Separating the M-types and MW-types starts to show some differences. Figure 64 shows few changes across the periods. Again, edge effects are apparent by the large degree of uncertainty shown at the beginning and end of the period. Figures 65 and 66 look fairly similar to the M and MW-type combined hex and density plots of Figures 62 and 63. There are concentrations of pithouses at approximately 5200 calBP and 4800 calBP. The cluster at 5200 calBP shows the greatest concentration of posthole depths between 0.6 and 0.8m, there are still some less concentrated areas both deeper and shallower than this main cluster. While the general range of the cluster at 4800 calBP spans a similar range as the 5200 calBP cluster,

depth values are more evenly distributed along a fairly broad range of depths spanning from under 0.4 to over 1m.

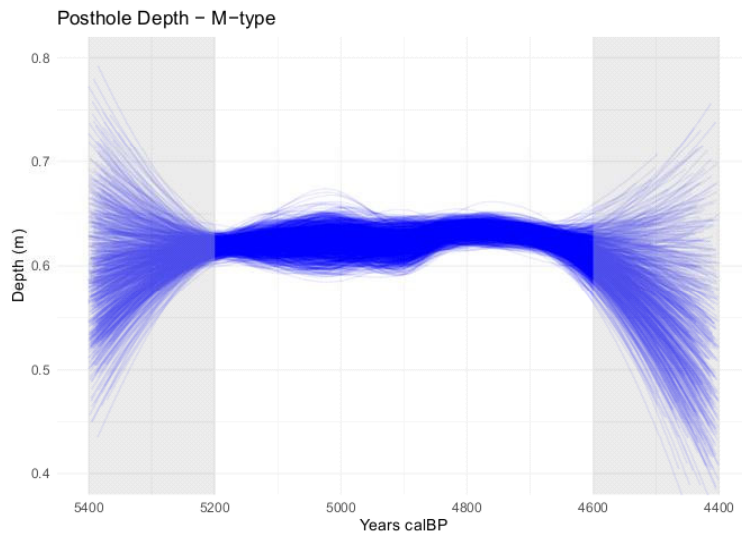


Figure 64 Combined LOESS regression curves indicating changes in posthole depth of M-type pithouses over time for all 1000 MCMC simulation runs. Posthole depth values were calculated using the average posthole depth for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

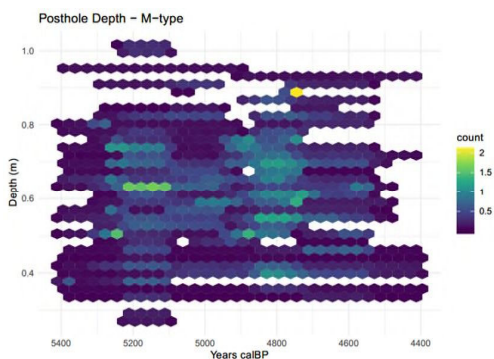


Figure 65 Hexplot indicating changes in posthole depth of M-type pithouses over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

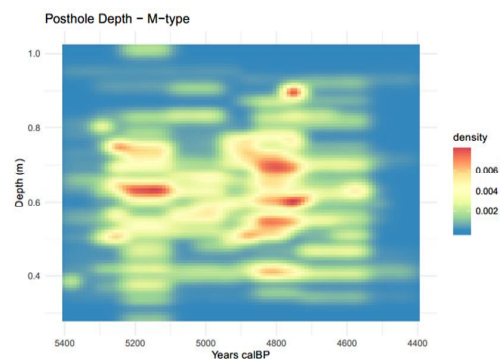


Figure 66 Density plot indicating changes in posthole depth of M-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole depth.

Pithouse length to mean posthole depth ratio plots for M-type pithouses show a decrease in posthole depth compared to pithouse size starting around 5000 calBP (Figures 67-69). The ratio then stabilizes around 4900 calBP, and continues on through 4600 calBP. It should be noted that the decrease in the ratio value could be caused by a decrease in posthole size alone, an increase in pithouse size alone, or a combination of the two changes. The beginning and end of the period show high degrees of uncertainty, making it difficult to predict the relationship between pithouse size and mean posthole depth at those times. Figures 68 and 69 show a relatively clear decrease in values from the data concentration at 5200 calBP and the following concentration at 4800 calBP, matching the LOESS regressions in Figure 67.

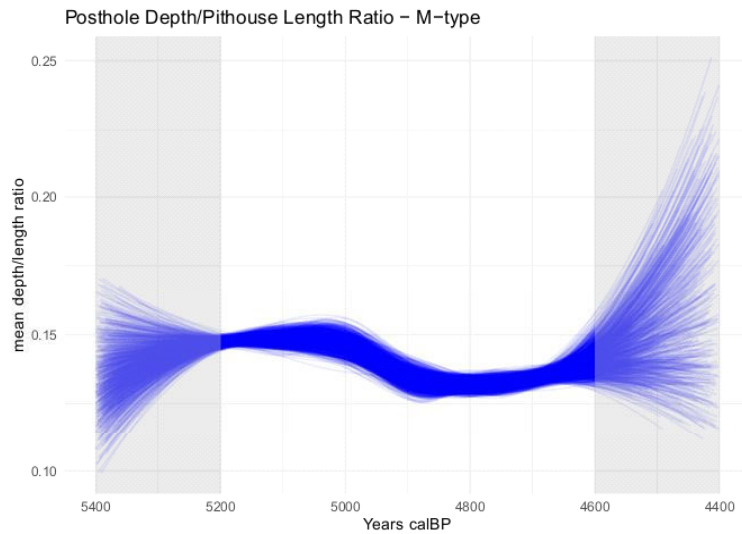


Figure 67 Combined LOESS regression curves indicating changes in pithouse length to mean posthole depth ratio values of M-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the mean posthole depth by the pithouse length of each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

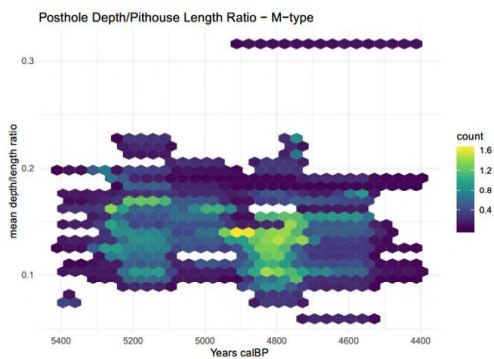


Figure 68 Hexplot indicating changes in M-type pithouse length to mean posthole depth ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

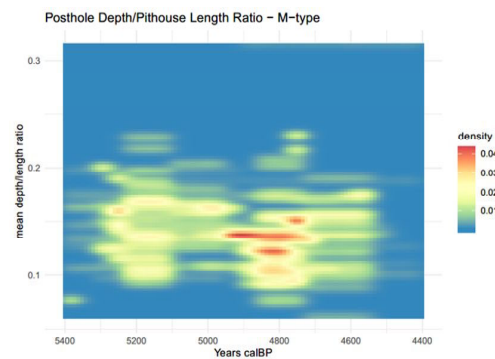


Figure 69 Density plot indicating changes in M-type pithouse length to mean posthole depth ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse length to mean posthole depth ratio value.

3 – MW-type

There is a clear decreasing trend in posthole depth between 5200 and 5000 calBP for MW-type pithouses shown in Figure 70. From 5000 calBP to 4600 calBP, the trend for posthole depth is fairly stable. Edge effects make it difficult to determine trends at the beginning and end of the Middle Jomon period. Other than a few outliers, the range of posthole depths for MW-type pithouses is more constrained than M-type pithouses. Most depths lie between approximately 0.4 and 0.8m deep as shown in Figures 71 and 72.

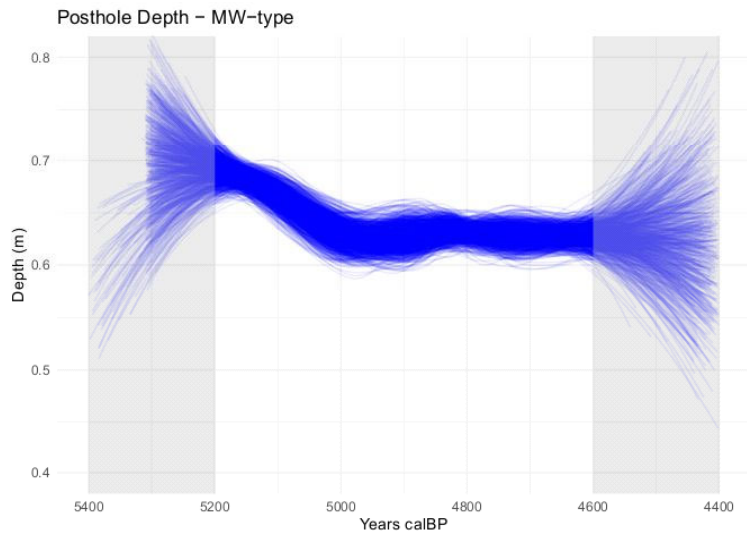


Figure 70 Combined LOESS regression curves indicating changes in posthole depth of MW-type pithouses over time for all 1000 MCMC simulation runs. Posthole depth values were calculated using the average posthole depth for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

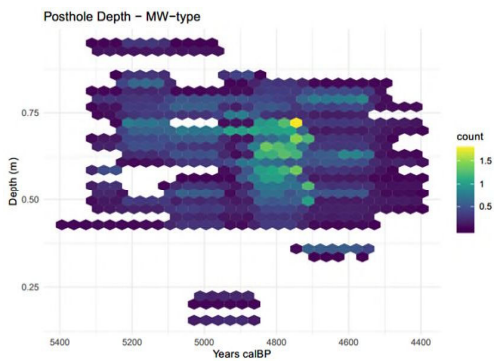


Figure 71 Hexplot indicating changes in posthole depth of MW-type pithouses over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

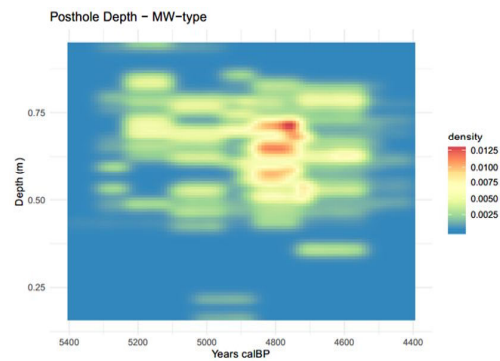


Figure 72 Density plot indicating changes in posthole depth of MW-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole depth.

MW-type pithouses show a fairly stark decreasing trend for mean posthole depth to pithouse length running from 5200 calBP to around 5000 calBP, at which point the ratio values appear to be quite steady (Figure 73). Figures 74 and 75 also show a clear decrease matching the one shown in Figure 73, but the span of ratio values appears to have increased around 5000 calBP, indicating a wider range of relationships between pithouse lengths and posthole depths. Relying on the LOESS regressions alone in this instance could lead to a false

conclusion that pithouse size to posthole depth relationships were far more uniform than they actually were.

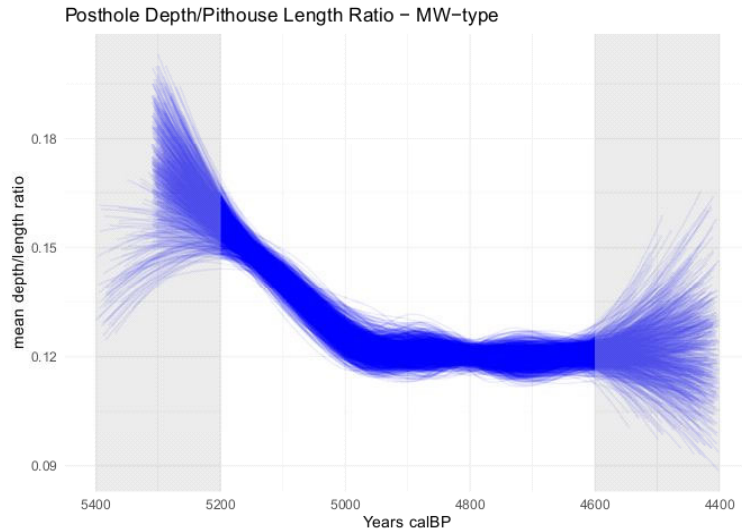


Figure 73 Combined LOESS regression curves indicating changes in pithouse length to mean posthole depth ratio values of MW-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the mean posthole depth by the pithouse length of each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

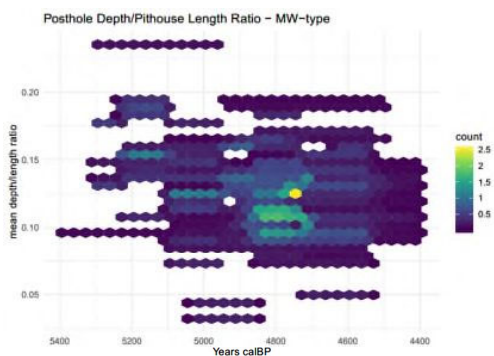


Figure 74 Hexplot indicating changes in MW-type pithouse length to mean posthole depth ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

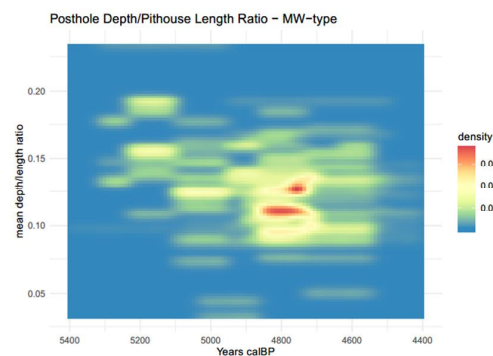


Figure 75 Density plot indicating changes in MW-type pithouse length to mean posthole depth ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse length to mean posthole depth ratio value.

4 – Comparison

Posthole depths should not be viewed in isolation. As it is reasonable to assume that posthole sizes might be related to pithouse sizes, it is important to examine that relationship. In addition to the pithouse size to posthole depth ratio value analyses examined above, Spearman's correlation coefficients were also calculated and are examined below. Figure 76

shows Spearman's correlation values for posthole depth and pithouse length separated by types. Overall, the correlation between pithouse length and posthole depth is fairly weak when types are combined, with an R of 0.31. If types are separated, M-type pithouses show a slightly stronger, yet still moderate, correlation for posthole depth and pithouse length, with an R of 0.4, while MW-types show a significantly weaker correlation with an R of 0.14. While overall, there doesn't appear to be much of a correlation between posthole depth and pithouse length, it's also important to consider that these relationships might change over time. As such, Figure 77 shows how these correlation values changed for each 100 year time block. While correlation values don't extend much past a moderate correlation between posthole depth and pithouse size, the correlation values do change over time, and change in ways that Figure 76 was not able to portray. Both M and MW-types show a decrease in correlation values at approximately 4900 calBP. While MW-types showed a slight increasing trend in pithouse size through the Middle Jomon and M-types showed a slight increase leading up to 4800 calBP and then a slight decrease thereafter, both types show a significant drop in correlation values between pithouse length and posthole depth when pithouse numbers were at their peaks. Interestingly, MW-types appear to show an initial drop several hundred years earlier than M-type pithouses.

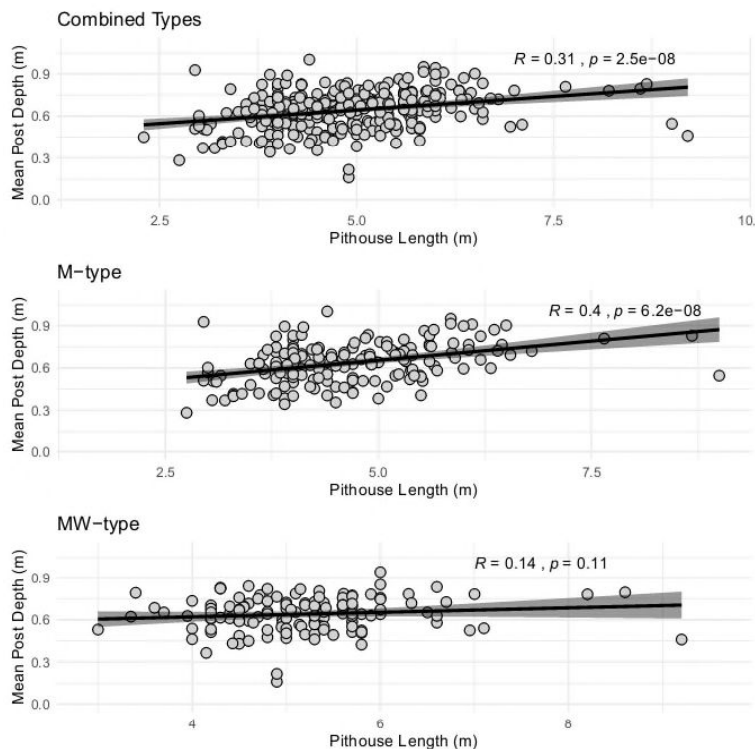


Figure 76 Spearman correlation values comparing posthole depth to pithouse length separated by type. Top to bottom, combined M and MW-types, M-types, and MW-types.

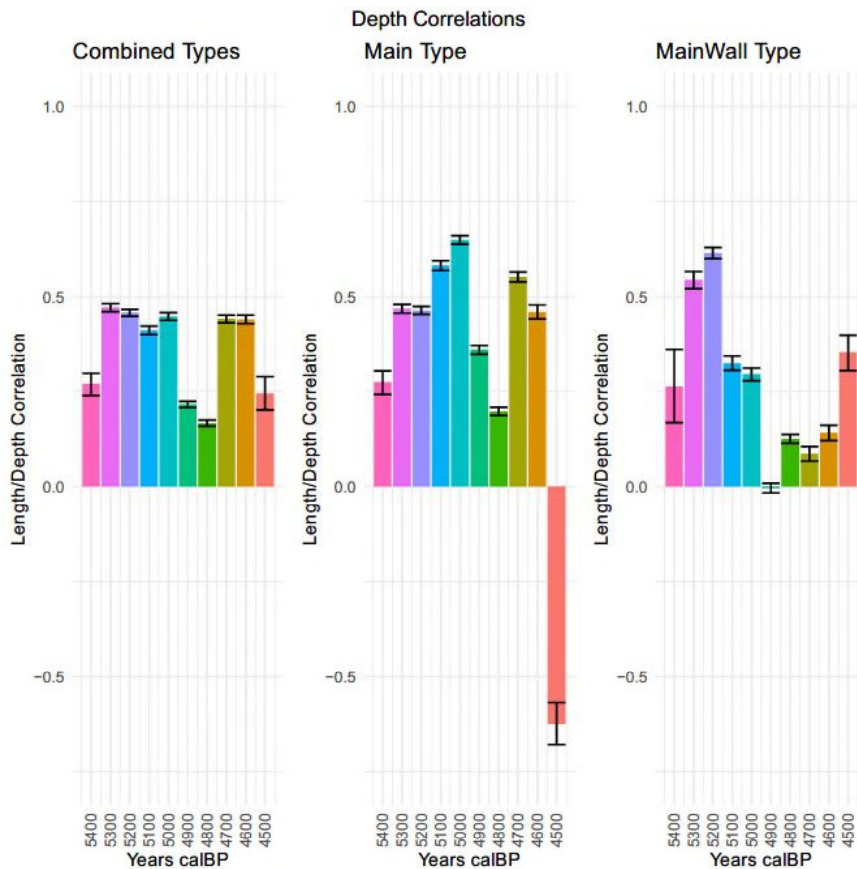


Figure 77 Posthole depth to pithouse size Spearman correlation values separated by type and time block. Left to right, combined types, M-type, and MW-type pithouses. 95% confidence intervals bootstrapped using RVAideMemoire package (Hervé 2020).

2 – Posthole Diameter

1 – Combined Types

Figure 78 shows a clear trend of increasing posthole diameters for combined pithouse types from an average of approximately 20cm to 22-23cm leading up to approximately 4900 calBP, followed by a similar decrease heading to 4600 calBP. Edge effects are again present and visible from the high degree of uncertainty at the beginning and end of the period. This trend is a slightly more difficult to discern looking at Figures 79 and 80. Comparing the clusters at 5200 calBP and 4800 calBP, the values to shift slightly higher, and the concentration of posthole diameter values shifts lower at 4600 calBP. What Figure 78 doesn't show that is visible in Figures 79 and 80 is the range of values that exist over time and the slight expansion of that range during the pithouse peak of 4800 calBP.

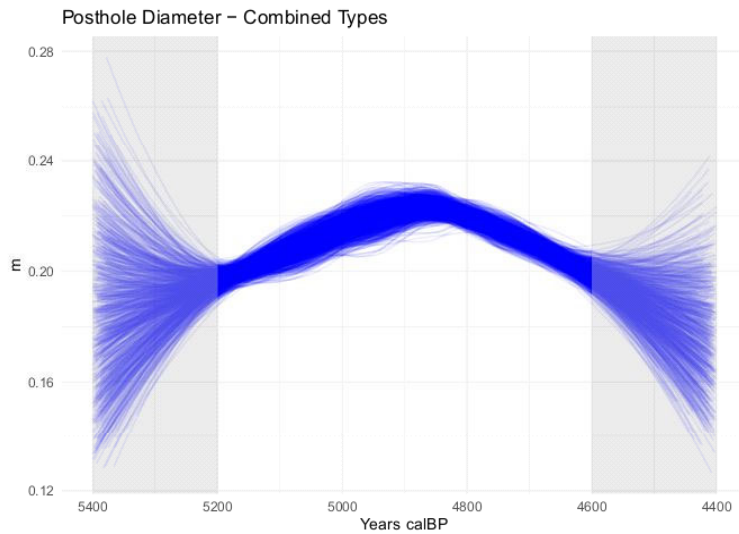


Figure 78 Combined LOESS regression curves indicating changes in posthole diameter over time for all 1000 MCMC simulation runs. Posthole diameter values were calculated using the average posthole diameter for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

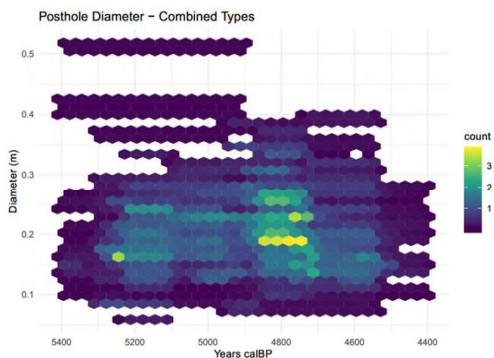


Figure 79 Hexplot indicating changes in posthole diameter over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

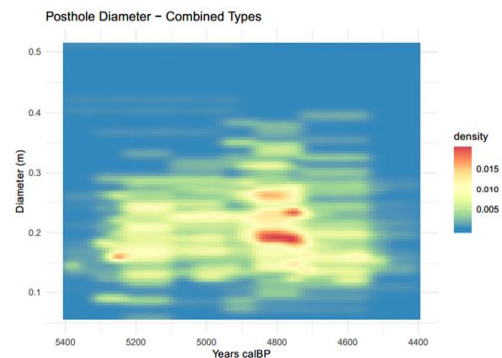


Figure 80 Density plot indicating changes in posthole diameter over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole diameter.

2 – M-type

Figure 81 shows that M-type pithouses displays a similar trend as the combined pithouse type trend seen in Figure 78, but the timing and degree of changes are different. The M-type pithouse trend for posthole diameter shows an increase to approximately 4900 calBP and then a decrease through to 4600 calBP. Edge effects make it difficult to determine the trend beyond 4600 calBP. At 5200 calBP the trend shows an average diameter of 20cm which increases to approximately 22-23cm before dropping to approximately 18cm by 4600 calBP. This trend is clearly visible in Figures 82 and 83. Diameter values generally ranged from 10cm to 30cm, but the clustered values within this range shifter slightly higher between 5200 and 4800 calBP. Values then started to shift lower, clustering between 10 and 20cm in

diameter. While the general overall range tended to stay between 10 and 30cm throughout the period, there does seem to have been shifts over time.

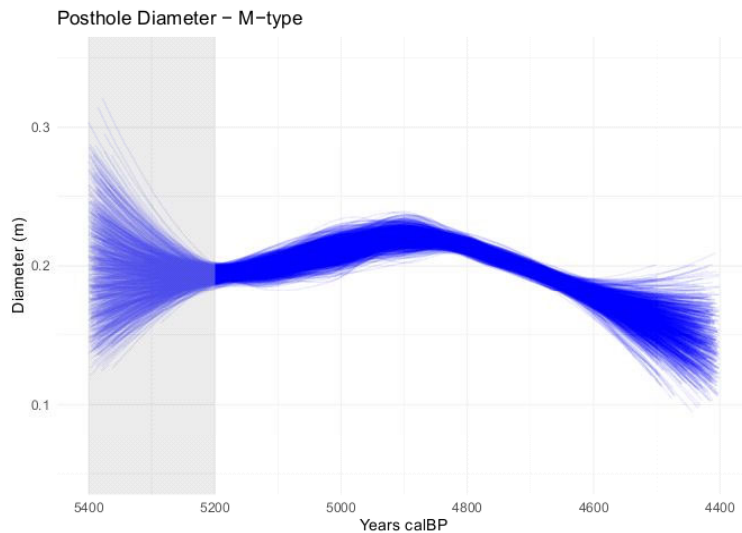


Figure 81 Combined LOESS regression curves indicating changes in posthole diameter of M-type pithouses over time for all 1000 MCMC simulation runs. Posthole diameter values were calculated using the average posthole diameter for each pithouse. Gray box indicates area of increased uncertainty due to edge effects.

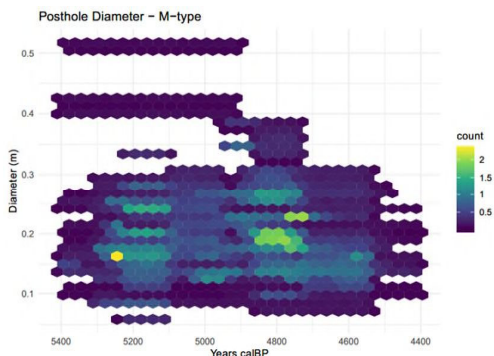


Figure 82 Hexplot indicating changes in posthole diameter of M-type pithouses over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

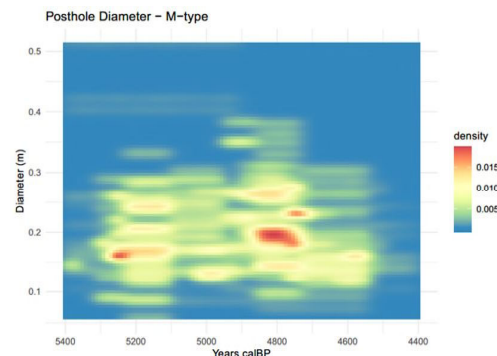


Figure 83 Density plot indicating changes in posthole diameter of M-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole depth.

Pithouse length to mean posthole diameter ratio values for M-type pithouses show a trend similar to that of the posthole diameter values. Due to somewhat increased uncertainty at the time, between 5200 to 4900 calBP, it is unclear whether there was a stable trend for pithouse length to posthole diameter ratio values, or a slight increasing and decreasing trend (Figure 84). From approximately 4900 calBP to 4600 calBP however, the LOESS regressions show a clear decrease in ratio values for M-type pithouses. The beginning and end of the period show high levels of uncertainty. Looking at Figures 85 and 86, they do not display the fairly clear trends expressed in Figure 84. Overall, there appears to have been a wide range of pithouse length to posthole diameter ratio values. Outliers at the beginning and end of the

period might partially explain the declining trend. Looking closely at more concentrated sections in Figures 85 and 86 does show some decline, but again, it appears to be much less clear cut than the LOESS regressions suggest.

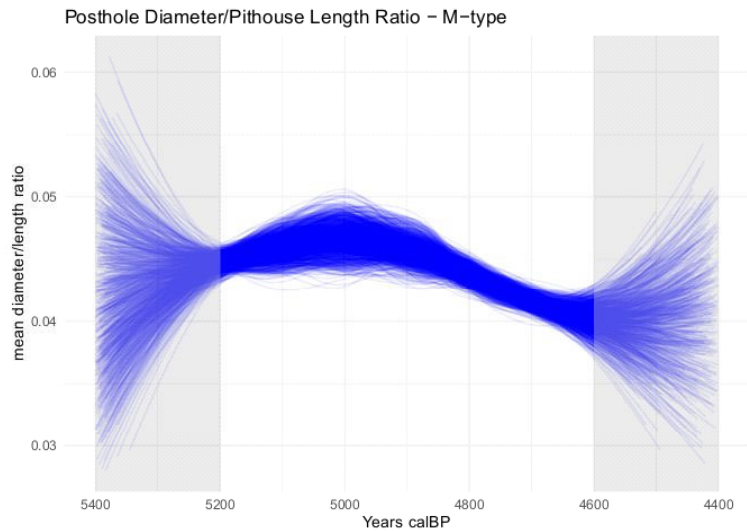


Figure 84 Combined LOESS regression curves indicating changes in pithouse length to mean posthole diameter ratio values of M-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the mean posthole diameter by the pithouse length of each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

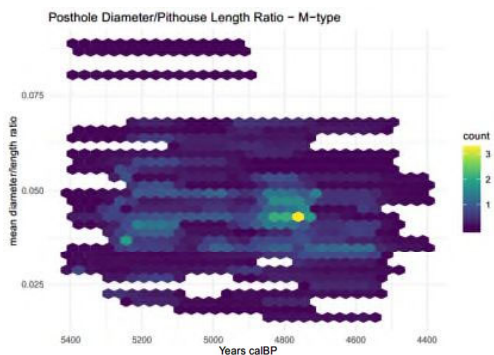


Figure 85 Hexplot indicating changes in M-type pithouse length to mean posthole diameter ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

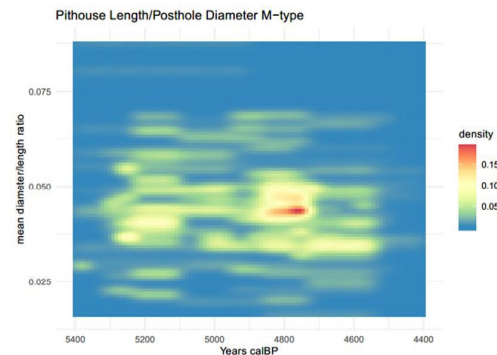


Figure 86 Density plot indicating changes in M-type pithouse length to mean posthole diameter ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse length to mean posthole depth ratio value.

3 – MW-type

The LOESS regression curves in Figure 87 show a slight increase in posthole diameter of MW-type pithouses from 5200 calBP to approximately 4900 calBP. This increase was followed by a slight decrease in diameters through to 4600 calBP. Edge effects make it difficult to determine changes beyond 4600 calBP. Figures 88 and 89 show that while MW-type posthole diameters were slightly larger around 4800 calBP overall, it was also

accompanied by an expansion of different posthole diameters at the same time. Diameters continued to display a wide range of posthole diameters through to 4600 calBP, before shrinking back down to similar sizes seen at the beginning of the period.

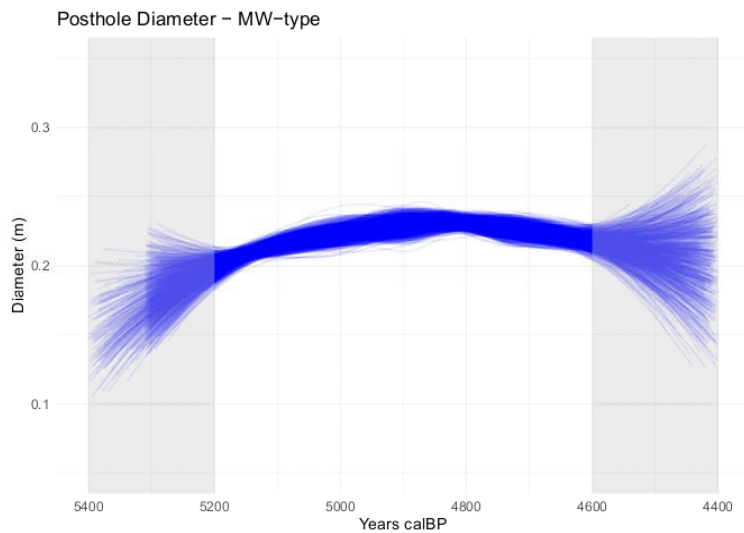


Figure 87 Combined LOESS regression curves indicating changes in posthole diameter of MW-type pithouses over time for all 1000 MCMC simulation runs. Posthole diameter values were calculated using the average posthole diameter for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

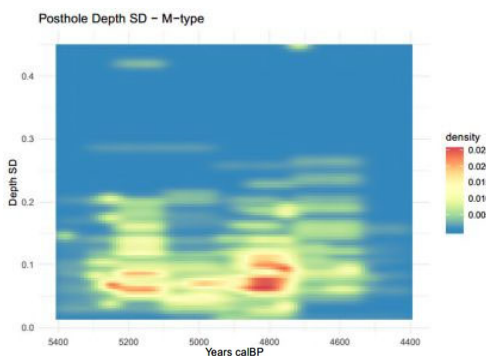


Figure 88 Hexplot indicating changes in posthole diameter of MW-type pithouses over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

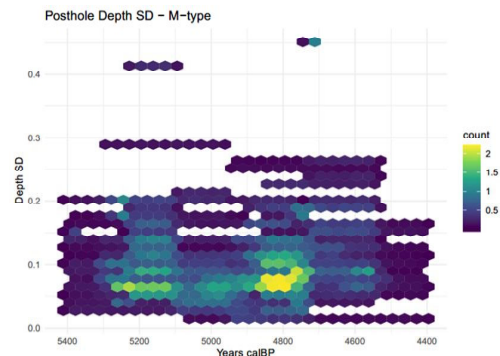


Figure 89 Density plot indicating changes in posthole diameter of MW-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole depth.

The LOESS regressions shown in Figure 90 show that posthole diameters appear to have been increasing in relation to pithouse length through to around 4900 to 4800 calBP. Ratio values then decreased heading into 4600 calBP. Increased uncertainty at the end of the period makes it difficult to estimate how the relationship between posthole diameter values and pithouse lengths proceeded from that point on to the end of the Middle Jomon period. Unlike the M-type, Figures 91 and 92 show that the hex and density plots for MW-type pithouses do match fairly well with the LOESS regressions shown in Figure 90. Around 4800

calBP, the range of ratio values expands to its widest point, before contracting again heading towards the end of the Middle Jomon period.

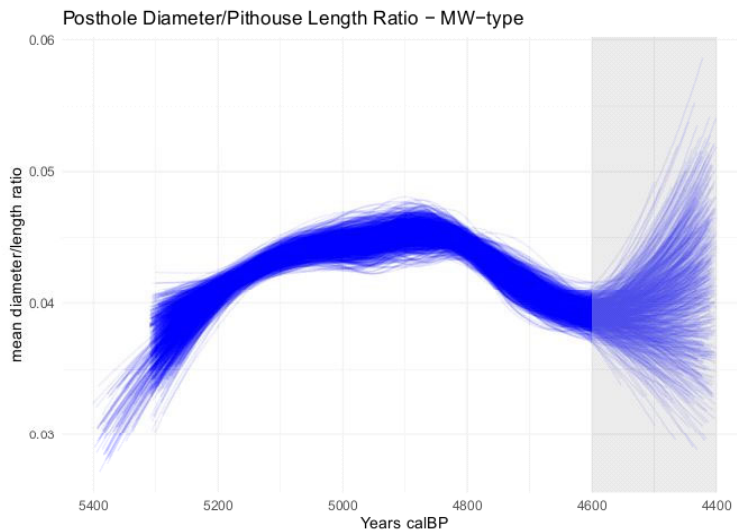


Figure 90 Combined LOESS regression curves indicating changes in pithouse length to mean posthole diameter ratio values of MW-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the mean posthole diameter by the pithouse length of each pithouse. Gray box indicates an area of increased uncertainty due to edge effects.

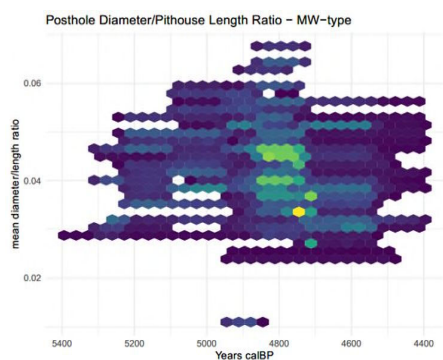


Figure 91 Hexplot indicating changes in MW-type pithouse length to mean posthole diameter ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

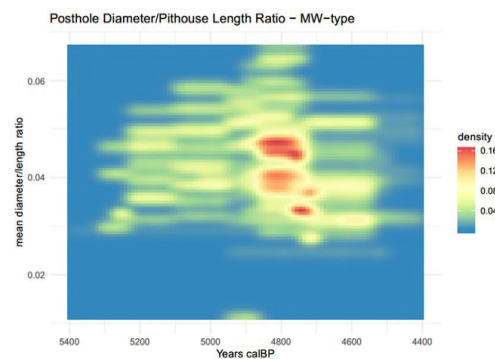


Figure 92 Density plot indicating changes in MW-type pithouse length to mean posthole diameter ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse length to mean posthole depth ratio value.

4 – Comparison

Figure 93 shows Spearman's correlation values for posthole diameter and pithouse length separated by types. Correlations between pithouse length and average posthole diameter values are stronger overall than the correlation values between pithouse length and posthole depth. The combined types show an R value of 0.64, and if the types are separated,

the M-type pithouses show a slightly stronger correlation with an R of 0.67 for posthole depth and pithouse length, and MW-types show a slightly weaker correlation with an R of 0.53. While the correlation isn't necessarily strong, it seems that a moderate correlation between posthole depth and pithouse length is likely overall. Seeing how these correlations change over time in Figure 94 however, shows a clear distinction between M and MW-type pithouses. M-type pithouses show weaker correlations at the beginning and end of the Middle Jomon period, but have R values of close to and at one time greater than 0.75. M-types also show a negative correlation at the end of the period. MW-types on the other hand started and ended the period with R values above 0.5, but show a significant 300 yearlong drop in the middle of the period.

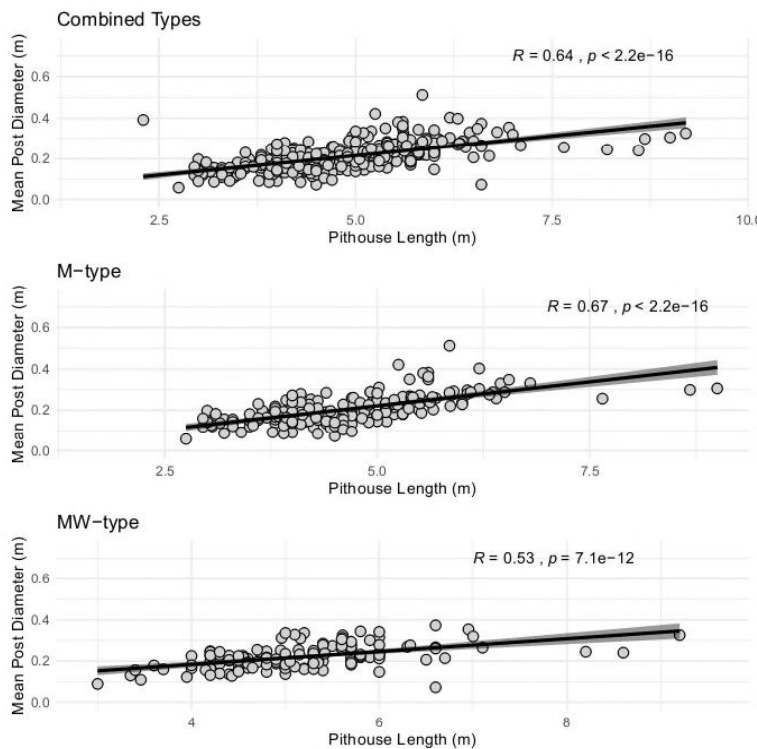


Figure 93 Spearman correlation values comparing posthole diameter to pithouse length separated by type. Top to bottom, combined M and MW-types, M-types, and MW-types.

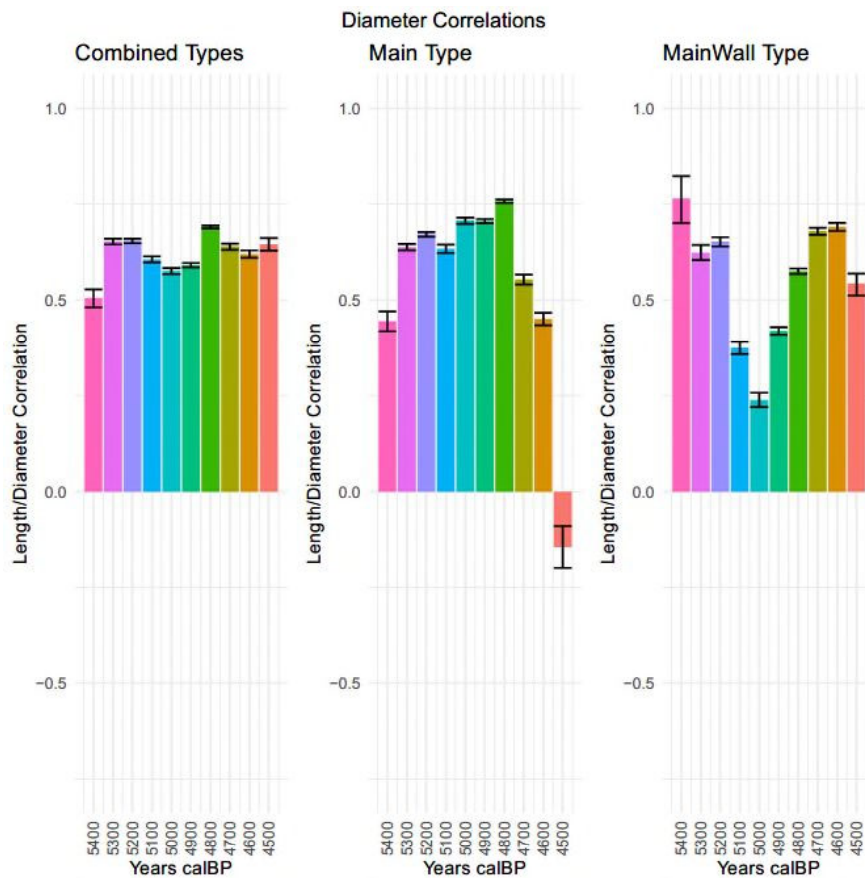


Figure 94 Posthole diameter to pithouse length Spearman correlation values separated by type and time block. Left to right: combined types, M-type, and MW-type pithouses. 95% confidence intervals bootstrapped using RVAideMemoire package (Hervé 2020)

3 – Posthole Volume

1 – Combined Types

The combined LOESS regression curves in Figure 95 show an overall increasing trend in posthole volume from 5200 calBP to approximately 4900 calBP, followed by a decrease in volume to 4600 calBP. A large degree of uncertainty at the beginning and the end of the period makes determining trends beyond this range difficult. Figures 96 and 97 on the other hand show fairly stable posthole volumes over time, but again do show an expansion at approximately 4800 calBP. This expansion of posthole volumes included larger than average sizes, despite the majority of mean posthole volumes remaining fairly stable throughout the Middle Jomon period.

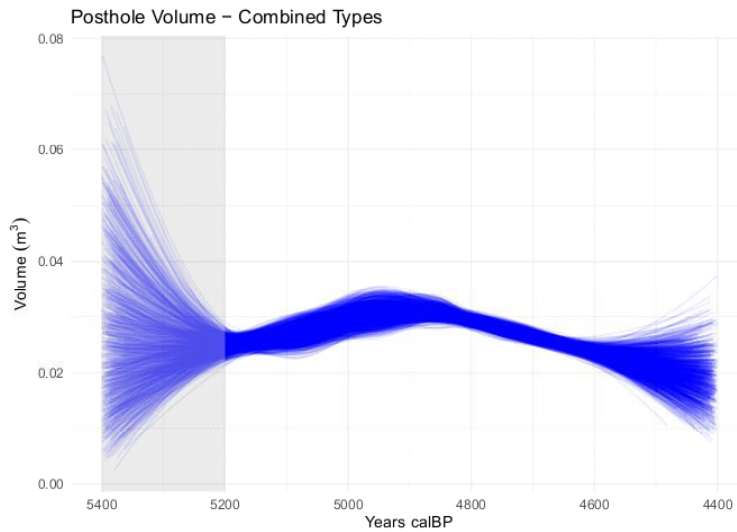


Figure 95 Combined LOESS regression curves indicating changes in posthole volume over time for all 1000 MCMC simulation runs. Posthole volume values were calculated using the average posthole volume for each pithouse. Gray box indicates area of increased uncertainty due to edge effects.

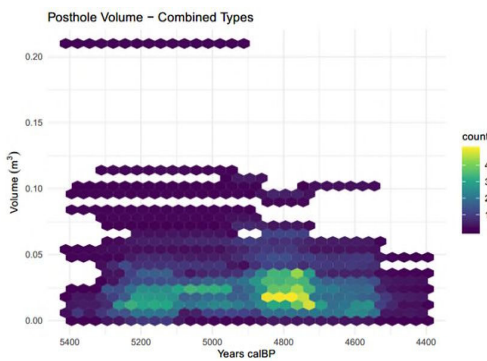


Figure 96 Hexplot indicating changes in posthole volume over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

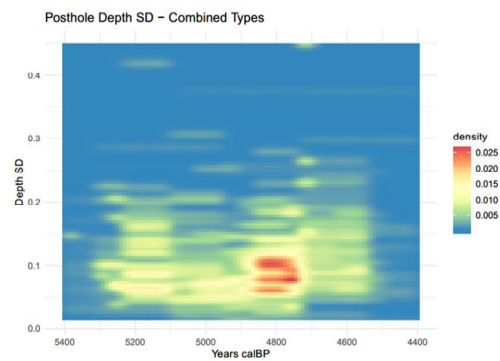


Figure 97 Density plot indicating changes in posthole volume over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole diameter.

2 – *M-type*

When viewed on their own, the trends for mean posthole volume of *M-type* pithouses shown in Figure 98 is much more accentuated than the combined plot of Figure 95. While there is a very high degree of uncertainty at the beginning of the period, from 5200 to approximately 4900 calBP posthole volume shows an increasing trend, which is followed by a slightly stronger decreasing trend to the end of the period, ending in volumes smaller than the start of the period. This strong signal again tempered somewhat when compared to the hex and density plots of Figures 99 and 100. Looking at the dense concentration of pithouses at 5200 and 4800 calBP, there does appear to be a slight shift to larger volumes, and the end of the period clearly shows a decrease in posthole volume. The theme of an increased variety of mean posthole sizes around 4800 calBP is again seen in Figures 99 and 100.

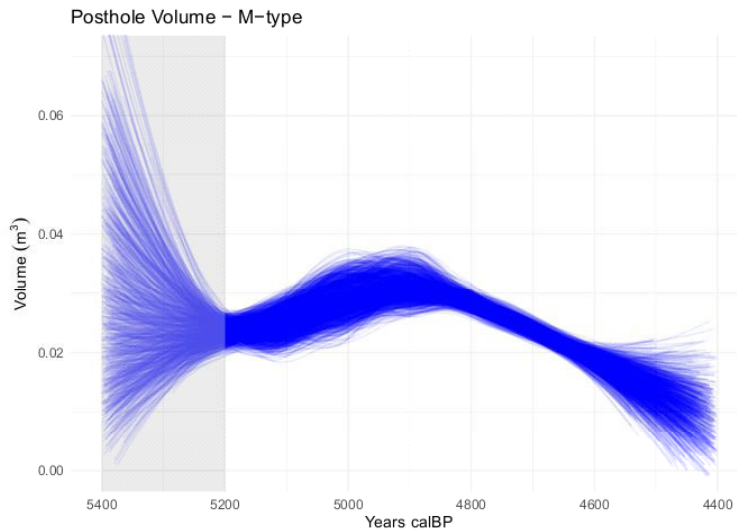


Figure 98 Combined LOESS regression curves indicating changes in posthole volume of M-type pithouses over time for all 1000 MCMC simulation runs. Posthole volume values were calculated using the average posthole volume for each pithouse. Gray box indicates area of increased uncertainty due to edge effects.

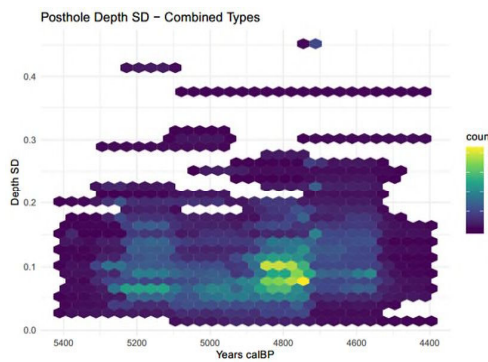


Figure 99 Hexplot indicating changes in posthole volume of M-type pithouses over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

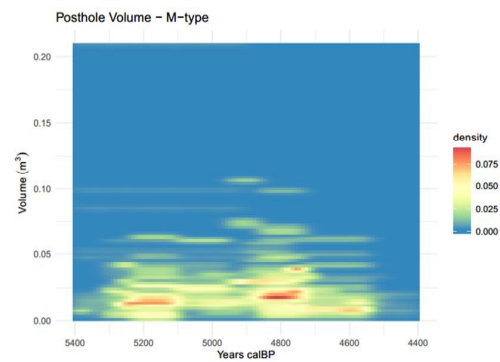


Figure 100 Density plot indicating changes in posthole volume of M-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole depth.

The LOESS regressions for the pithouse length to mean posthole volume ratios shown in Figure 101 are fairly similar to the pithouse length to mean posthole diameter ratios shown in Figure 90. Ratio values showed a slightly increasing trend from 5200 calBP to 4900 calBP, and then show a decline from that point on. There was a high degree of uncertainty for regressions prior to 5200 calBP, making it difficult to predict trends at the beginning of the Middle Jomon period. Figures 102 and 103 however, seemed to show a somewhat different picture. High level outliers at the beginning of the period appear to be the cause of the increased ratio values as well as the uncertainty present in the first half of the period shown in Figure 101. Outside of those outliers, ratio values appeared relatively stable, mostly residing between 0 and 0.1.



Figure 101 Combined LOESS regression curves indicating changes in pithouse length to mean posthole volume ratio values of M-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the mean posthole volume by the pithouse length of each pithouse. Gray box indicates an area of increased uncertainty due to edge effects.

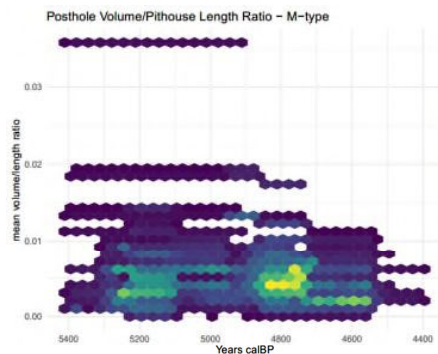


Figure 102 Hexplot indicating changes in M-type pithouse length to mean posthole volume ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

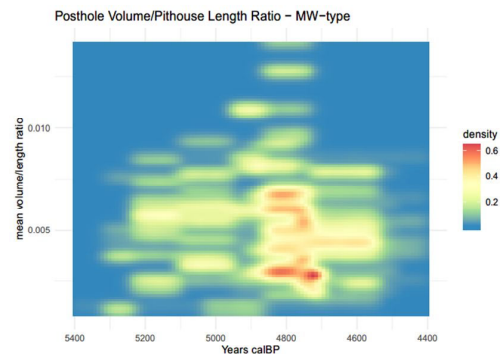


Figure 103 Density plot indicating changes in M-type pithouse length to mean posthole volume ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse length to mean posthole depth ratio value.

3 – MW-type

Figure 104 shows that MW-type mean posthole volume shows a similar but much more subdued trend compared to the M-type pithouse volume trend shown in Figure 98. There is a slight increase in volume from 5200 calBP to 4900 calBP, and a slight decrease from 4900 to 4600 calBP. There is a large degree of uncertainty prior to 5200 calBP and after 4600 calBP. Looking at Figures 105 and 106, the slight increase seems to be tied with an increased range of posthole volumes, both greater than and less than earlier volumes, at approximately 4800 calBP.

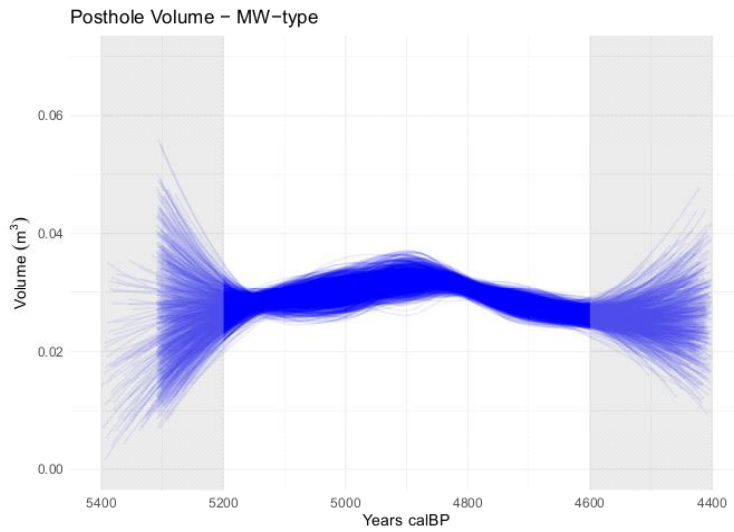


Figure 104 Combined LOESS regression curves indicating changes in posthole volume of MW-type pithouses over time for all 1000 MCMC simulation runs. Posthole volume values were calculated using the average posthole volume for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

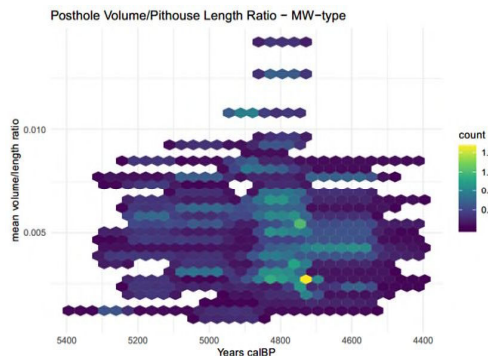


Figure 105 Hexplot indicating changes in posthole volume of MW-type pithouses over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

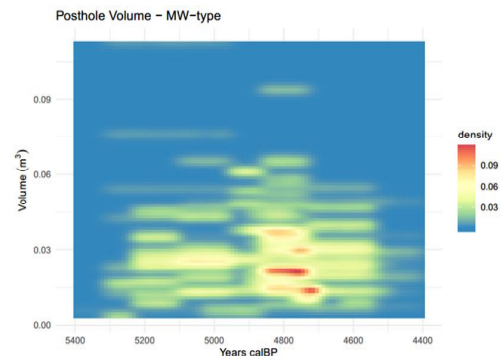


Figure 106 Density plot indicating changes in posthole volume of MW-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole depth.

The LOESS regressions for pithouse length to mean posthole volume ratios shown in Figure 107 are similar, but somewhat more acute than the pithouse length to posthole diameter ratio values shown in Figure 90. In relation to pithouse length, posthole volumes increased until approximately 4700 calBP, at which point there was a sharp turn towards a decreasing trend until 4600 calBP. Due to possible edge effects, it is difficult to determine how trends progressed beyond 4600 calBP. Figures 108 and 109 show trends consistent with Figure 107, but show some interesting results around 4800 calBP. Overall posthole volumes compared to pithouse length do show an increasing trend to that point, but at 4800 calBP there were several outliers that explain the sharpness of the peak compared to the ratio values for posthole diameters in Figure 90. Outside of these isolated cases, ratio values tended to stay between 0 and 0.01.

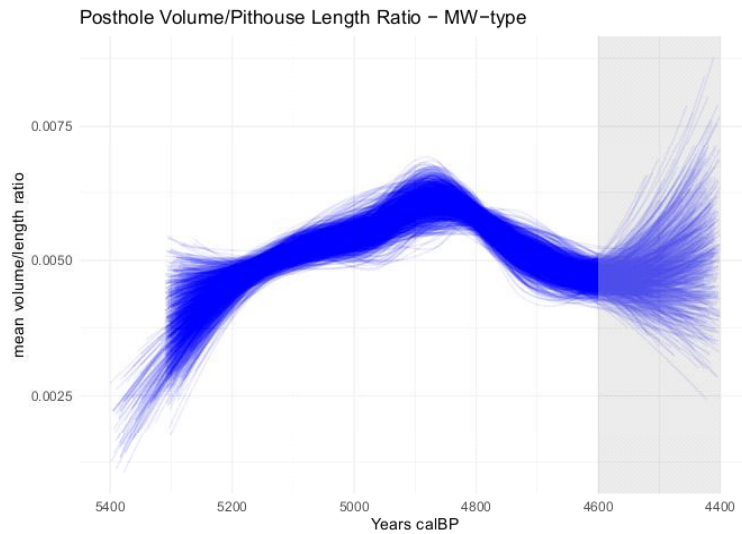


Figure 107 Combined LOESS regression curves indicating changes in pithouse length to mean posthole volume ratio values of MW-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the mean posthole volume by the pithouse length of each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

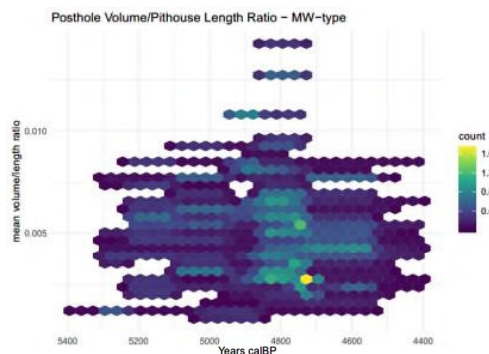


Figure 108 Hexplot indicating changes in MW-type pithouse length to mean posthole volume ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

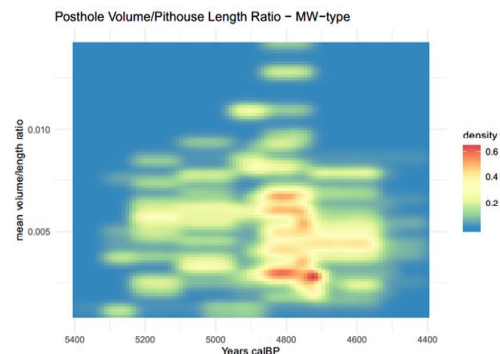


Figure 109 Density plot indicating changes in MW-type pithouse length to mean posthole volume ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse length to mean posthole volume ratio value.

4 – Comparison

As Figure 110 shows, posthole volume has the greatest correlation to pithouse length overall. Combined pithouse types have a Spearman's R correlation value of 0.65, while M-type and MW-type pithouses have R values of 0.69 and 0.54 respectively. Looking at how correlation values change over time, Figure 111 shows that M-type pithouses had moderate to strong correlations for pithouse length and posthole volume for most of the Middle Jomon period. The start of the period exhibited a somewhat weak correlation at the start of the period and a moderately negative correlation at the very end of the period. MW-types on the other hand showed an opposite pattern, with moderate to strong correlations at the beginning

and end of the period and somewhat weak correlations between posthole volume and pithouse length in the Middle of the period.

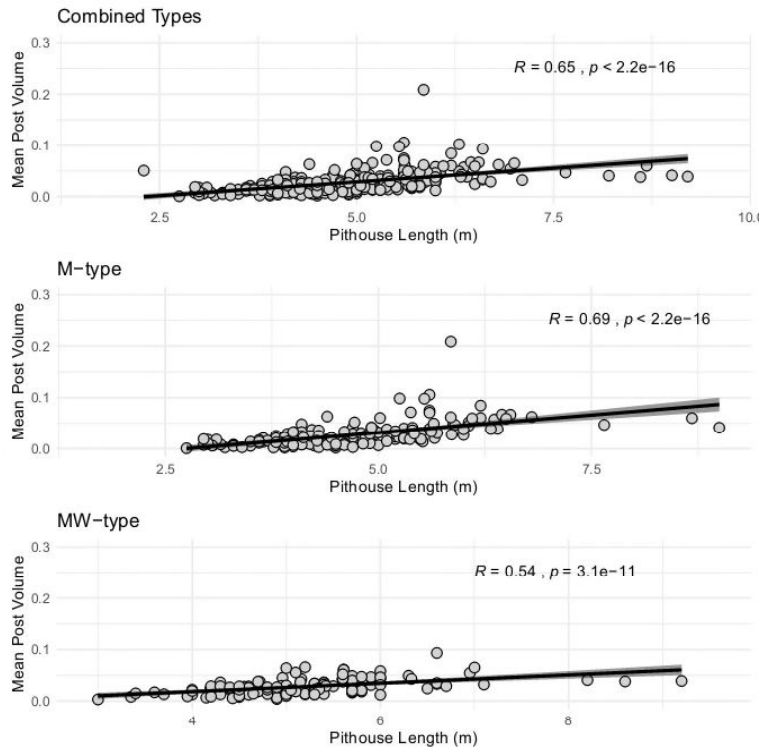


Figure 110 Spearman correlation values comparing posthole volume to pithouse length separated by type. Top to bottom, combined M and MW-types, M-types, and MW-types.

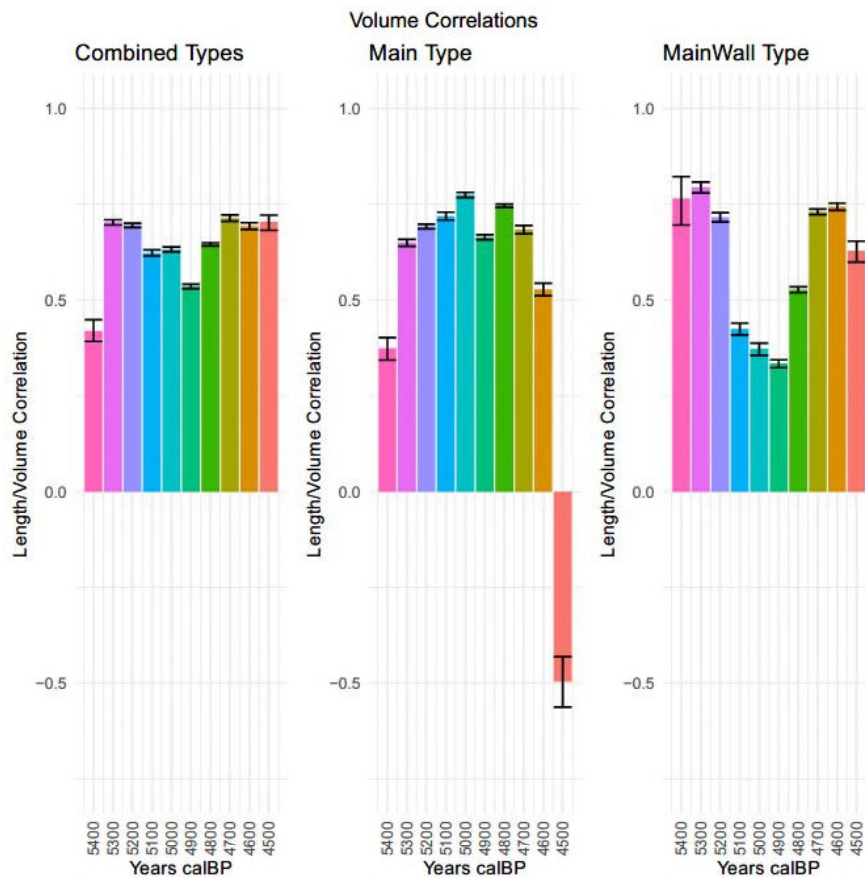


Figure 111 Posthole volume to pithouse length Spearman correlation values separated by type and time block. Left to right, combined types, M-type, and MW-type pithouses. 95% confidence intervals bootstrapped using RVAideMemoire package (Hervé 2020).

5 – Posthole Variation

1 – Posthole Depth

1 – Combined Types

Figure 112 displays the changes in posthole depth variation within individual pithouses for combined M and MW-type pithouses. Smaller SD values indicate that posthole depths were more consistent, while larger SD values indicate that posthole depths were less consistent. From 5200 calBP to approximately 4900 calBP, posthole depths trended to being more consistent, and from 4900 calBP to 4600 calBP posthole depths shifted towards being more varied. Edge effects again makes interpreting trends outside of this time frame difficult. This trend is fairly clear when looking at the clustered portions in Figures 113 and 114. Although outliers exist, the clustered portions shift slightly lower from 5200 calBP to 4900 calBP. The clustered portions expand at approximately 4800 calBP and shift slightly higher and continue to shift higher at 4600 calBP although the density of pithouses decreases.

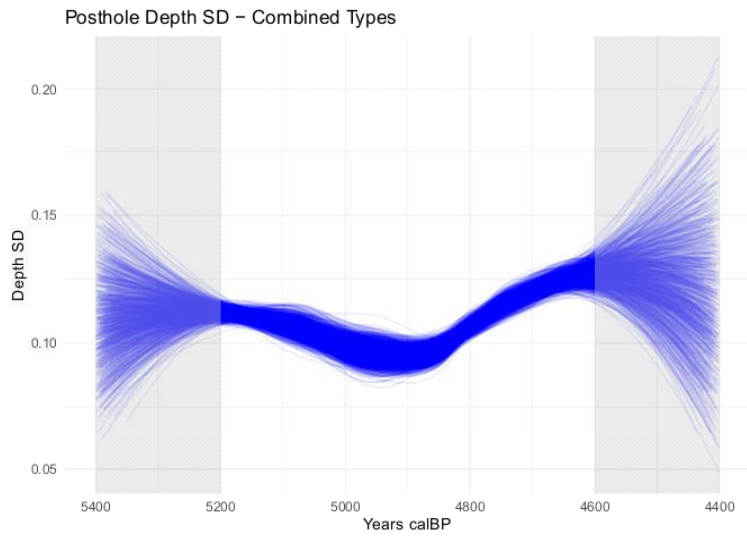


Figure 112 Combined LOESS regression curves showing changes in posthole depth variation over time for all 1000 MCMC simulation runs. Posthole depth variation values were calculated using the standard deviation of posthole depths for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

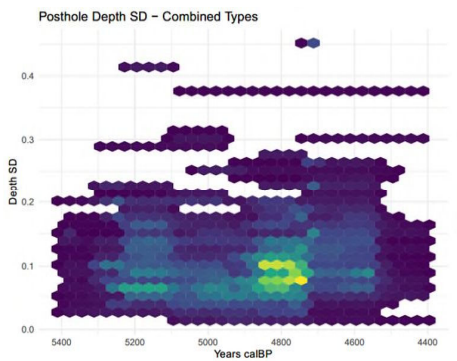


Figure 113 Hexplot indicating changes in posthole depth variation over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. Results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

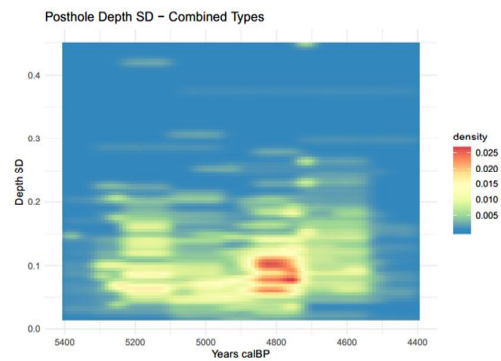


Figure 114 Density plot indicating changes in posthole depth variation over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole depth SD value.

2 – M-type

The posthole depth variation of M-type pithouses decreases from 5200 calBP to 4900 calBP, and then show an increasing trend from 4900 calBP to 4600 calBP as seen in Figure 115. This is mirrored in Figures 116 and 117 with a slight downward shift of concentrated values from 5200 to 5000 calBP. Posthole depth variation then increases through to 4600 calBP, with a cluster of similar posthole depth variation values around 4800 calBP.

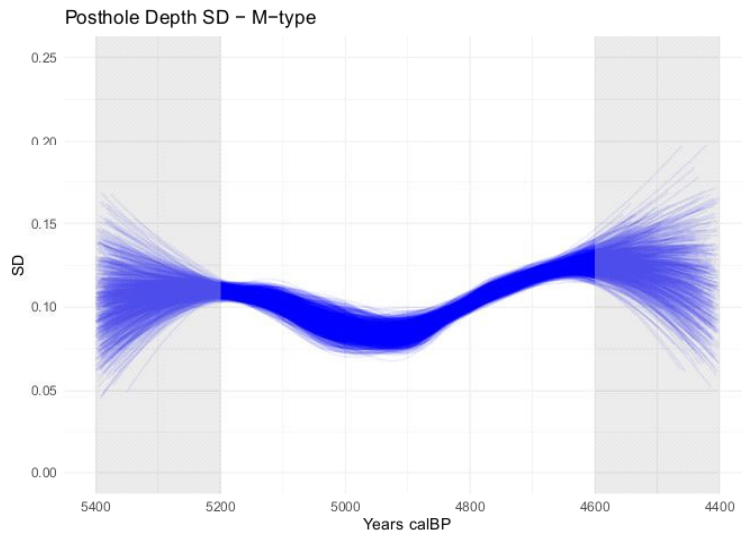


Figure 115 Combined LOESS regression curves showing changes in posthole depth variation of M-type pithouses over time for all 1000 MCMC simulation runs. Posthole depth variation values were calculated using the SD of posthole depths for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

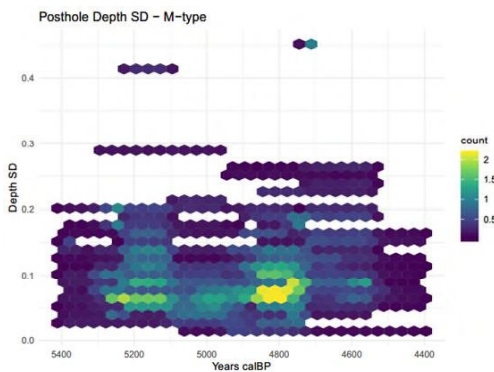


Figure 116 Hexplot indicating changes in posthole depth variation of M-types over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. Results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

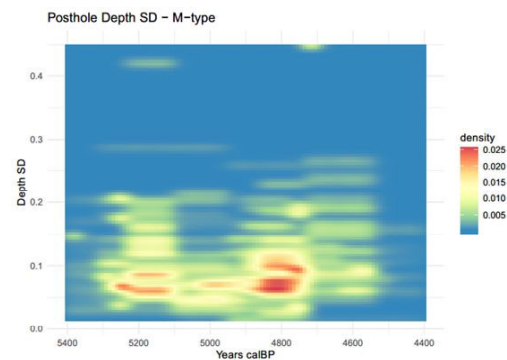


Figure 117 Density plot indicating changes in posthole depth variation of M-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole depth SD value.

Figure 118 shows that the LOESS regression curves for the posthole depth SD to pithouse length ratios followed a similar trend to the posthole depth SD values themselves. In relation to pithouse length, posthole depth variation decreased from 5200 calBP to 5100 calBP, and then increased to 4600 calBP. Increased uncertainty due to edge effects made it difficult to determine trends at the beginning and end of the Middle Jomon period. Some outliers were present in Figures 119 and 120, but they generally reflect the trends shown in Figure 118.

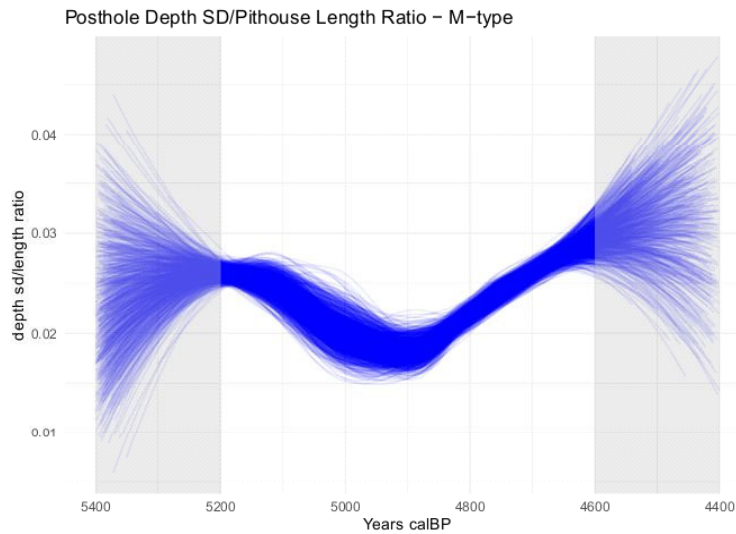


Figure 118 Combined LOESS regression curves indicating changes in pithouse length to posthole depth SD ratio values of M-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the posthole depth SD by the pithouse length of each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

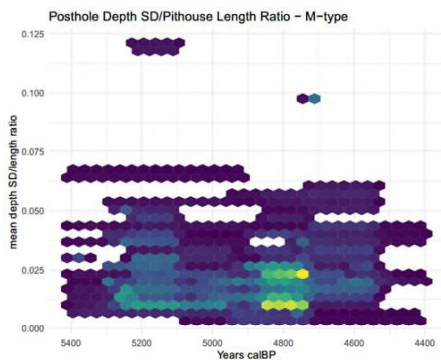


Figure 119 Hexplot indicating changes in M-type pithouse length to posthole depth SD ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

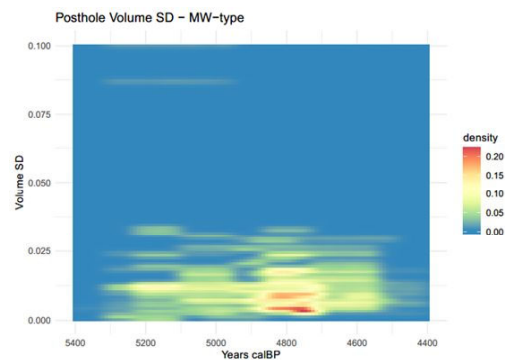


Figure 120 Density plot indicating changes in M-type pithouse length to posthole depth SD ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse length to posthole depth SD ratio value.

3 – MW-type

Posthole depth variation trends for MW-type pithouses shown in Figure 121 appear more stable than the M-type trends in Figure 115. While a great degree of variation is present at the end of the Middle Jomon period, the degree of uncertainty at the introduction of MW-types is considerably less. From 5200 calBP to 4900 calBP posthole depth variation appears to decrease slightly, and then increase towards 4600 calBP. Beyond 4600 calBP trends are unable to be determined. Figures 122 and 123 show relatively stable trends for posthole depth variation, although there are more outliers for MW-types than M-type pithouses.

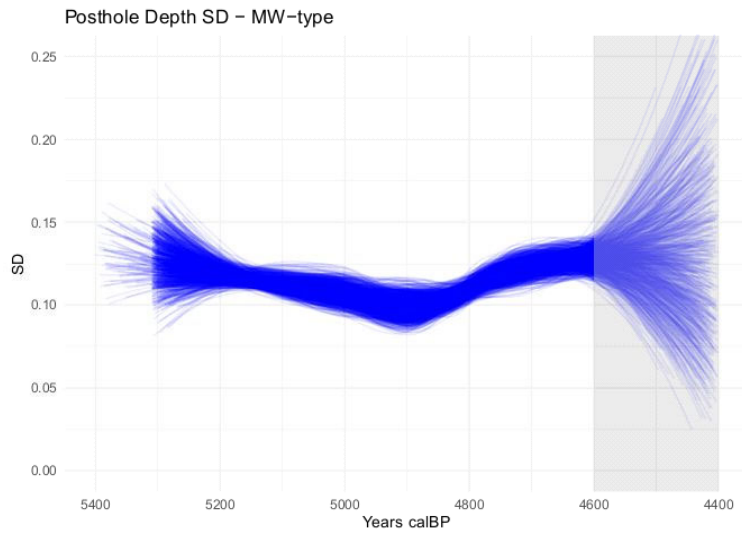


Figure 121 Combined LOESS regression curves showing changes in posthole depth variation of MW-type pithouses over time for all 1000 MCMC simulation runs. Posthole depth variation values were calculated using the SD of posthole depths for each pithouse. Gray box indicates area of increased uncertainty due to edge effects.

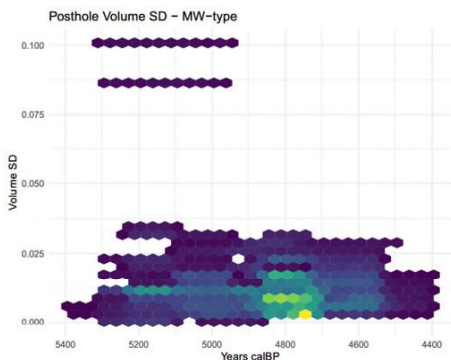


Figure 122 Hexplot indicating changes in posthole depth variation of MW-types over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. Results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

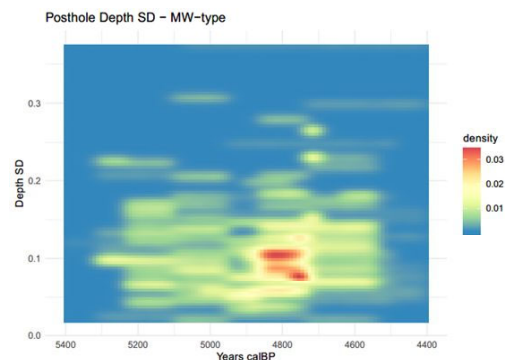


Figure 123 Density plot indicating changes in posthole depth variation of MW-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole depth SD value.

Posthole depth variation appears to have decreased in relation to pithouse length from around 5300 calBP to 4900 calBP. It then shows a slight increase until 4700 calBP and stabilizes for another 100 years (Figure 124). Edge effects at the end of the period make determining the trend beyond that point difficult. Looking at the concentrated areas of the plots, it is possible to find similarities in the corresponding hex and density plots (Figures 125 and 126), but the data is quite noisy. The number of data points beyond the bulk of the data is large enough that it would be difficult to discount them all as outliers. In the end, it is difficult to confidently derive any clear conclusion regarding this ratio measurement for MW-type pithouses.

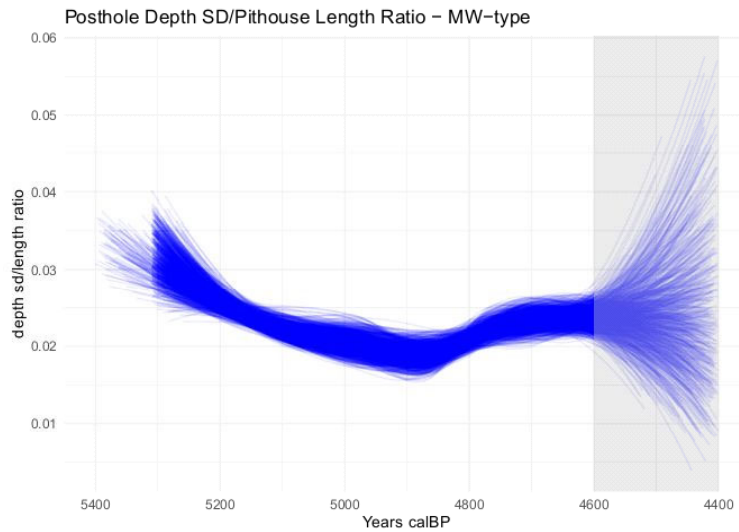


Figure 124 Combined LOESS regression curves indicating changes in pithouse length to posthole depth SD ratio values of MW-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the posthole depth SD by the pithouse length of each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

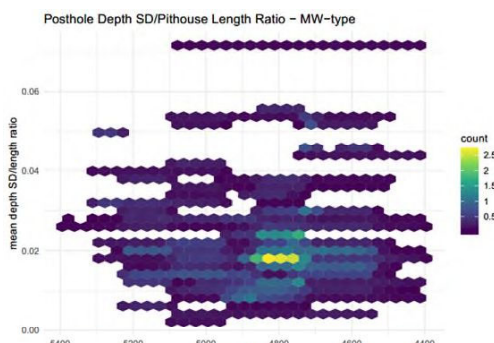


Figure 125 Hexplot indicating changes in MW-type pithouse length to posthole depth SD ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

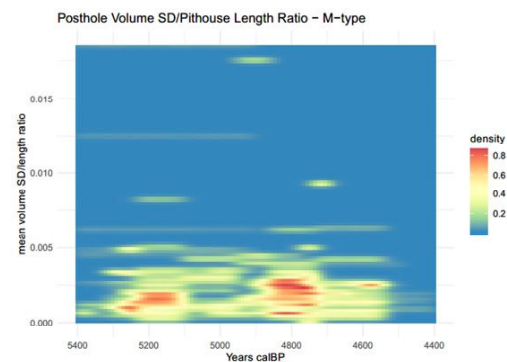


Figure 126 Density plot indicating changes in MW-type pithouse length to posthole depth SD ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse length to posthole depth SD ratio value.

4 – Comparison

Figure 127 shows that correlations between pithouse length and posthole depth variation are almost non-existent. Spearman's correlation values for combined pithouse types was 0.083, while M-type and MW-type pithouses had R values of -0.022 and 0.21. Although MW-types showed a higher correlation values between pithouse length and posthole depth variation, the correlation itself was still very weak. Looking at Figure 128 and changes of correlation values over time shows some significant differences between M-type and MW-type pithouses. M-type pithouse length and posthole depth variation were weakly negatively correlated for the first 300 years of the Middle Jomon period. Correlation values then

increased to weakly positive, for 300 years, then dropping again to showing a weak negative correlation, and then again shifting to a weak positive correlation at the end of the period. MW-types on the other hand started with a very high correlation between pithouse length and posthole depth variation, dropping to almost no correlation for 200 years. For the rest of the Middle Jomon period correlation values fluctuated to different degrees of weak correlations.

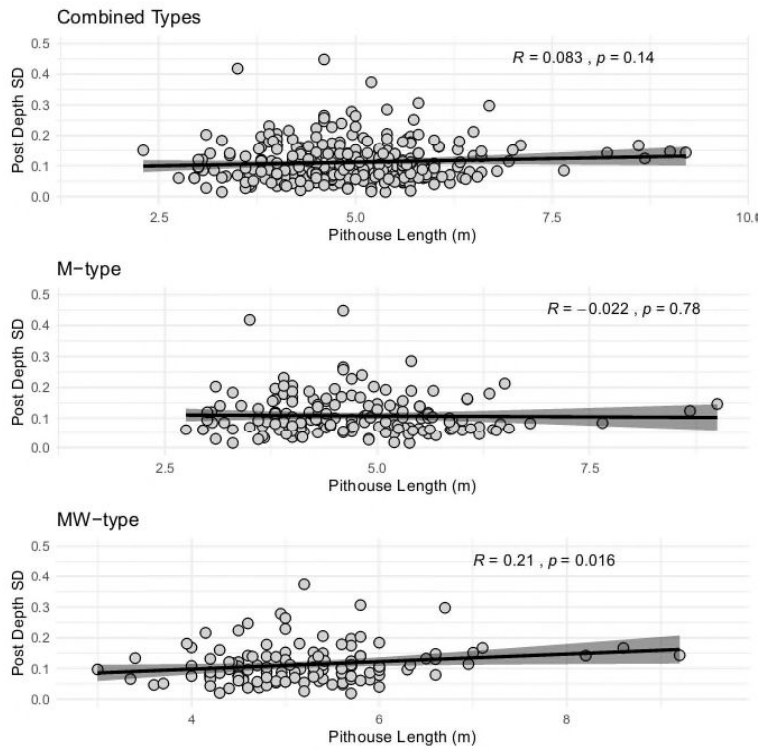


Figure 127 Spearman correlation values comparing posthole depth SD values to pithouse length separated by type. Top to bottom, combined M and MW-types, M-types, and MW-types.

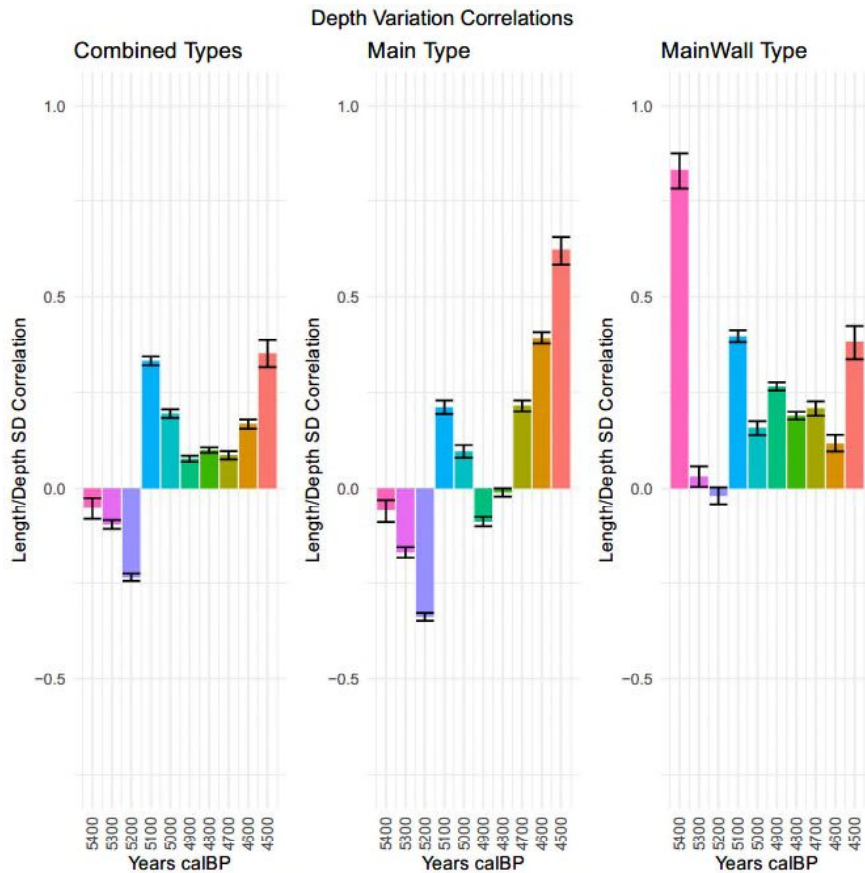


Figure 128 Posthole depth SD to pithouse length Spearman correlation values separated by type and time block. Left to right, combined types, M-type, and MW-type pithouses. 95% confidence intervals bootstrapped using RVAideMemoire package (Hervé 2020).

2 – Posthole Diameter

1 – Combined Types

Posthole diameter variation expressed through LOESS regressions of standard deviation values for combined pithouse types are displayed in Figure 129. Edge effects are present on the plot, showing a high degree of uncertainty at the beginning and end of the Middle Jomon period. From 5200 to approximately 5000 calBP, posthole diameter variation increased overall. Variation then shows a decreasing trend from 5000 to 4800 calBP, at which point it stabilizes for approximately 200 years. Posthole diameter variation looks fairly stable looking at Figures 130 and 131, but a number of outliers displaying high amounts of variation appear to be pulling the overall values higher in the first half of the period.

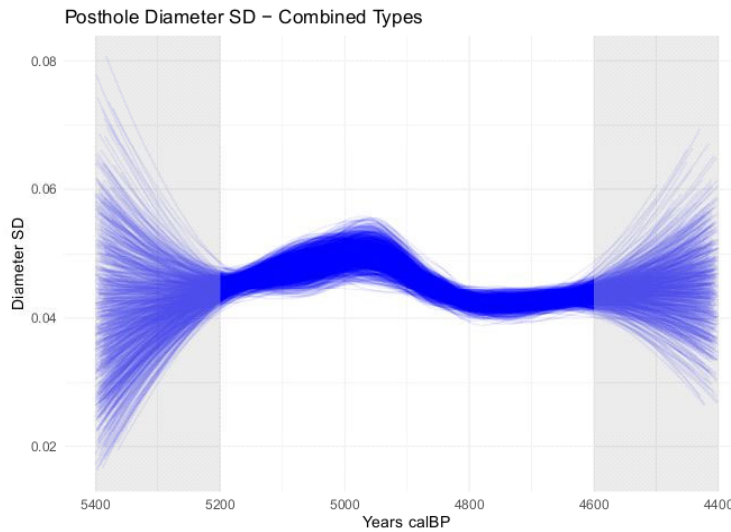


Figure 129 Combined LOESS regression curves showing changes in posthole diameter variation over time for all 1000 MCMC simulation runs. Posthole diameter variation values were calculated using the SD of posthole diameters for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

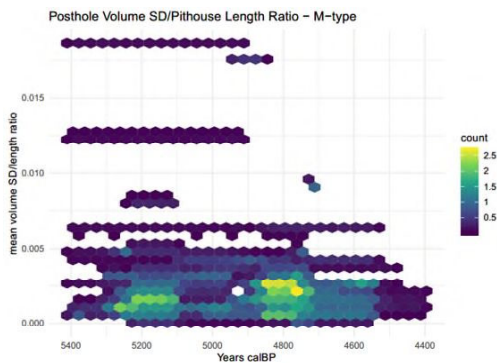


Figure 130 Hexplot indicating changes in posthole diameter variation over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. Results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

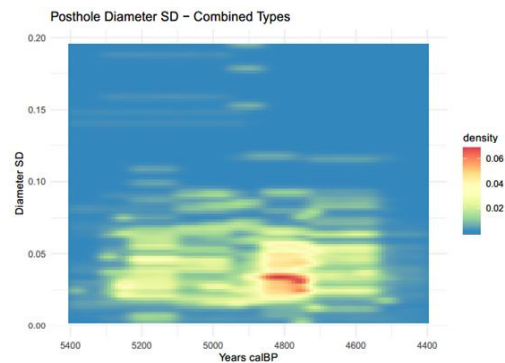


Figure 131 Density plot indicating changes in posthole diameter variation over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole diameter SD value.

2 – M-type

Figure 132 shows that post diameter variation for M-type pithouses was fairly stable through the period. The regression curves again display high degrees of uncertainty at the beginning and end of the period. Between 5200 and 4900 cal BP there appears to be some diversions in the regression lines indicating an increased degree of uncertainty during this period. Looking at the hex and density plots of Figures 133 and 134, it appears that the increased uncertainty between 5200 and 4900 calBP can be explained in the presence of some pithouses with a high degree of posthole variation occurring at the same time where there is a lack of dense data point clusters. There are concentrated areas at 5200 calBP as well as 4800 calBP, but the density of pithouses having the same degree of posthole diameter variation decreases between these two points.

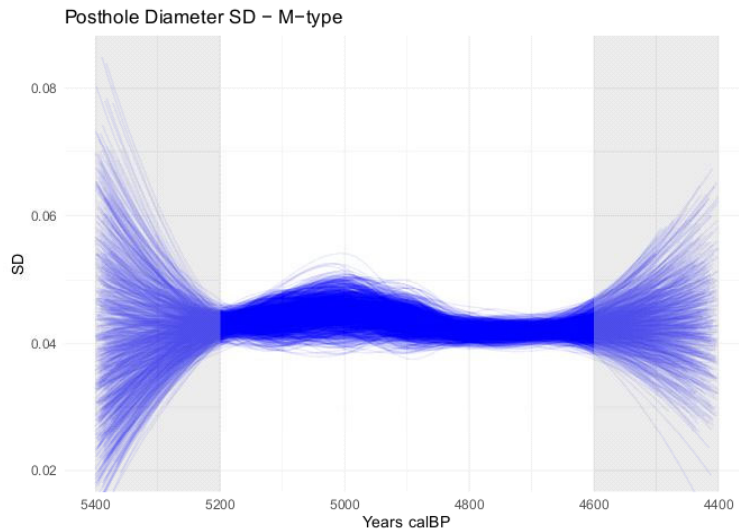


Figure 132 Combined LOESS regression curves showing changes in posthole diameter variation of M-type pithouses over time for all 1000 MCMC simulation runs. Posthole diameter variation values were calculated using the SD of posthole diameters for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

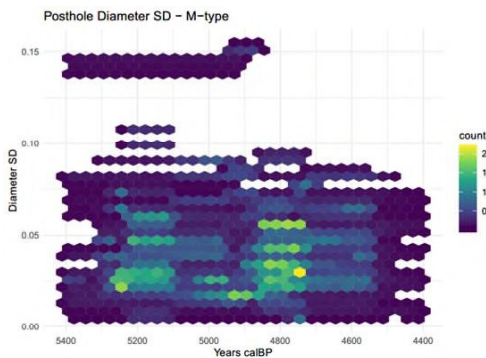


Figure 133 Hexplot indicating changes in posthole diameter variation of M-types over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. Results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

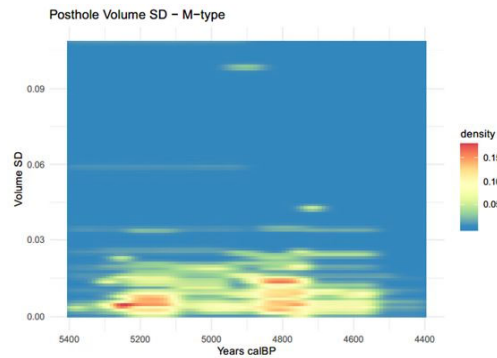


Figure 134 Density plot indicating changes in posthole diameter variation of M-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole diameter SD value.

Figure 135 shows that the posthole diameter variation levels were fairly stable in relation to pithouse lengths for M-type pithouses in the Tama New Town area during the Middle Jomon period. The LOESS regressions show higher values as well as more uncertainty during the first half of the period. These can be explained by the higher ratio values visible in the corresponding hex and density plots (Figures 136 and 137). While it does seem that some pithouses in the first half of the period showed increased posthole diameter variation in relation to pithouse length, most showed ratio values from between 0.02 to a little over 0.

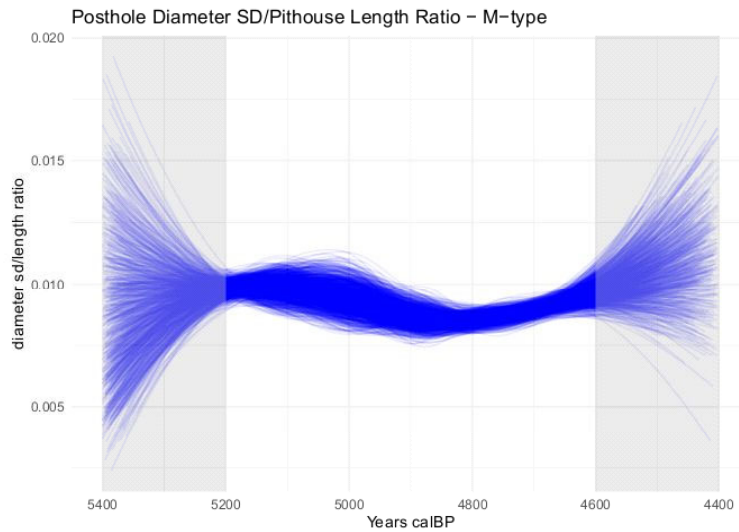


Figure 135 Combined LOESS regression curves indicating changes in pithouse length to posthole diameter SD ratio values of M-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the posthole diameter SD by the pithouse length of each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

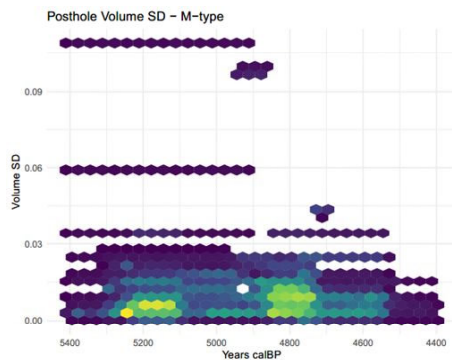


Figure 136 Hexplot indicating changes in M-type pithouse length to posthole diameter SD ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

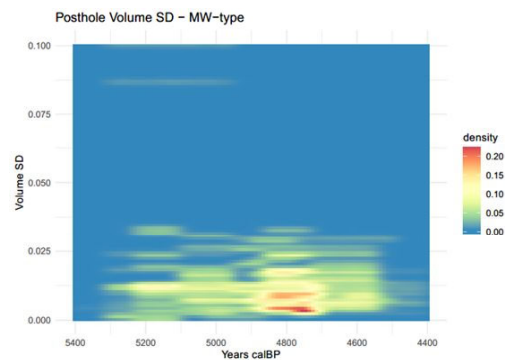


Figure 137 Density plot indicating changes in M-type pithouse length to posthole diameter SD ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and pithouse length to posthole diameter SD ratio value.

3 – MW-type

In Figure 138 the MW-type pithouses show much more dynamic trends for posthole diameter variation values. Throughout the period there is less consistency to the trends, and the MW-type edge effects appear to be even stronger than the M-type edge effects. The trends don't appear to consolidate until sometime between 5200 and 5100 calBP. From that point, posthole diameter variation increased until approximately 5000 calBP, and then decreased until 4800 to 4700 calBP. Posthole diameter variation again appears to increase slightly through to 4600 calBP beyond which point the degree of uncertainty increases making it difficult to determine what happened beyond that point. Looking at Figures 139

and 140, posthole diameter SD values are fairly dispersed outside of 4800 calBP. Several outliers in the beginning of the period are possibly shifting SD values higher which are brought back down by the concentrated grouping of pithouse values around 4800 calBP. Although density decreased after 4800 calBP, a small concentration of posthole diameter variation values around 0.05 likely explain the slight shift upwards towards the end of the period.

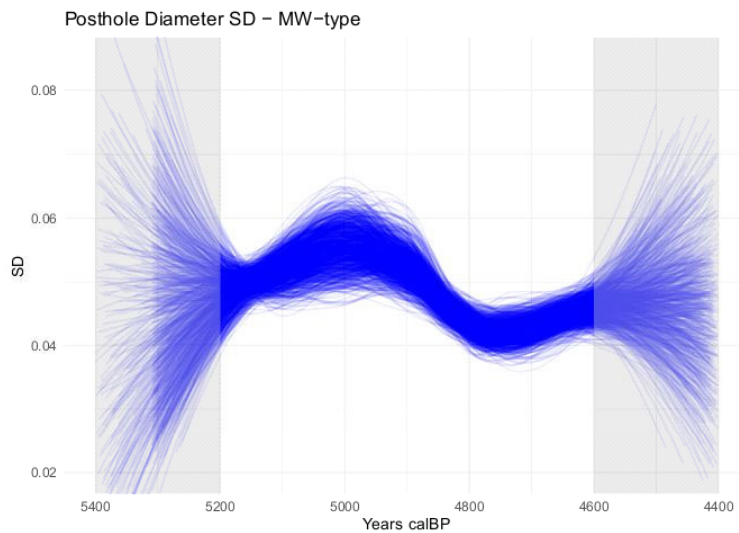


Figure 138 Combined LOESS regression curves showing changes in posthole diameter variation of MW-type pithouses over time for all 1000 MCMC simulation runs. Posthole diameter variation values were calculated using the SD of posthole diameters for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

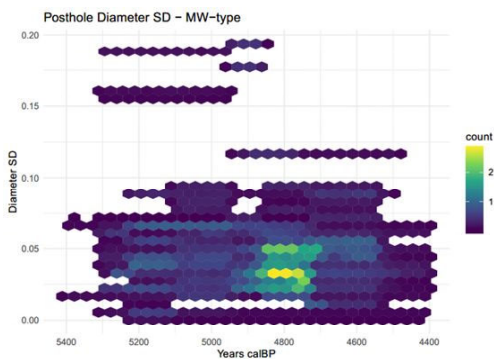


Figure 139 Hexplot indicating changes in posthole diameter variation of MW-types over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. Results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

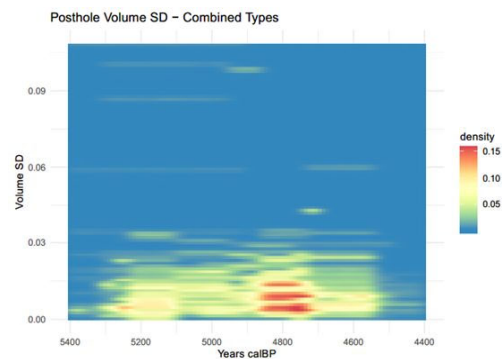


Figure 140 Density plot indicating changes in posthole diameter variation of MW-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole diameter SD value.

LOESS regressions in Figure 141 displaying ratio values for MW-type pithouse length and posthole diameter SD values are quite similar to the regressions for posthole diameter variation seen in Figure 138. They increase from 5200 to 5000 calBP, then drop

until approximately 4800 to 4700 calBP, and then show a slight increase again heading into 4600 calBP. Edge effects have caused significant uncertainty at the beginning and end of the period. The data presented in the hex and density plots appears to show similar trends to the LOESS regressions, but are somewhat muddled (Figures 142 and 143). Data was more scattered in the first half of the period, but an increase in posthole diameter variation in relation to pithouse length can be seen from 5200 to 5000 calBP. The decreasing trend which focused around 4800 calBP also included a number of high ratio value outliers at the same time as a dense concentration of values coalesced at levels between 0.01 and 0.0025. As was shown in Figure 141, ratio values in Figures 142 and 143 then show a slight increase heading into 4600 calBP.

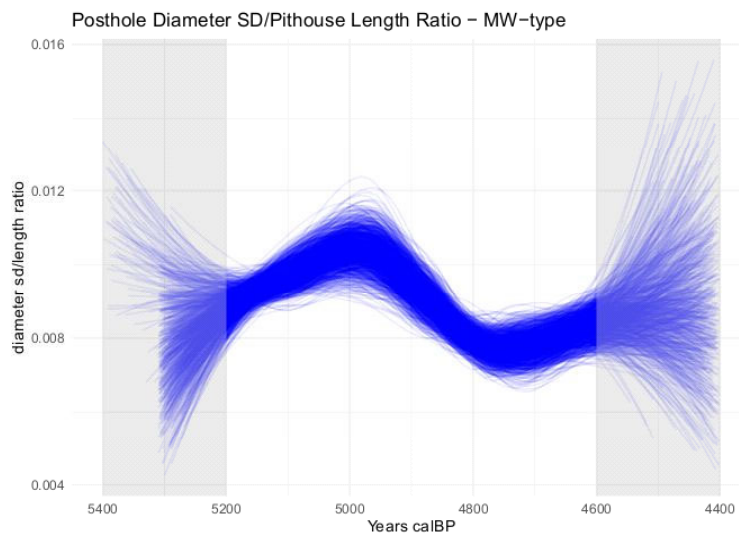


Figure 141 Combined LOESS regression curves indicating changes in pithouse length to posthole diameter SD ratio values of MW-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the posthole diameter SD by the pithouse length of each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

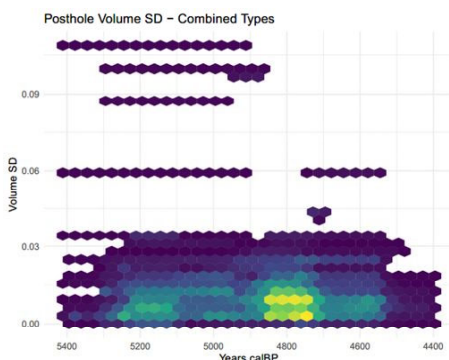


Figure 142 Hexplot indicating changes in MW-type pithouse length to posthole diameter SD ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

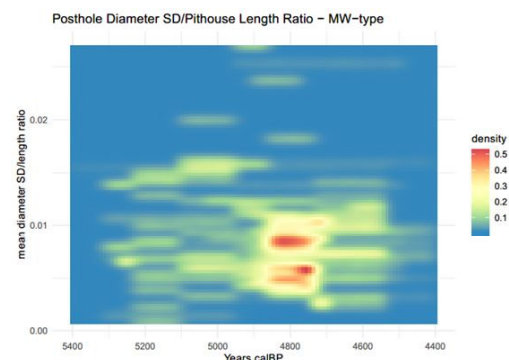


Figure 143 Density plot indicating changes in MW-type pithouse length to posthole diameter SD ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and the pithouse length to posthole diameter SD ratio value.

4 – Comparison

Figure 144 shows that correlations are fairly weak between pithouse length and posthole diameter variation overall. Spearman's correlation values for combined pithouse types was 0.26, while M-type and MW-type pithouses had R values of 0.26 and 0.23. In Figure 145 the posthole diameter variation differences between M and MW-type are quite clear. The trends between the two types appear to run opposite of one another. While M-type pithouses showed an increasing peak of posthole diameter variation in the middle of the period, MW-types showed the opposite, starting and ending the period with fairly high variation values, but showing a substantial decrease in the middle of the period. MW-types also showed the greatest swings in variation values, showing the highest SD value of over 0.5 and the lowest SD value of under 0.12.

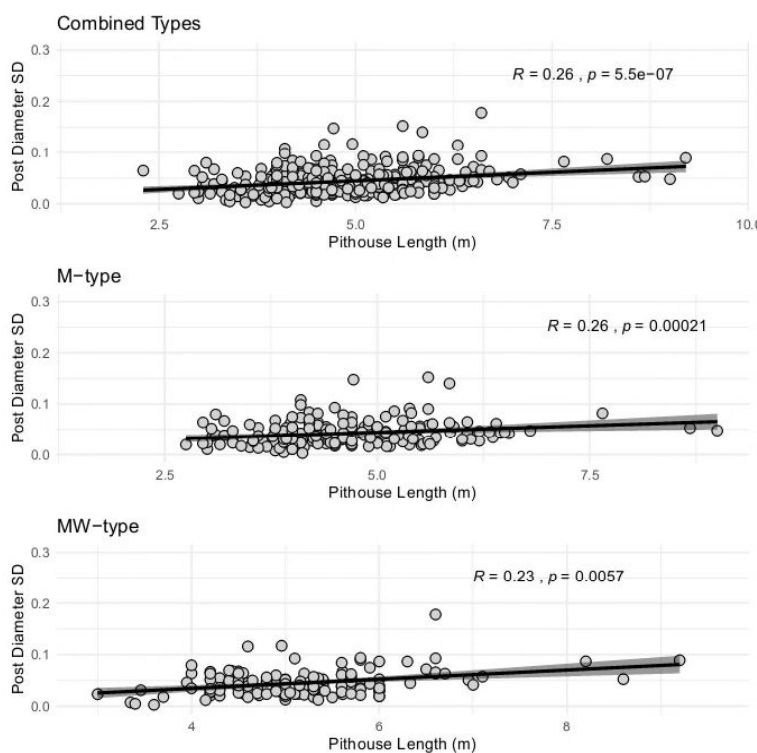


Figure 144 Spearman correlation values comparing posthole diameter SD values to pithouse length separated by type. Top to bottom, combined M and MW-types, M-types, and MW-types.

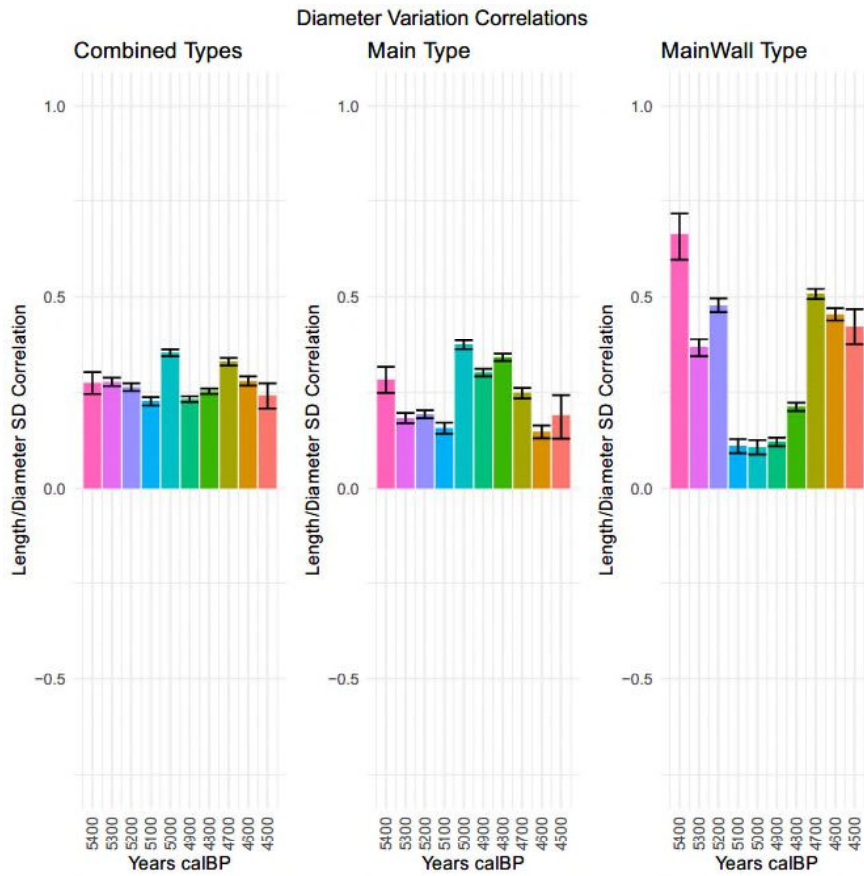


Figure 145 Posthole diameter SD to pithouse length Spearman correlation values separated by type and time block. Left to right, combined types, M-type, and MW-type pithouses. 95% confidence intervals bootstrapped using RVAideMemoire package (Hervé 2020).

3 – Posthole Volume

1 – Combined Types

Figure 146 shows that the LOESS regressions for posthole volume variation of combined pithouse types remained fairly static. There is a high degree of uncertainty at the beginning of the period, as well as a moderate degree of uncertainty at the end of the period, making it difficult to determine what, if any, changes were taking place at those times. Between 5100 and 4900 calBP, there is a section of increased variation and uncertainty, but beyond that the regressions are quite consistent. You can see in Figures 147 and 148 that posthole volume variation remained quite consistent when the pithouse types are combined. Around 5000 calBP there is a period of decreased density combined with high variation outliers that is contributing to the increased uncertainty in the middle of the period exhibited in Figure 146.

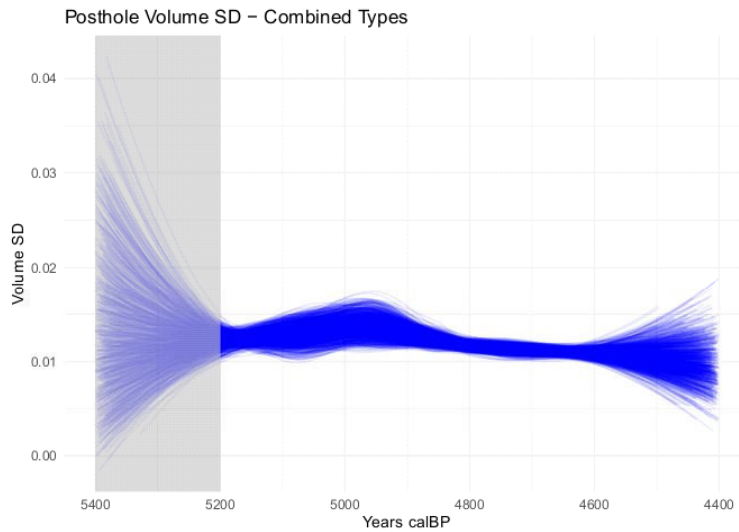


Figure 146 Combined LOESS regression curves showing changes in posthole volume variation over time for all 1000 MCMC simulation runs. Posthole volume variation values were calculated using the SD of posthole volumes for each pithouse. Gray box indicates area of increased uncertainty due to edge effects.

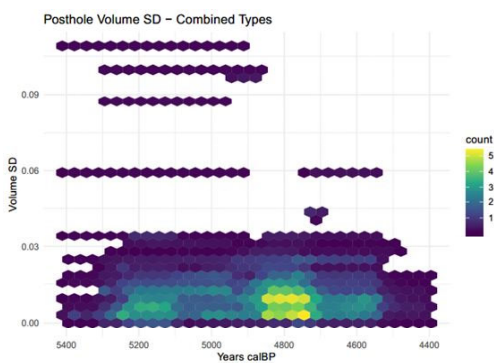


Figure 147 Hexplot indicating changes in posthole volume variation over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. Results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

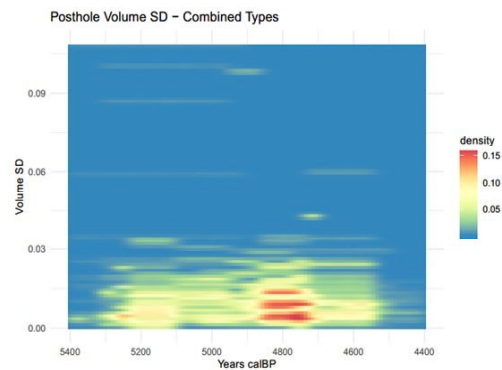


Figure 148 Density plot indicating changes in posthole volume variation over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole volume SD value.

2 – M-type

The LOESS regression curves in Figure 149 indicate a slight rise in posthole volume variation for M-type pithouses from 5200 cal BP to approximately 5000 to 4900 calBP. While there is an increased amount of uncertainty in this time frame, all simulation runs indicate some degree of posthole volume variation increase during this time. From that peak to approximately 4600 calBP posthole volume variation appears to have decreased. Edge effects are clear in Figure 149, with a high degree of uncertainty at the start of the period for these measurements as well as a moderate amount of uncertainty at the end of the period. Figures 150 and 151 show clustering of values at 5200 and 4800 calBP. A lack of clustered

values between these points as well as the presence of several high variation outliers correspond with the period of increased uncertainty shown at the same time in Figure 149.

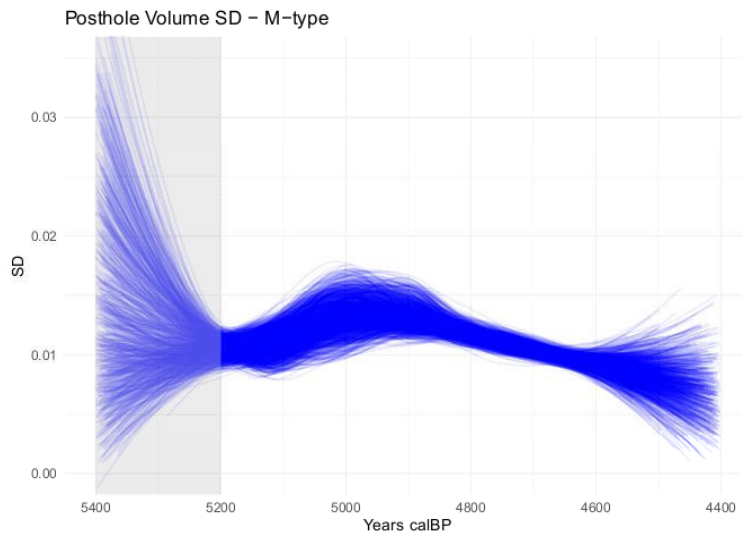


Figure 149 Combined LOESS regression curves showing changes in posthole volume variation of M-type pithouses over time for all 1000 MCMC simulation runs. Posthole volume variation values were calculated using the SD of posthole volumes for each pithouse. Gray box indicates area of increased uncertainty due to edge effects.

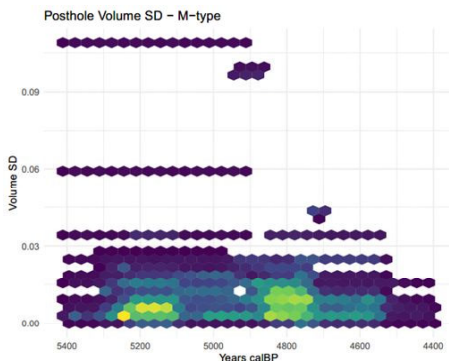


Figure 150 Hexplot indicating changes in posthole volume variation of M-types over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. Results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

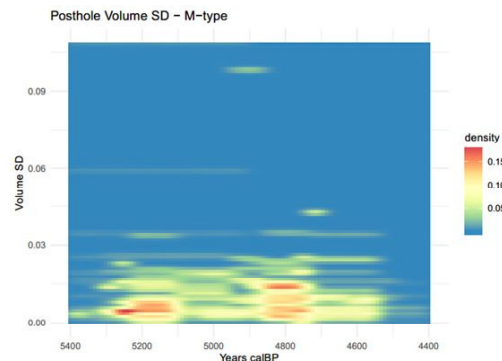


Figure 151 Density plot indicating changes in posthole volume variation of M-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole volume SD value.

M-type pithouse length to posthole volume variation ratio values were fairly stable through most of the Middle Jomon period (Figure 152). There appears to have been a slight increase from 5200 calBP to 5000 calBP, followed by a slight decline to the end of the period. These trends are reflected fairly well in Figures 153 and 154. There were several outliers with high ratio values that were responsible for the increased uncertainty present in Figure 152 during the first half of the period. The slight decrease heading towards the end of the period was also visible in Figures 153 and 154, although the degree of change was fairly

minimal. Overall, there was little change in the relationship between pithouse length and posthole volume variation for M-type pithouses.

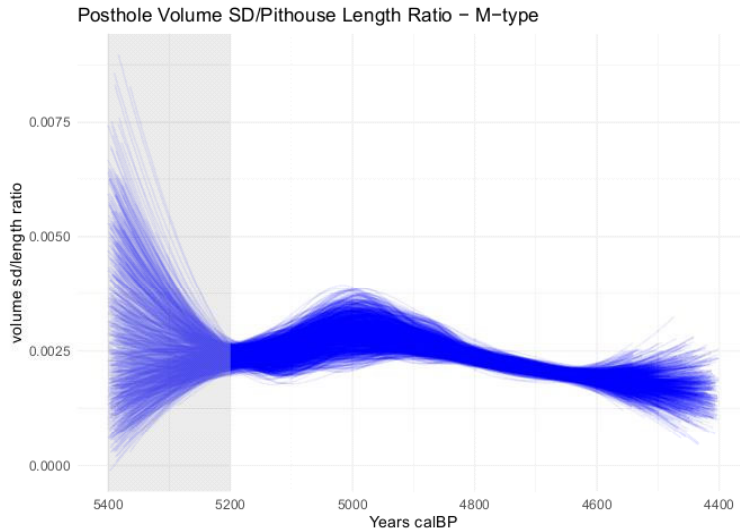


Figure 152 Combined LOESS regression curves indicating changes in pithouse length to posthole volume SD ratio values of M-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the posthole volume SD by the pithouse length of each pithouse. Gray box indicates an area of increased uncertainty due to edge effects.

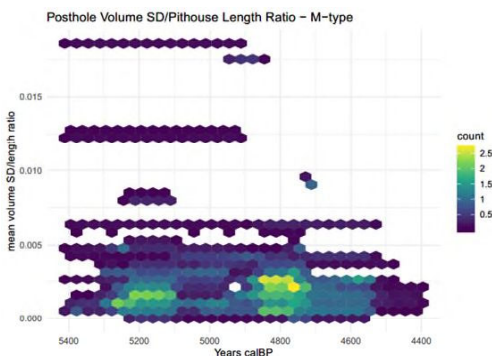


Figure 153 Hexplot indicating changes in M-type pithouse length to posthole volume SD ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

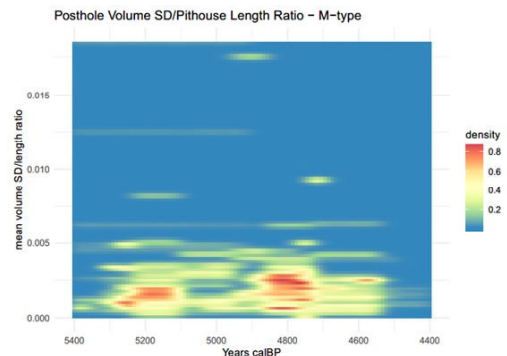


Figure 154 Density plot indicating changes in M-type pithouse length to posthole volume SD ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and the pithouse length to posthole volume SD ratio value.

3 – MW-type

Figure 155 shows a high degree of uncertainty for the first half of the Middle Jomon period. Posthole volume variation for MW-type pithouses show some convergence of regressions around 5200 calBP, followed by a period of increased uncertainty from approximately 5100 to 4800 calBP, at which point the regression lines converge again. The

start and end of the period suffer from edge effects, although the beginning of the period shows considerably much more uncertainty than the end of the period. Figures 156 and 157 show a period of clustered posthole volume variation values around 4800 calBP, explaining the convergence of regression lines at that time in Figure 155. High variation outliers shown at the beginning of the period in Figures 156 and 157 correspond with the increased uncertainty shown in the first half of the period in Figure 155.

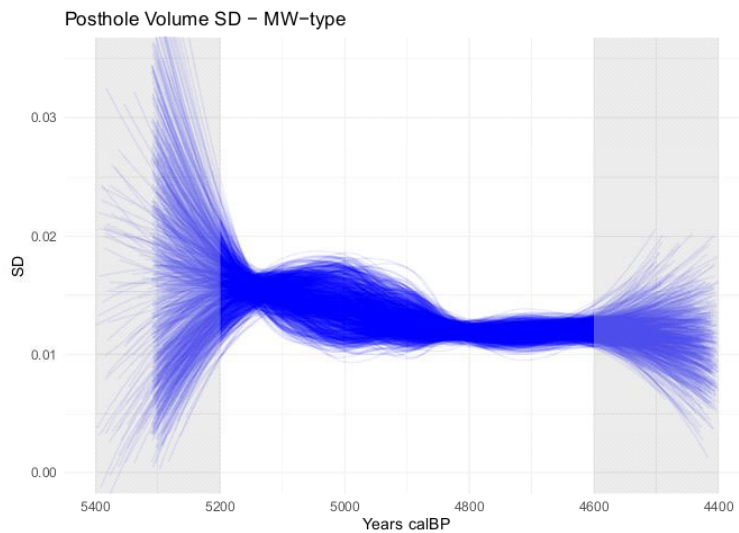


Figure 155 Combined LOESS regression curves showing changes in posthole volume variation of MW-type pithouses over time for all 1000 MCMC simulation runs. Posthole volume variation values were calculated using the SD of posthole volumes for each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

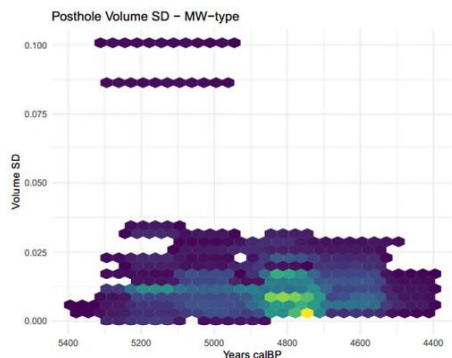


Figure 156 Hexplot indicating changes in posthole volume variation of MW-types over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. Results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

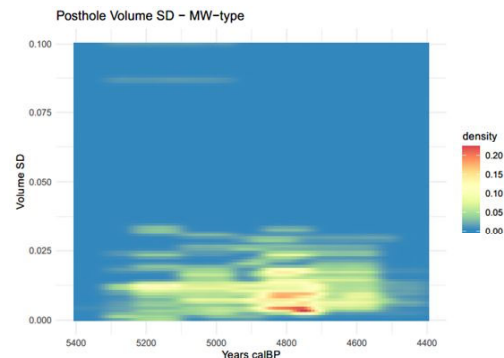


Figure 157 Density plot indicating changes in posthole volume variation of MW-type pithouses over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and posthole volume SD value.

Figure 158 shows a fairly stable relationship between MW-type pithouse length and posthole volume variation. There appears to be a slight increasing trend from 5200 to 5000 calBP, followed by a slight decrease from 4900 to 4700 calBP, but the shift is fairly minimal. The hex and density plots, however, show a wide range of ratio values, far larger than the

range present in M-type pithouses (Figures 159 and 160). While the overall trends reflected by the LOESS regressions might have been fairly level, it appears that this is a result of a wide range of values spread roughly evenly throughout the period, with the greatest span present around 4800 calBP.

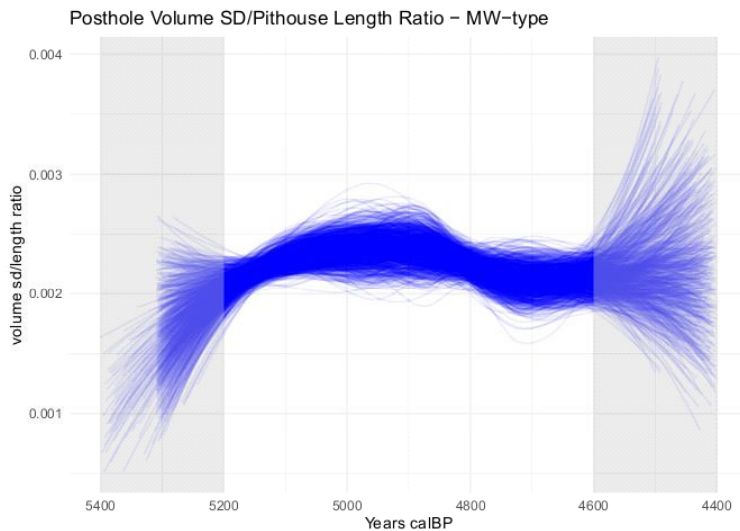


Figure 158 Combined LOESS regression curves indicating changes in pithouse length to posthole volume SD ratio values of MW-type pithouses over time for all 1000 MCMC simulation runs. Ratio values were calculated by dividing the posthole volume SD by the pithouse length of each pithouse. Gray boxes indicate areas of increased uncertainty due to edge effects.

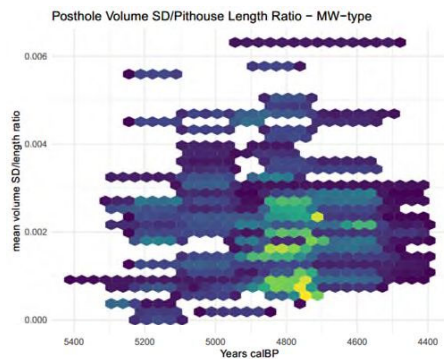


Figure 159 Hexplot indicating changes in MW-type pithouse length to posthole volume SD ratio values over time. Hexagon colors indicate the number of pithouses within each hexagonal bin. The results are scaled from the 1000 MCMC runs which results in partial values for pithouse counts.

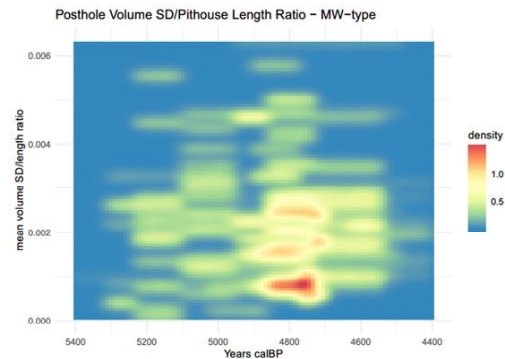


Figure 160 Density plot indicating changes in MW-type pithouse length to posthole volume SD ratio values over time for all 1000 MCMC simulation runs. Color indicates the density of results for that time and the pithouse length to posthole volume SD ratio value.

4 – Comparison

Figure 161 shows moderate correlations between pithouse length and posthole volume variation overall. Spearman's correlation values for combined pithouse types was 0.56, while M-type and MW-type pithouses had R values of 0.59 and 0.46. Viewing the pithouse length

and posthole volume variation correlations over time in Figure 162, there are some clear differences between M and MW-type pithouses. M-type pithouses start with a low correlation value at the start of the period, and then spend most of the rest of the Middle Jomon period fluctuating at R values at or above 0.5. The R value then drops below 0.5 at 4600 calBP, and drops again at 4500 calBP, to approximately 0, with a fairly large confidence interval at that time. MW-type pithouses on the other hand, start with an R around 0.9, and dropping fairly consistently until reaching a low below 0.25 at 4900 calBP. The correlation between pithouse length and posthole volume variation then increases for the next 200 years reaching an R above 0.6 and then slowly decreasing for the rest of the period, while still remaining above 0.5.

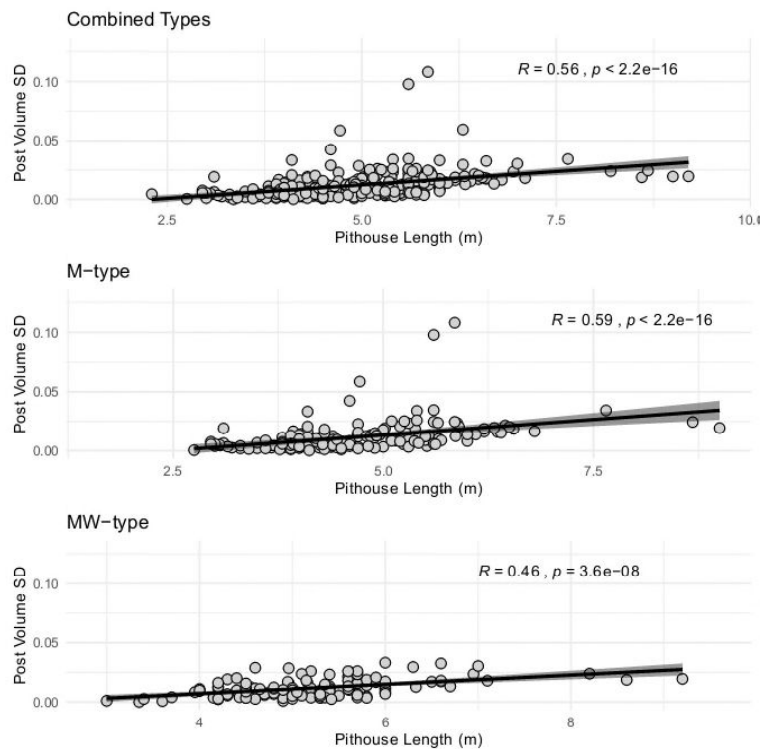


Figure 161 Spearman correlation values comparing posthole volume SD values to pithouse length separated by type. Top to bottom, combined M and MW-types, M-types, and MW-types.

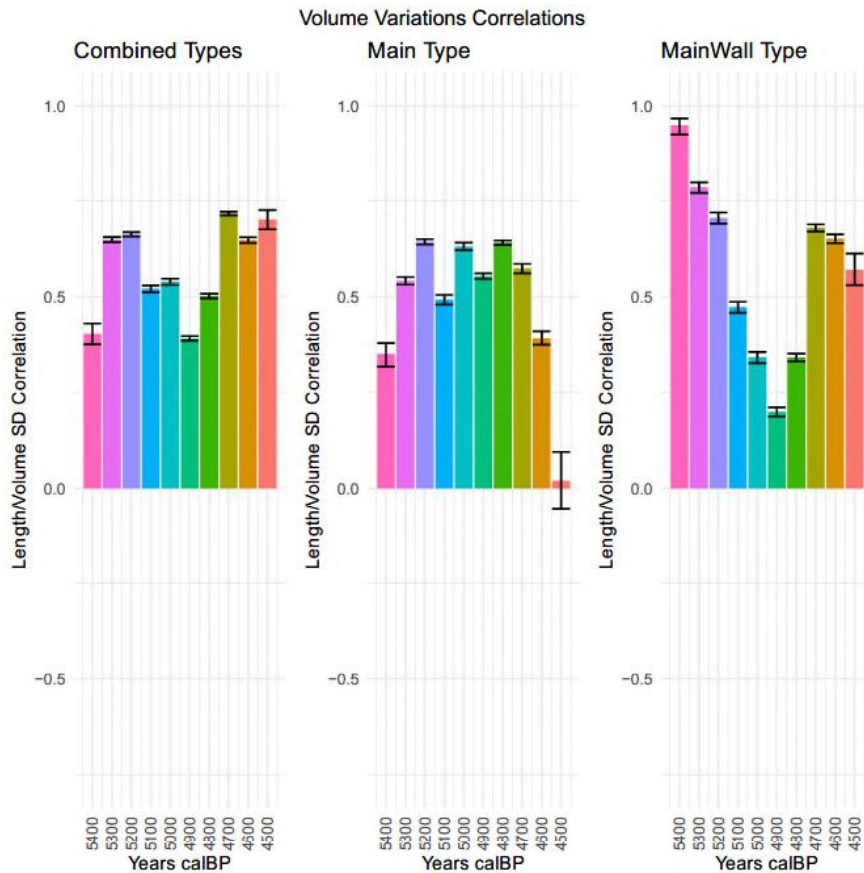


Figure 162 Posthole volume SD to pithouse length Spearman correlation values separated by type and time block. Left to right, combined types, M-type, and MW-type pithouses. 95% confidence intervals bootstrapped using RVAideMemoire package (Hervé 2020).

2 – Skeletal Study Results

1 – Birth Rate Trend Uncertainty

One benefit that the skeletal analysis has that the pithouse investigation lacked is data spanning beyond the Middle Jomon Period. Edge effects were clearly visible on many of the pithouse plots, making it difficult to interpret trends at the beginning and end of the period, and when the data for the skeletal analysis was strictly limited to the Middle Jomon period, a large degree of uncertainty in the regressions were present as well. Two expanded ranges of data were tested to see how they would affect the large degree of uncertainty present in the initial analysis. Figure 163 provides a comparison of these approaches. The top plot only includes data from the Middle Jomon period. There is a general increasing trend from approximately 5100 to 4900 calBP, but confidence envelope created from the 2000 MCMC runs is fairly broad. The horizontal line present at 0.173 indicating a stable population remains within this confidence envelope throughout the Middle Jomon period. The middle plot in Figure 163 used no filtering in regards to site dating, allowing data from the entire Jomon period to be used in the analysis. A similar increasing trend is visible in this plot as well, however, the more constrained confidence envelope shows that from 4800 to 4600 calBP, the 15p5 regressions trended above the 0.173 line, indicating higher birth rates and a

likely growing population. From 4600 calBP onwards, the stable population line reenters the confidence envelope. The bottom plot expands the data used in the juvenility index analysis, but in a more limited manner than the middle plot. It includes data from 6400 to 3400 calBP, adding 1000 years before and after the Middle Jomon period.

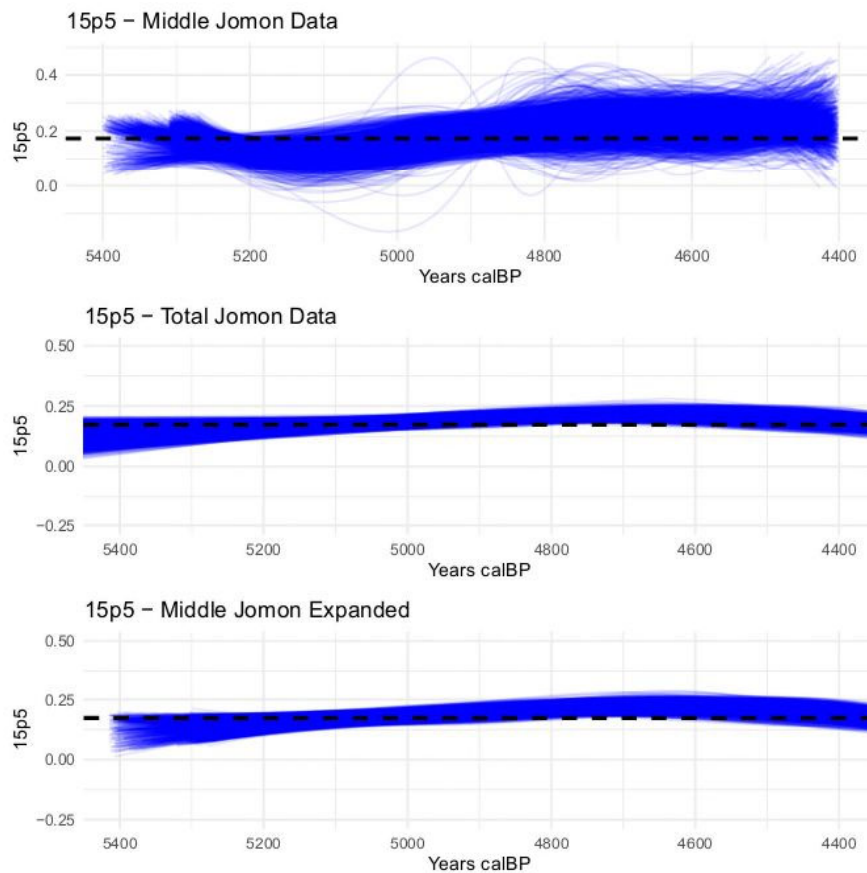


Figure 163 15p5 juvenility index regressions from 2000 MCMC simulation runs. Top to bottom: using only Middle Jomon data, no filtering of dates, extended date range of 6400 to 3400 calBP. Horizontal line indicates stable population level.

2 – Site Weighting and Filtering

Another issue that was necessary to address was site filtering. In looking for representative sites to use to derive juvenility index values, there is a question as to whether sites with no juveniles present should be included in the analysis, and this issue was discussed in more detail in Chapter 3. The results of filtering out sites that lacked individuals aged 5 to 19, filtering out sites that lacked any subadults at all, including those under the age of five, and weighting site values based on the number of individuals buried at a site are shown below.

Figures 164 to 166 display a different data set used in the analysis, which can impact edge effects in the regressions, with Figure 164 using only Middle Jomon period data, Figure 165 using a date range that extends 1000 years before and after the Middle Jomon period, but

only shows the portion of the plot occurring in the Middle Jomon period, and Figure 166 using data from the entire Jomon period, again only showing the portion of the plot occurring in the Middle Jomon period. All three of these figures display the three different methods used to address any possible lack in juvenile representation for the sites used to create proxy birth rates. The upper left portion of the plots show regressions where no weighting or site filtering has been applied to the data, and the upper right portion of the plots show data that was weighted based on the number of individuals five years of age or older at the site. The lower left portion of the plots show data that filters out sites if they lack any individuals under 20 (subfilter), and the bottom right shows data set that has filtered out any sites that were lacking any subadults between 5 and 19 years old (subfilter2). In other words, a site that had an infant burial present, but didn't have any individuals aged 5 to 19 would not be included in the lower right plot but would be included in lower left plot.

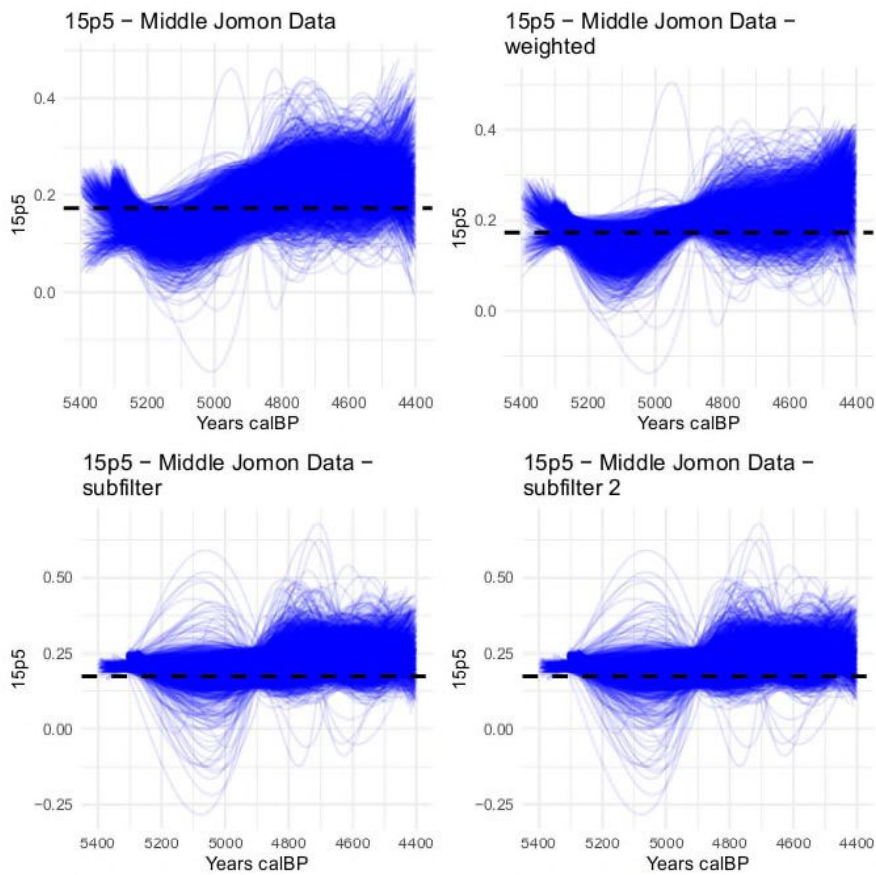


Figure 164 15p5 juvenility index regressions from 2000 MCMC simulations. Only data from Middle Jomon period included for analysis. Upper left: No site filtering included. Upper right: data weighted based on number of individuals over 5 years of age. Lower left: sites that lack any individuals under the age of 20 removed from analysis. Lower right: sites that lack individuals aged 5 to 19 removed from analysis. Dashed line indicates stable population level.

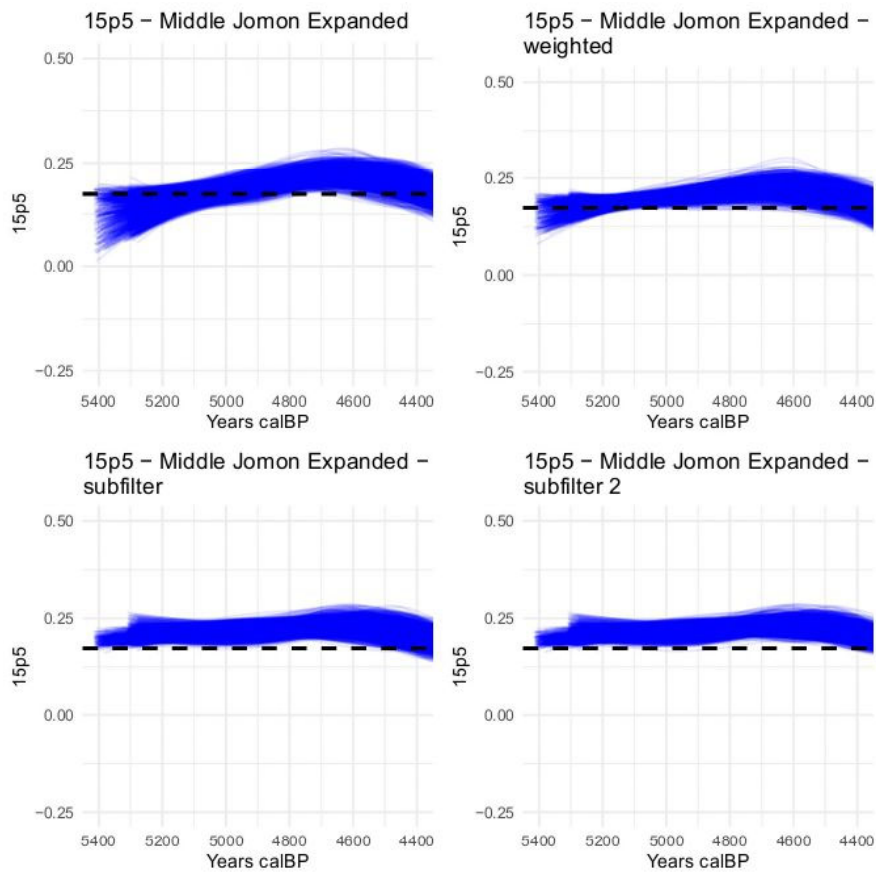


Figure 165 15p5 juvenility index regressions from 2000 MCMC simulations. Data from 1000 years before and 1000 years after the Middle Jomon period included for analysis, with Middle Jomon period portion of regressions shown. Upper left: No site filtering included. Upper right: data weighted based on number of individuals over 5 years of age. Lower left: sites that lack any individuals under the age of 20 removed from analysis. Lower right: sites that lack individuals aged 5 to 19 removed from analysis. Dashed line indicates stable population level.

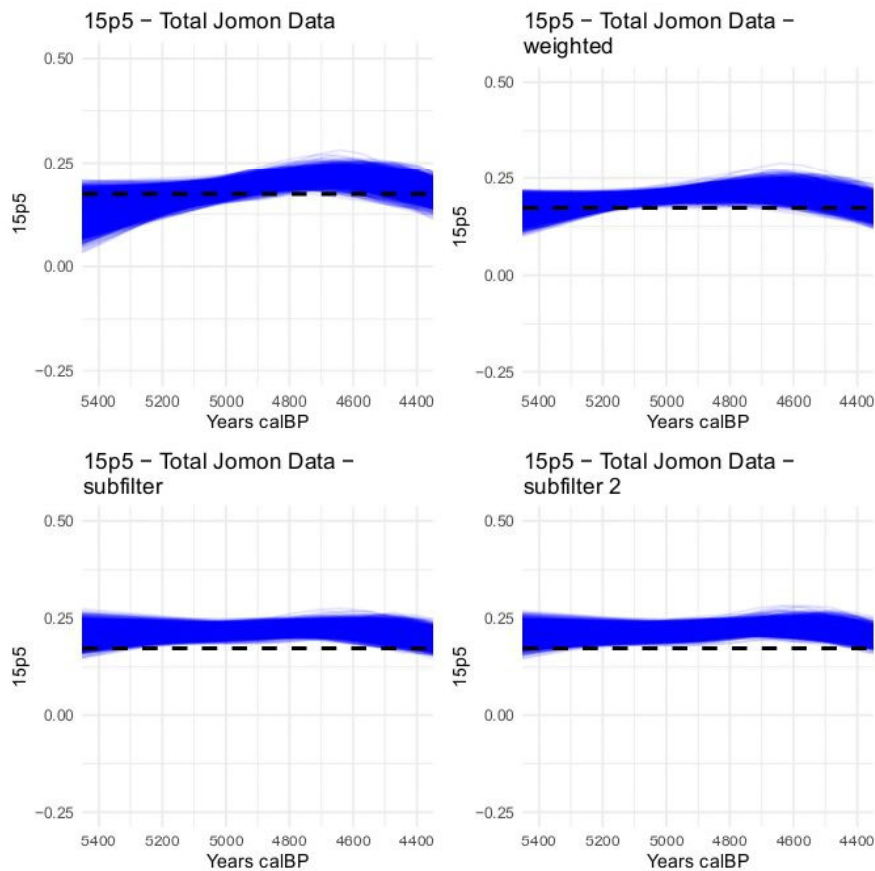


Figure 166 15p5 juvenility index regressions from 2000 MCMC simulations. Data from entire Jomon period included for analysis, with Middle Jomon period portion of regressions shown. Upper left: No site filtering included. Upper right: data weighted based on number of individuals over 5 years of age. Lower left: sites that lack any individuals under the age of 20 removed from analysis. Lower right: sites that lack individuals aged 5 to 19 removed from analysis. Dashed line indicates stable population level.

Comparing the plots in all of these figures, the removal of sites lacking subadults raises the juvenility index regressions, which translates to higher interpreted birth rates. Filtering sites based on the presence or absence of subadults also has a tendency to flatten the regression curves more so than weighting sites based on the number of individuals over 5 at those sites. The weighted plots in the upper right corners show resemble the original data more than the subfiltered plots, but show a tightened confidence envelope in the middle of the period which translates to an earlier shift to higher birth rates. Looking at the bottom right plots in each figure, removing any site that lacked individuals aged 5 to 19 raised regression values significantly, the differences most easily noticeable at the beginning and end of the period. The plots in the lower left of each figure, which removed sites where individuals aged 5 to 19 were missing but individuals under 4 were present showed results that were between the untouched plots in the upper left and the plots that removed any sites where individuals aged 5 to 19 were not present.

3 – Hexagonal Binning and Data Density

Figures 167 through 172 help to visualize the changes that filtering out sites lacking subadults has on the data set itself as opposed to seeing how the filtering affects birth rate trends. Figures 167 and 168 show the skeletal data without any filtering to remove sites that lack subadults. A concentration of data points are present at and slightly above the stable population line, and there are a number of other concentrated regions set above and below the center concentration which appear to have increasing juvenility index values throughout the period.

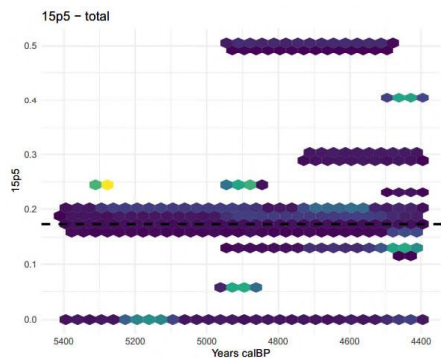


Figure 167 Hexplot indicating changes in 15p5 ratio values over time. Hexagon colors indicate the number of sites within each hexagonal bin. Results are scaled from the 2000 MCMC runs which results in partial values.

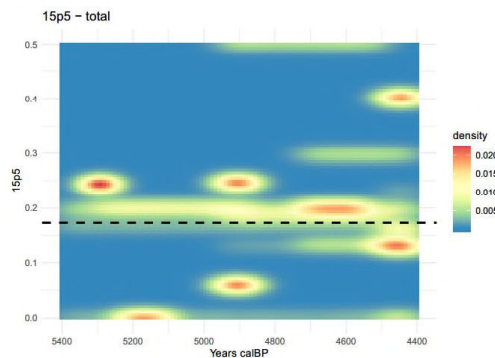


Figure 168 Density plot indicating changes in 15p5 ratio values over time for all 2000 MCMC simulation runs. Color indicates the density of results for that time and 15p5 ratio value.

Figures 169 and 170 display data that has had sites lacking any subadults removed. If a site lacks data from both the zero to four as well as the 5 to 19 age groups, that site is removed. If a site lacks individuals from the 5 to 19 group but has individuals in the zero to four age group, that site is still included in the study.

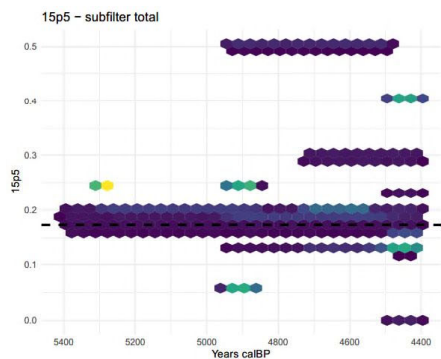


Figure 169 Hexplot indicating changes in 15p5 ratio values over time. Sites lacking individuals from the 5 to 19 age group or the 0 to 4 age group were removed. Hexagon colors indicate the number of sites within each hexagonal bin. Results are scaled from the 2000 MCMC runs resulting in partial values.

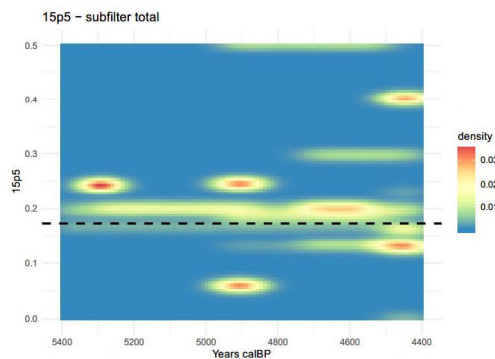


Figure 170 Density plot indicating changes in 15p5 ratio values over time for all 2000 MCMC simulation runs. Sites lacking individuals in the 5 to 19 age group or the 0 to 4 age group were removed. Color indicates the density of results for that time and 15p5 ratio value.

Figures 171 and 172 display data that has removed sites lacking individuals aged 5 to 19. The lowest 15p5 values have been removed through the filtering process here which helps to explain the overall upward shift shown in the LOESS regressions of Figures 164 to 166. Comparing Figures 171 and 172 to the previous 169 and 170, a data cluster with a very low 15p5 value is removed from this data set, but otherwise the figures appear to be very similar.

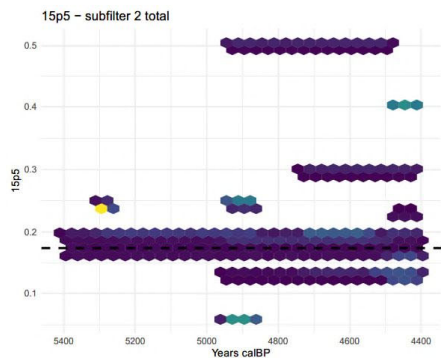


Figure 171 Hexplot indicating changes in 15p5 ratio values over time. Sites lacking any individuals from the 5 to 19 age group were removed. Hexagon colors indicate the number of sites within each hexagonal bin. Results are scaled from the 2000 MCMC runs resulting in partial values.

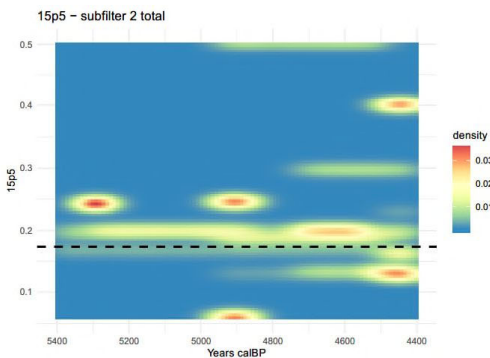


Figure 172 Density plot indicating changes in 15p5 ratio values over time for all 2000 MCMC simulation runs. Sites lacking any individuals in the 5 to 19 age group were removed. Color indicates the density of results for that time and 15p5 ratio value.

4 – 15p5 and 5p0 Ratio Comparison

Although the primary focus of the skeletal analysis portion of this study revolves around Bocquet-Appel's 15p5 ratio, the less commonly used 5p0 ratio was also examined. The issue of edge effects was dealt with in the same manner as it was approached with the previous 15p5 ratios. The 5p0 analyses do not include any filtering of sites based on the presence or absence of subadults at a site.

Figure 173 shows a side by side comparison of 5p0 and 15p5 results based on 2000 MCMC simulation runs. The top plots only includes data from the Middle Jomon period. The middle plots allows data from the entire Jomon period but only displays the results for the Middle Jomon period. The bottom plot includes data from an increased range 6500 to 3400 calBP, but only displays results for the Middle Jomon period. Unlike the 15p5 plots, horizontal lines indicating the estimated birth rates necessary to maintain a stable population level were not calculated for 5p0 ration values in previous studies and are therefore not included in 5p0 related figures.

Even with additional measures used to counter edge effects, the confidence envelopes of the 5p0 plots are larger than 15p5 plots. There appears there might have been a slight increase from 5000 to 4900 calBP followed by a similar decrease from 4900 to 4800 calBP. The increase seen in the 5p0 plots are somewhat similar to those seen in the 15p5 plots, but with the increased uncertainty present in the 5p0 plots it is difficult to confirm.

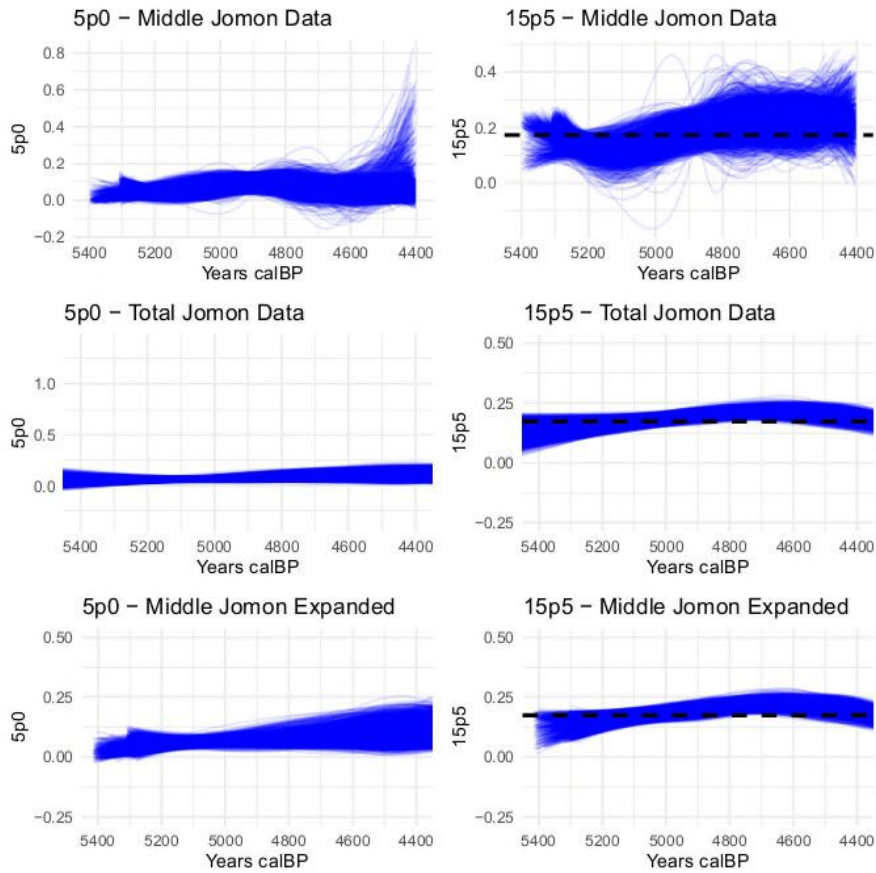


Figure 173 Comparison of 5p0 (left) and 15p5 (right) juvenility index regressions from 2000 MCMC simulation runs. Top to bottom: using only Middle Jomon data, no filtering of dates, extended date range of 6400 to 3400 calBP.

5 – Pithouse Counts and 15p5 Comparison

Figures 174 and 175 compare Middle Jomon pithouse counts to the 15p5 birth rate proxy. Figure 174 and Figure 175 both show 15p5 regressions using the extended temporal time frame of 6400 to 3400 calBP in order to help combat edge effects. Figure 174 shows the standard analysis which includes sites even if subadults aged 5 to 19 are not present at those sites. Figure 175 shows the filtered data set which removed sites from the analysis if they did not have any individuals aged 5 to 19 at that site. These figures represent the lowest and highest birth rate results, providing a reasonable range of juvenility index values. While it lacks the dramatic increases shown in the pithouse portion of the plot, the 15p5 curve shown in Figure 174 does show an increase throughout three quarters of the Middle Jomon period and end in a declining trend. The confidence envelope surrounds the estimated stable population value of 0.173 for most of the period except for a time spanning between approximately 4800 and 4600 calBP, at which point the entirety of the envelope was above the stable population line. In Figure 175 there doesn't appear to be as strong of an increase through the first half of the period, but with the exception of the very end of the Middle Jomon period, the confidence envelope for the sub-filtered 15p5 values remained above the estimated stable population line. The period between 4800 and 4600 calBP shows more

constrained confidence envelope than in Figure 174 the bottom of which is spaced further from the stable growth line.

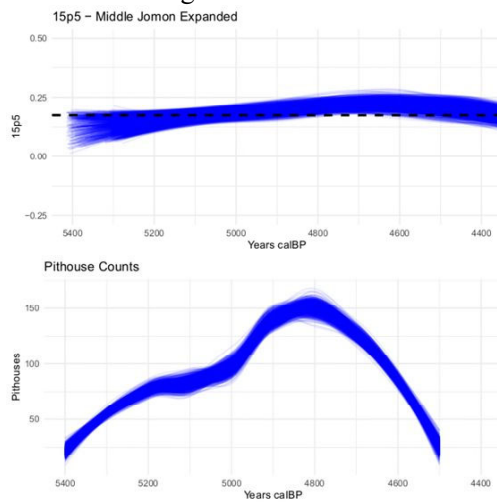


Figure 174 Comparison of 15p5 value (top) and pithouse count (bottom) regressions during the Middle Jomon period. 15p5 regression shown derived from 2000 MCMC simulation runs and an extended time frame of 6400 to 3400 calBP with only Middle Jomon results shown. Pithouse count regressions derived from 1000 MCMC simulation runs using only Middle Jomon period data.

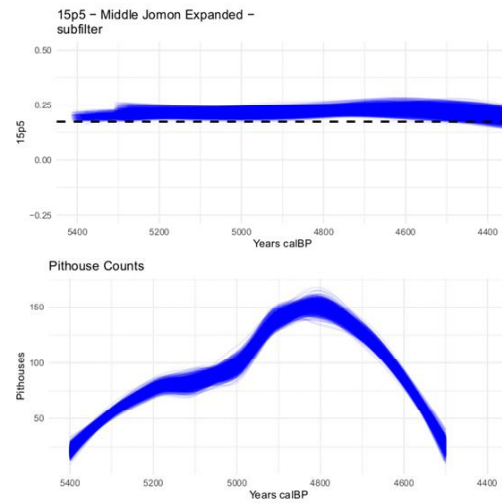


Figure 175 Comparison of 15p5 value (top) and pithouse count (bottom) regressions during the Middle Jomon period. 15p5 regression has been filtered, removing sites if they lack any individuals in the 0 to 4 or 5 to 19 age groups. The regression lines are derived from 2000 MCMC simulation runs and an extended time frame of 6400 to 3400 calBP with only Middle Jomon results shown. Pithouse count regressions derived from 1000 MCMC simulation runs using only Middle Jomon period data.

Chapter 6 – Conclusion

1 – Interpretation and Analysis of Results

The interpretation and analysis section is divided into two main sections: pithouse analysis and skeletal analysis. Each section is further subdivided to address specific issues within each of those subsections.

1 – Pithouse Analysis

The pithouse analysis section is further subdivided into six sections: Pithouse Counts, Pithouse Size, Posthole Size and variation.

1 – Pithouse Counts

Overall, in the Tama New Town area, there were two periods of significant increase during the 5300-5200 calBP time blocks, and the 4900 to 4800 calBP time blocks, followed by a decrease that continued to the end of the period. M-type pithouses were the most numerous type followed by MW-type pithouses were the most numerous types throughout most of the Middle Jomon period. P-type pithouses were never a primary type during the Middle Jomon period in the area, and the numbers tended to fluctuate over time. W-type pithouses were also a minority type during the period but showed an increasing trend from 5100 calBP to 4800 calBP at which point the numbers remained fairly stable until a drop at the end of the period. Although other studies have expressed that HM-type pithouses being introduced with Kasori E type pottery, this current analysis based on excavation reports shows HM-types being introduced in the middle of the period and slowly increasing in number until hitting sharp peak at 4600 calBP, which was then followed by a slight decrease at the end of the period (Teshigawara 1992). Around 4500 calBP at the end of the period, there was a significant drop in pithouses in the Tama New Town area. M-type and MW-type pithouses saw significant drops, making HM-type pithouses the most common pithouse type at that time. Pithouses of unknown types should also be addressed here. They were consistently the third most common “type”, and if they were able to be identified, have the possibility of shifted the distribution of pithouses types to some extent.

2 – Pithouse Size

Different pithouse types displayed different pithouse size trends over time. P-type and MW-type pithouses in the Tama New Town region showed an increasing trend throughout the Middle Jomon period. M-type pithouses showed a slight increase in size from 5200 to 4800 calBP followed by a decrease towards the end of the period. W-type and HM-type pithouses showed high degrees of variation and uncertainty. HM-types do appear to show a decrease in size at the end of the period, but beyond that, it is difficult to identify clear pithouse size trends for HM-type and W-type pithouses.

3 – Posthole Size and Variation

There are several complicating factors involved in interpreting changes in posthole size and posthole size variation. As measures for postholes is limited for posthole types outside of central M-types, posthole analysis is limited to M-type and MW-type pithouses. In addition to this, there are several different measurements used to measure these changes,

which means that multiple measures should be tracked over time, which can occasionally lead to contradictory results. Finally, changes in pithouse size should also be considered when interpreting these results, as increases or decreases in posthole size or posthole size variation might simply be a result of changes in pithouse size. Ratio values comparing pithouse length and posthole measures indicated a particular method used to check for significant changes in these relationships, but the method was ultimately unable to produce results as ratio values tracked quite closely to posthole measures. While posthole size and posthole size variation were separated and examined separately, the measures are directly tied to one another and should both be considered when interpreting posthole size changes. As this involves monitoring multiple measures at once, focusing on the pithouse types individually is the easiest way to clearly interpret and convey the posthole size changes occurring in the Tama New Town area during the Middle Jomon period.

1 – M-type Pithouses

1 – Posthole Depth

Looking at the LOESS regressions in Figure 64, it appears that throughout the Middle Jomon period in the Tama New Town area, posthole depth remained relatively unchanged, with a mean depth of a little over 0.6m. However, as Figures 65 and 66 show, there was a wide variety of mean posthole depths for almost all of the Middle Jomon period. There is a central tendency for values to site between 0.5 and 0.8 m, but a clear, unified trend is not present.

Looking at the period as a whole, M-type posthole depth showed a weak to moderate correlation with pithouse size. M-type pithouses tended to increase in size from 5200 calBP to 4800 calBP and then decreased in size from that point to the end of the period, while posthole depths tended to vary. As might be expected, due to M-type pithouses lacking a clear trend for posthole depths over time, they also lacked any sort of clear trend in regards to the correlation between pithouse size and posthole depth. When examining the individual time blocks in Figure 77, the correlation between pithouse size and posthole depth increased from an R value of approximately 0.25 to over 0.6 by 5000 calBP, at which point the correlation dropped to approximately 0.25 in 4900 calBP and dropped again to below 0.25 in 4800 calBP. The following 200 years saw the correlation values increase back up to around 0.5, and then switch to a moderate to strong negative correlation for the last 100 years of the Middle Jomon period.

The drop in correlation values during the 4900 and 4800 calBP time blocks is interesting to note. At this time, M-type pithouses were on average larger and more plentiful than at any time before or after in the period. In this period of expansion, as pithouses were peaking, posthole depths didn't follow, remaining fairly independent from these changes. This wide dispersal of mean posthole depths throughout the period suggests that the measure lacks utility as an indicator value.

The variation of posthole depths within pithouses were more constrained than mean posthole depth values. Looking at Figure 115, posthole depth SD values show a decreasing trend from 5200 to around 5000/4900 calBP, meaning that posthole depths are becoming more standardized at this time. Overall variation then increases until 4600 calBP, indicating a shift away from standardization. Figures 116 and 117 show that the range of SD values stays relatively consistent throughout the period, between 0.025 and 0.2, but does show a shift

where most SD values are below 0.1 around 5000 calBP, and then gradually expand back to the previous range.

Looking at Figure 127 and the period overall, there is almost no correlation between posthole depth variation and pithouse size. However, when looking at individual 100 year time blocks, rather than showing a consistent lack of correlation, there appear to have been fairly significant swings as shown in Figure 128. These swings are somewhat unexpected when looking at individual trends for pithouse length and posthole depth variation. At the beginning of the period M-type pithouses show an increasingly negative correlation between posthole depth variation and pithouse length, starting at a little under -0.1 at 5400 calBP and ending with an R of around -0.25 at the 5200 calBP time block. Correlations then jump up to a little under 0.25 at 5100 calBP and again fall to a negative correlation of around -0.1 at 4900 calBP. There is then a steady positive increase in correlation values to the end of the period, ending with a somewhat weak to moderate R value of approximately 0.35. The results from the examination of posthole depth variation values were generally inconclusive. While regressions showed a decrease in posthole depth variation values heading into 5000 calBP which could have indicated an increasing degree of posthole depth variation, there were no clear trends for the first half of the period when viewing the individual 100 year time block correlations of Figure 128. At the end of the period there was a clear increase in correlations which corresponded to an increase in posthole depth SD values and a drop in M-type pithouse counts and pithouse size. This could be interpreted as decreasing standardization at a time when pithouse sizes and numbers were decreasing, but considering the lack of consistency of the measure earlier in the period, this should be viewed somewhat skeptically on its own.

2 – Posthole Diameter

Figures 82 and 83 showed that mean posthole diameters for M-type pithouses generally ranged from 30cm down to slightly under 10cm through the Middle Jomon period. LOESS regressions in Figure 81 show that posthole diameter trends for M-type pithouses increased from 5200 calBP to 4900 calBP, and then decreased through the rest of the period and this trend is reflected in the hex and density plots of Figures 82 and 83. So M-type mean posthole diameters were getting larger in the first half of the period at the same time that pithouse size was increasing, and the diameters start to decline just before the pithouse size reached their peak.

Overall, there was a fairly strong correlation between posthole diameter and pithouse size other than the very start of the period and the last 200 years of the period (Figure 94). Correlations ranged between R values of 0.6 and close to 0.75. At the very end of the period there was a significant drop in correlation values, dropping from just under 0.5 to a negative correlation under -0.1. Correlation values were at their highest during the 5000 to 4800 calBP time blocks when M-type pithouse counts size were peaking, as well as average posthole diameters.

The LOESS regressions in Figure 132 showed relatively little change in posthole diameter variation throughout the period for M-type pithouses. Figures 133 and 134 showed that there were some outliers with high SD values that appear to have introduced some uncertainty in the regression trends for the first half of the period, but otherwise there were no clear trends for the measurement. Diameter SD values typically ranged from a little under 0.1 to just over 0 throughout the period.

3 – Posthole Volume

As posthole depth trends remained fairly stable throughout the Middle Jomon period for M-type pithouses, posthole volume tended to track with posthole diameter (Figures 64, 81, and 99). Mean posthole volume increased from 5200 calBP to 4900 calBP, and then decreased until 4600 calBP. Pithouse size to posthole volume correlations were lowest at the beginning and end of the period, with a moderate negative correlation during the 4500 calBP time block. Otherwise fairly strong correlations were present throughout the rest of the period.

Posthole volume variation levels were generally between 0.03 and 0. The LOESS regression in Figure 149 showed an increasing posthole volume variability from 5200 calBP to around 4900 calBP, before decreasing through to the end of the period. Figures 150 and 151 show some outliers with high SD values in the beginning of the period. The combination of those outliers and a period of decreased density around 5000 calBP is likely the cause of the trend of increasing posthole volume variability shown in Figure 149. With no clear trends of increasing or decreasing posthole depth variability, there isn't a clear conclusion to draw from the measurement.

Volume measurements in this study are the combination depth and diameter measurements. For the goal of measuring the amount of energy that went into the creation of the main posts and postholes themselves, posthole volume is the most direct measurement to use. Posthole volume provides a single data type to track posthole size over time. Unfortunately, posthole volume is influenced by posthole diameter than posthole depth. If a posthole's depth is doubled, the volume will double as well, but if the diameter is doubled, the volume will be quadrupled. Therefore, relying solely on volume to track posthole size diminishes the role of posthole depth, emphasizes the role of posthole diameters, and can possibly mask changes to posthole proportions if one measure is increasing while the other is decreasing. A posthole with a diameter of 20cm and a depth of 32cm and a posthole with a diameter of 11cm and a depth of 106cm both have volumes of approximately 0.01m³.

Although this is an extreme example, it demonstrates that while posthole volume measures can be the same, the posthole configurations can be quite different. The significant variability of mean posthole depths during the Middle Jomon period in the Tama New Town area also detracts from the utility of using posthole volume as an indicator measurement. This doesn't mean that the measurement necessarily be ignored entirely, but any interpretations based on posthole volume measurements should be approached carefully.

2 – MW-type Pithouses

1 – Posthole Depth

Posthole depth trends for MW-type pithouses are difficult to interpret. While the LOESS regressions of Figure 70 show a decrease in depth from 5200 calBP to 500 calBP and a general stabilization at that level until 4600 calBP, Figures 71 and 72 show a more complicated picture. There are outliers with depths close to 90cm in the beginning of period, and between 5000 and 4600 calBP there are additional smaller than normal outliers, some shallower than 25cm deep. In the beginning of the Middle Jomon period, it does appear that posthole depth tended to skew deeper, but the general range of posthole depths was typically between around 40cm to a little over 80cm.

Posthole depth variation values were just as messy. The LOESS regression curves in Figure 121 show a slight decrease in variation from 5300 calBP to 4900 calBP. Posthole depth variation then increases from 4900 calBP to 4600 calBP. The hex and density plots of Figures 122 and 123 show a large degree of outliers and very little consistency. While the majority of instances were between SD values of 0.2 to slightly over 0, there were a number of outliers above 0.2 throughout the Middle Jomon period.

In the Tama New Town area there does not appear to be any clear trends of change for posthole depth or posthole depth variation values for MW-type pithouses. The results for the M-type pithouses were generally inconclusive as well, suggesting that posthole depth is a poor indicator value for the study.

2 – Posthole Diameter

Although mean posthole diameters for MW-type pithouses showed a wide variation of sizes over time, the increasing trend lines seen in Figure 87 roughly correspond to changes seen in Figures 88 and 89. Around 4800 calBP the number of MW pithouses and overall pithouse size were both peaking, MW-type posthole diameters increased their range. While a significant portion of posthole diameter values remained similar to earlier in the period, this time of expansion around 4800 cal BP also brought with it larger posthole diameters. After 4800 calBP the LOESS regressions indicate a slight decrease in diameters, which is again mirrored in the hex and density plots. The range of diameter values decreased at the same time that the number of MW-type pithouses were decreasing.

For the period as a whole, there was a moderate correlation between posthole diameter and pithouse length for MW-type pithouses, with an R of 0.53 (Figure 93). Looking at how correlations changed over time shows an interesting pattern (Figure 94). The period starts with a correlation of 0.75, dropping to approximately 0.6 during the 5300 and 5200 calBP time blocks. At 5100 calBP there was a significant drop down to under 0.4 which continued to reach a minimum value of a little under 0.25 at 5000 calBP. Correlation values then continued to increase until reaching a little over 0.6 for the 4700 and 4600 calBP time blocks, eventually settling back down to a little over 0.5 at the end of the period. These correlations are somewhat difficult to interpret. Although outliers existed, MW-type pithouses generally increased in size through the Middle Jomon period. Posthole depths for MW-types showed a slight increase from 5200 to around 4900/4800 calBP, and then appear to have decreased slightly. With both pithouse size and posthole diameter increasing during the first half of the period, one would expect correlations to be relatively consistent. This 300 year period of low correlations starting from 5100 calBP doesn't appear much more variable than other times when viewing the hex and density plots of Figures 88 and 89. There are some gaps and outliers present around 4900 calBP, but that wouldn't explain the drop in correlation values at 5100 calBP or the period low at 5000 calBP. The only explanation is that this drop in correlations are scattered throughout the pithouses during this period but are not visible in the overall pithouse trends.

Posthole diameter variation trends are also difficult to interpret. The LOESS regressions in Figure 138 show an increasing, if somewhat variable trend in posthole diameter variation values from 5200 calBP to 500 calBP. Posthole diameter variation then decreases fairly sharply from 500 to around 4800/4700 calBP, and then starts to slowly rise again. When viewing the data in Figures 139 and 140, outside of some high variation outliers, posthole diameter variation appears relatively consistent, with SD values between 0 and 0.1.

3 – Posthole Volume

The LOESS regressions in Figure 104 show a slight increasing trend from 5200 calBP to 4900 calBP, and a decrease in posthole volume after that point. The confidence envelope is larger in the first half of the period, which is explained by the presence of outliers during that period seen in Figures 105 and 106. Mean posthole volumes are somewhat scattered in the first half of the period. There is an expansion in the typical range of posthole volumes around 4800 calBP, which then contracts and lowers after 4800 calBP, which generally corresponds to the regressions seen in Figure 104. There is a moderate correlation between posthole volume and pithouse length for MW-types, with an R of 0.54. Showing a similar pattern to posthole diameters, correlation values were fairly strong at the beginning of the period, with the first 300 years showing R values of approximately 0.75. There is a significant drop at 5100 calBP dropping to approximately 0.4 which decreases down close to 0.3 by 4900 calBP. R values then jumped up to slightly over 0.5 at 4800 calBP, then up to 0.75 at 4700 and 4600 calBP, dropping slightly at 4500 calBP.

Figure 155 shows a higher degree of uncertainty for the first half than the second half of the Middle Jomon period in the LOESS regressions for MW-type posthole volume variation values. Posthole volume variation values appear to decrease slightly from 5200 calBP to 4900 calBP and remain at that lower level through to at least 4600 calBP. Looking at the hex and density plots of Figures 156 and 157, SD values appear to generally remain between 0.03 and 0. There are two outliers at the beginning of the period that would have introduced additional uncertainty in the first half of the period, as well as adding in the additional uncertainty at that time.

4 – Summary

The portion of this study focusing on pithouses as a data source to learn more about possible changes in the Middle Jomon period population and mobility changes has a large number of facets. Each facet not only contains its own degree of uncertainty in terms of their derived trends. However, when the trends derived from all of the individual facets are combined, they don't necessarily complement each other, and can provide contrasting narratives. This could be due to improper assumptions regarding the interpretation of data and how their changes might relate to population or mobility changes. It could also be due to issues related to the analytical procedures in the study. There was a hope that if a large enough sample size was gathered, stochastic variations could be managed to some degree. However, if the data itself is highly variable, a large degree of uncertainty will be present no matter how large the sample size might be. Contradictory findings could also be related to problems with the data itself. Problems during the excavation process, initial recording process, my own data collection from excavation reports or interpretation of pithouse build phases could all affect the analyses results. That being said, in the end we have to ask what can be learned from reviewing the results from analysis of pithouse counts and size, as well as posthole size and variation.

The first aspect to cover is recognizing what portions of the study failed to provide any meaningful results. Posthole depth does not appear to be a useful indicator of residential change. Deeper postholes should provide stronger footings to support a structure for a longer period of time than shallow postholes. For M-type and MW-type pithouses in the Tama New Town area during the Middle Jomon period, main structural postholes tended to be between 40 and 80cm, but there were a large number of examples above and below that range throughout the entire period. The first possibility for error here lies in the excavation itself. In

order to derive an accurate depth, you have to have a viable reference point of the floor elevation to measure from. Poor preservation conditions can be one cause here. There were also times when a floor level wasn't recognized until it was dug through. Estimations for floor heights might have been mistaken in some cases as well.

Even if posthole depth measures were correct, there are other possible explanations for differences in posthole depth. The goal of digging a posthole for a pillar is to provide lateral support to the structure being built. While a deeper hole might provide more support, there was certainly a general range in which posthole depth was deemed to be "good enough." As long as that criteria was met, the goal of providing lateral support for the structure was accomplished. It might not have been optimal, but on a case by case basis this might still be sufficient. A better understanding of distinguishing build phases and build phase occupation length might provide an interesting story of trial and error in the process of building and improving one's dwelling, but that would seem to be a difficult and uncertain task viewed from the Tama New Town excavation records.

Posthole depth variation also appeared to be of minimal value as an indicator. Again, all previous sources for error in posthole depth measurement hold true for posthole depth variation, as does the concept of "good enough." Consistent posthole depths might help to share stress more equally amongst the supports, lessening the chance of creating a weak point at which failure would be more likely to occur. For example, if loads were shared similarly enough amongst the supports and no undue stress was placed upon the structure, having equal posthole depths wouldn't be necessary. In addition, there are some other practical reasons as to why posthole depth might have been unequal in some cases. If pillars were initially cut to uneven lengths and height needed to be adjusted, it would be far easier to alter the depth of a posthole as opposed to adjusting a pillar's length by cutting it. Varying posthole depths could therefore be viewed as adapting to the natural materials used in construction, as opposed to a lack of standardized dimensions due to hasty construction.

Posthole volume is another measurement that doesn't appear to offer a lot of value as an indicator. If we were in a situation in which post molds were present for each pillar, this would be an ideal measurement to use. Unfortunately though, that isn't the case. Because the posthole volume measure is derived from the combination of both posthole depth and diameter measurements, the sources for measurement errors are essentially doubled. Although posthole volume best expresses the amount of work done digging out soil, the separate measurements of posthole diameter and posthole depth best relate to two different activities in terms of energy expenditure. Posthole depth focuses more on the task of digging, while posthole diameter provides a better measure of energy spent towards harvesting and processing the pillars needed for construction, making both of these measures important to examine individually. In terms of measuring energy spent ensuring that pillars were well seated in the ground, posthole depth provides a better measure than posthole volume, as posthole volume is affected much more by posthole diameter measures than measures of depth.

This leaves us with posthole diameter as an indicator of mobility. For M-type pithouses, posthole diameter had a tendency to track well with pithouse size. Correlation values between pithouse size and posthole diameter peaked at the same time as pithouse counts were reaching their climax. After that climax, M-type pithouse numbers started to decrease, M-type pithouse size decreased, and M-type posthole diameters decreased. For M-types, it appears that posthole diameter is more a function of pithouse size as opposed to a

separate indicator of mobility changes. While it might be argued that changes in pithouse size might be related to changes in mobility, the posthole diameter measures themselves don't appear to offer an independent measure. Variation in posthole diameter values for M-type pithouses was varied throughout the period, but didn't show any clear trends pointing towards significant increasing or decreasing trends in posthole diameter variation.

MW-type pithouses on the other hand, weren't as consistent. While MW-type pithouse size showed an increasing trend through the Middle Jomon period, most posthole diameter values stayed roughly the same. There was a slight overall increasing trend heading into the middle of the period followed by a decreasing trend. But looking at the data itself, the second half of the period saw an increasing range of posthole diameters for MW-types. As the number of MW-type pithouses peaked, the range of posthole diameter sizes peaked as well. As the number of MW-type pithouses decreased, so did the range of posthole diameter values. MW-type pithouses also displayed inconsistent patterning in regards to pithouse size and posthole diameter correlations. During the peak of MW-type pithouse counts, the correlation between pithouse size and posthole diameter bottomed out.

So, why don't posthole measures for MW-type pithouses track as well with pithouse length as the M-type pithouses do? One possibility is that the MW-type as it is defined is not a true type. If so, rather than examining the trends of a coherent group, it could be attempting to identify trends in a disparate group of pithouses that lack coherence, which could lead to some of the odd results. Another possibility is that there are fundamental differences between M-type pithouses and MW-type pithouses. General construction principles applied to M-type pithouses might not be applicable to MW-type pithouses. The presence of wall posts in addition to main internal structural supports might allow for deviations in post hole sizes that wouldn't work or might be sub-optimal in M-type pithouses. The concept of M-type and MW-type pithouses having some fundamental differences might also explain the different trajectories of the different pithouse type counts and sizes.

Between their peak in 4700 calBP and the end of the Middle Jomon period, MW-types showed a slight decrease in size, while the average M-type pithouse size dropped by approximately one meter. Throughout the Middle Jomon period in the Tama New Town area, the number of M-type pithouses was consistently greater than MW-type pithouses, especially earlier in the period. P-type and W-type pithouses never became primary types. HM-type pithouses, however, show a very different trajectory compared to the other types. They were absent in the beginning of the period, slightly increasing in numbers from the middle of the period and then more than doubling around 4600 calBP, as M-type and MW-type pithouses were in decline. At the end of the Middle Jomon period there were more HM-types than any other. These different trajectories might show residential preferences changing, but they might also be highlighting different functions between types.

2 – Skeletal Analysis

The skeletal analysis portion of the study applied several methods to help counter edge effects as well as to attempt to improve the representativeness of sites included in the analysis. The results of these different approaches were provided in the previous chapter. This sections aims to provide a concise review of those results and as clear a picture as possible regarding their interpretation.

1 – Birth Rate Trend Uncertainty

The data set that included data from 1000 years before and after the Middle Jomon period and the data set that included data from the entire Jomon period produced similar results, significantly reducing the size of the confidence envelope compared to analyses where only Middle Jomon data was included. Looking at any of these data sets in Figure 163, there appears to have been an increase in proxy birth rates through the Middle Jomon period.

For the data set using only Middle Jomon period data, at 5200 calBP most of the confidence envelope lies below the stable population level of 0.173. At around 4900 calBP the stable population line lies close to the middle of the confidence envelope, and from this point on, the majority of the confidence envelope lies above the stable population line. The results for the extended time span data set and the total Jomon period data set plots were very similar. At 5200 calBP, most of the confidence envelope was below the stable population growth level. The confidence envelope then starts to contract and by 5100 calBP most of the confidence envelope lies above the stable population growth line. At 4800 calBP, the confidence envelope is wholly above the stable growth level and at 4600 calBP the bottom range of the envelope again reaches the stable population level. At the end of the Middle Jomon period the stable population line is once again in the middle of the confidence envelope.

When data is limited to the Middle Jomon period, the confidence envelopes are significantly larger and show a greater number of simulations that deviate significantly from the bulk of the simulations compared to the other extended data set simulations. Another significant difference between the Middle Jomon period restricted data set versus the other expanded data sets is that the confidence envelope of the non-extended data set never completely separates from the stable population growth line. The results of Noxon (2017) matched more closely to the non-extended data set results of this current study, which called into question whether the Middle Jomon period spike in sites and dwellings was a result of true population change or if a shift in settlement patterns might be partially to blame. Expanding the examined time frame shows birth rate trends that appear to better support the theory of an increasing population during the first half of the Middle Jomon period, although there still are some issues regarding the timing of these changes.

There were very few differences in the 15p5 regressions of the two extended data sets. The extra data in both extended data sets helped to reduce the size of the confidence envelopes, providing clearer trends than the set restricted to Middle Jomon data only. As this study focuses on the Middle Jomon period and the partially expanded temporal scale remains closer to the period of study, I find the data set extending beyond the Middle Jomon period to be a more applicable scale to use as opposed to the data set that includes data from the entire Jomon period.

2 – Site Weighting and Filtering

In an attempt to ensure that the data used in the study was representative of the original Middle Jomon population, the second key aspect of the skeletal analysis in this research was explored. Filtering out sites that lacked any subadults under 20 or subadults aged 5 to 19 tended to flatten the regression curves and resulting confidence envelopes and had the effect of raising the birth rate proxy estimation values overall. Looking at the bottom plots of Figures 164 to 166, we can see that when sites specifically lacking subadults aged 5 to 19 are removed from the analysis, the LOESS regressions are raised higher than when the filtering process is more generalized, focusing on individuals under the age of 20 as opposed

to targeting the age range of 5 to 19. Figure 164 shows that for the extended range plots, the more drastic filtering process in the bottom right plot raises the confidence envelope so that it starts to rise completely above the stable population level of 0.173 around 5200 calBP. The bottom of the envelope doesn't touch that line again until the very end of the period around 4400 calBP.

The removal of sites from the analysis can also cause additional uncertainty in the regressions, most clearly visible when comparing the top and bottom plots in Figure 164, where data is strictly limited to the Middle Jomon period. When the more moderate filtering process shown in the bottom left plot of the figure is applied, the regressions are still raised, but to a lesser extent than what is seen in the bottom right plot. Similar to Figure 164, the bottom extent of the confidence envelope shown in Figure 165 still clears the stable population level line at approximately 5200 calBP, but the bottom portion of the confidence envelope hits the stable population growth line approximately 100 years earlier at 4500 calBP.

Weighting sites based on the number of individuals five years of age or older had less of an effect on the general shape of regressions and confidence envelopes compared to the filtered plots, but shows an earlier shift to higher birthrates than the non-weighted data as can be seen in the upper right plots of Figures 164 to 166. The effect of weighted 15p5 values is especially evident in Figure 164 where the decrease in confidence envelope size in the middle of the period is clearly visible.

Regardless of the method used, both weighting sites based on the number of individuals over the age of five, as well as filtering out sites based on the absence of subadults resulted to some extent in increased birth rates during the Middle Jomon period. The timing and extent of that increase depends on what procedure is applied however, and without a comparable test case to compare the methods to, it is hard to determine which provides the most representative result. The weighting approach has been used in other studies and is one logical method of dealing with small sample sizes at sites and mitigating the effects of stochastic variations in 15p5 values at those small sites (Kohler and Reese 2014). While I have not yet seen the filtering approach based on subadult presence used in this study in other research, I feel that of the two filtered data approaches, filtering sites out based on the absence of subadults, as opposed to strictly focusing on subadults aged 5 to 19, is a more reasonable option. Omitting subadults under the age of five when attempting to determine proxy birth rates that can be compared to others across the world makes sense. If overall, that age range is often underrepresented, removing them allows for a better general comparison across groups (Bocquet - Appel 2002). If the goal, however, is to determine whether the skeletal remains recovered at a site might be representative of that site's original population, and the concern is that subadults might be underrepresented due to particular mortuary practices or poor preservation conditions at the site, there is no reason not to include individuals under the age of five in that process.

3 – Summary

Now that issues of uncertainty in birth rate trends and site representativeness have been clarified to some extent, what are we left with? Although there are some consistent patterns that run through these plots, there are some differences present as well, and these can have important ramifications when it comes to their interpretation. Regardless of the technique used to adjust for site representativeness, none of the plots that had data strictly

limited to the Middle Jomon period had confidence envelopes that moved above the stable population level of 0.173. The weighted plot in the upper right corner of Figure 164 comes close at approximately 4900 calBP, but doesn't completely clear it. There is a high degree of uncertainty in all of these plots and it is difficult to identify clear birth rate trends, especially when site filtering based on the presence or absence of subadults is applied. The expanded data sets, on the other hand, show trends that would suggest that birth rates climbed to levels where population growth would be occurring to some extent for the majority of the Middle Jomon period. While data strictly limited to the Middle Jomon period would allow for the possibility for birth rates reaching levels where population growth could be occurring, they also include the possibility of birth rates and population levels remaining fairly stable throughout the Middle Jomon period.

We are therefore left with the question of which method is more correct or more accurate, and unfortunately, there is no definite answer. Population studies comparing stereotypical, Neolithic groups that practiced intensive agriculture with their earlier predecessors often share the problem of uneven sample sizes (Bocquet - Appel 2002; Bocquet-Appel 2008; Bocquet - Appel and Naji 2006). Sedentary societies practicing intensive agriculture are more prevalent in the observable archaeological record, and as such, they have a broader base to which they can be compared. Koyama (1978) relied on records from the Haji period in his Jomon population estimates, and while the geographic and architectural ties between the groups aids in their comparisons, lifestyle and cultural differences are large enough to keep them from being interchangeable. In order to test the methods we would need reasonably accurate population estimates to use as a basis of comparison.

The problem here is that most Jomon population estimates rely on site or dwelling counts, and one of the purposes of this study is to use an alternate line of evidence to test those very estimates. All versions of the analyses, whether the data used was restricted to the Middle Jomon period, or allowed to include data beyond the period, whether the sites were weighted, unweighted, filtered, or unfiltered allowed for the possibility of increasing birth rates in the Middle Jomon period. When data beyond the Middle Jomon period was included in the analysis to reduce uncertainty in birth rate trends, the data clearly showed an increase during that period, although the timing and degree of increase or decrease varied. The current analyses seem to fall closer into line with population estimates based on site and dwelling counts than in the original examination in Noxon (2017). In attempting to test the hypothesis of a Middle Jomon population boom and bust, choosing data from the new line of evidence in the current study that best fits previous population studies would be perpetrating the logical fallacy of circular reasoning. As such, this study is unable to confirm the results of prior studies. However, it can now not only conclude that skeletal evidence doesn't directly contradict prior studies, but depending on how site representativeness is approached, the skeletal evidence might align with site and dwelling counts better than previously thought.

2 – Research Questions

This research has looked at a variety of different factors to explore mobility and population trends during the Middle Jomon period in the Tama New Town area. The analyses of these different evidentiary facets all lead to additional questions and research possibilities. Although some of those future research problems or opportunities will be discussed shortly, it's important to first return focus back to the topic at hand and recall the research questions

set out at the beginning of the study to examine what progress was made through the course of this study and review what was learned.

Question 1

In the Tama New Town area, are there identifiable trends in pithouse size during the Middle Jomon Period, and if so, what are they?

Three out of the five pithouse types (P-type, M-type and MW-type) showed increasing size trends leading up to the middle of the period, and two types (M-type and HM-type) showed a clear decrease in size at the end of the period.

Looking at pithouses as a whole, size increased from approximately 5200 calBP to 4900 to 4800 calBP before size began to decrease. When pithouse types are separated however, some different trends are seen. MW-type pithouses showed a general increasing trend in size through most of the Middle Jomon period. P-type and M-type pithouses generally mirrored the overall trend of pithouse size increase and decline. However, P-type pithouses were typically smaller than M-types. The number of HM-types were limited, resulting in a higher degree of uncertainty for pithouse size trends, but they seemed to show a slight dip in size around 4700 calBP and a more sizeable drop in size at the end of the period. W-type pithouses also showed a significant degree of uncertainty and didn't show any clear increasing or decreasing trends.

Question 2

In the Tama New Town area, are there identifiable trends in posthole size during the Middle Jomon Period, and if so, what are they?

While there was no clear increasing or decreasing trend for M-type posthole depths, there was a clear decrease in posthole depth for MW-types from 5200 to 5000 calBP. Both M-type and MW-type pithouses showed increasing posthole diameter trends in the first half of the period, with M-types peaking at approximately 4900 calBP and declining through the rest of the period. At the same time, MW-types reached a plateau of sorts around 4900 to 4800 calBP and then showed a much gentler decline through to 4600 calBP. Posthole volume for M-type pithouses generally mirrored posthole diameter trends. While the increasing phases of posthole diameter and posthole volume trends were similar for MW-types, posthole volume showed a somewhat stronger decline at the end of the period compared to posthole diameters.

Of these measures, mean posthole diameters appeared to be the best candidate for identifying shifts in pithouse construction. M-type posthole diameters showed relatively strong correlations with pithouse size, meaning that, as M-type pithouses grew in size, so did their pillars, and when pithouse sizes decreased towards the end of the period, so too did the diameter of their pillars. MW-type pithouses, however, don't show the same general correlation between pithouse size and posthole diameter size. Although the LOESS regressions for MW-type pithouse size and posthole diameters don't appear drastically dissimilar, correlation values dropped significantly in the middle of the period. This is likely due to an increased span of difference that posthole diameter sizes present in the middle of the period, which had expanded as MW-type pithouses reached their peak in terms of both size and numbers.

Question 3

In the Tama New Town area, are there identifiable trends in posthole size variation during the Middle Jomon Period, and if so, what are they?

Although some shifts in posthole size variation values were visible in the LOESS regressions, most shifts were caused by the presence of a few outliers as opposed to a coherent increasing or decreasing trend in posthole size variations. It is unclear whether this lack of change is a clear reflection of posthole size variation or if the method of measuring posthole sizes was not accurate or precise enough to detect changes in posthole size variation values. Of all the measurements, there was a slight decrease in posthole depth variations around 5000 calBP that was fairly clear from the data. Beyond that, however, there were no clear, significant shifts in posthole size variation values during the Middle Jomon period in the Tama New Town area.

Question 4

If present, do the trends identified in research questions 1, 2, and 3 indicate possible changes in mobility patterns that could provide an alternate explanation to the Middle Jomon period boom and bust in population?

Pithouse size trends tend to support the concept of an increasing population at the start of the Middle Jomon period, peaking around the middle of that period, and then decreasing towards the end of the period. In terms of mean posthole sizes, on its own, the shift to a wider variety of pillar sizes for MW-type pithouses in the middle of the period might indicate less effort spent towards material selection and a shift away from building sturdier and longer-lasting structures. However, the MW-type structures themselves were likely more energy intensive to build than M-type pithouses, making it unlikely that this increase in the range of pillar sizes was a result of increasing mobility. Lastly, there were no clear shifting trends in posthole size variations that provide insight into population changes that appear to have been occurring during the Middle Jomon period.

Question 5

Do skeletal remains in the Kanto and Chubu regions support the hypothesis of a population boom and bust pattern during the Middle Jomon period?

Based on skeletal evidence, there does appear to be a pattern of increasing and decreasing birth rates through the Middle Jomon period in the Kanto and Chubu regions.

Several methods of reducing uncertainty in juvenility index trends and improving site representativeness were applied in the skeletal analysis portion of this study. When the observed time span was increased beyond the Middle Jomon period, the observed trends within the Middle Jomon period showed the confidence envelopes exceeding the assumed stable population birth rate level, providing a strong indication of population growth at that time. When the data used in the analysis was strictly limited to the Middle Jomon period itself, confidence intervals were larger and did not fully move above the 15p5 level of 0.173. The results suggest that while population growth might have been possible, it is difficult to assume that growth occurred or what its timing was with a high degree of certainty.

As far as the extent and timing of the growth itself, different treatments attempting to improve the representativeness of the samples used in the study provided different results. Untreated data showed confidence envelopes exceeding stable population growth lines between the 4800 and 4600 calBP time blocks. Weighting values based on the number of individuals five years of age and older suggested an earlier start to population growth, beginning approximately 5100 calBP and ending between 4700 to 4600 calBP. Filtering out sites that lacked subadults suggests population growth through most of the Middle Jomon period, with growth increasing around 4800 calBP, with confidence envelopes entering the point of stable population levels around 4500 calBP. If site filtering is focused strictly on removing sites that lack individuals aged 5 to 19, growth rates show a greater gap between the confidence envelope and stable population line between 4800 to 4600 calBP, and the confidence envelope doesn't reach the stable population line until 4400 calBP.

3 – Future Research

There are a variety of different research paths that could be taken in order to clarify some issues brought up through the course of this study. An expansion of the time frame examined in this study would not only help to manage some of the edge effects present, but could also help to illuminate what changes were taking place prior to the Middle Jomon period boom, as well as show the aftereffects of the subsequent bust in the period. Due to the large number of archaeological excavations in the general area, a geographical expansion of the study would be possible, and would not only increase the amount of data being examined, but could also allow for the introduction of a multiregional approach. It would provide the ability to examine whether the trends identified in the Tama New Town region were representative of the region at large, or whether different patterns were present in different areas.

While posthole data proved to be less useful than I had hoped, a thorough examination of pithouse size as well as a more focused study of pithouse types could provide information on the architectural and mobility changes this project intended to investigate. On that note, a concrete study on the energy cost of constructing different types of pithouses would be highly beneficial. While some assumptions were made in regards to which pithouse types might have been more energy intensive than others, there was no clear way to gauge how large these differences might have been. If a clear understanding of Jomon pithouse architectural energetics was available, different pithouse types could be weighted based on those differences, providing a better understanding of the energy expended into residential structures during the Jomon period, and how those patterns might have changed over time.

More research into the changing proportion of pithouse types also appears warranted. While M-type and MW-type pithouses made up the majority of the pithouses in the Tama New Town region during the Middle Jomon period, the proportion of pithouse types changed over time. As M-types and MW-types were dropping during the second half of the period, HM-types slowly increased, hitting a peak around 4600 calBP, and becoming the predominant pithouse type at the end of the period after the M-type and MW-type pithouses experienced another large drop. A better understanding of these pithouse types and how they were used could provide further information on social and structural changes occurring during this time.

The skeletal analysis portion of the study provided some promising results. This study relied on the previous examination of skeletal remains for age estimates. Different

researchers applying different, and possibly dated methods of age estimation would likely yield less consistent results than if a single researcher reexamined the remains using multiple different modern methodologies. A Bayesian approach to age at death could also be applied in combination to the approach to site dating which might provide interesting results.

4 – Closing Thoughts

Although I feel it was a worthwhile endeavor to investigate whether data from postholes could be used to provide insights into architectural changes during the Middle Jomon period, which could in turn provide valuable information on mobility changes, the usefulness of that line of evidence appears doubtful. Measures of posthole depth appeared to be of little use, showing no clear trends over time. Posthole volume, being a derivative of posthole depth and diameter, introduces twice the number of possible sources of error, and if used as a sole measurement, could obscure changes occurring in posthole depth or diameter measures. Posthole size variation measures also failed to yield any clear trends that would provide insight into architectural changes through the Middle Jomon period. Of all the measures, mean posthole diameter appears to have some potential as an indicator of change, but this measure provided some mixed results in terms of the trends shown for M-type and MW-type pithouses. Posthole diameters show a reasonable correlation with M-type pithouse sizes, as might be expected. For MW-types however, correlation values dropped in the middle of the period, with an expansion and a subsequent contraction in the range of mean posthole diameter sizes, despite a slow increasing trend in pithouse size through most of the Middle Jomon period. The cause for these different trends is currently unknown, but is worth further consideration in the future.

Some of the findings reached in this study have provided a starting point for further research into the Jomon period residential structure, with the dynamics of pithouse type prevalence being of particular interest. M-type and MW-type pithouses made up a clear majority throughout most of the Middle Jomon period and displayed some significant changes over time, unlike some of the other types, such as P-types and W-types. P-types appeared to fluctuate throughout the Middle Jomon period, and while there were some increases in W-type pithouses in the second half of the period, they were minimal compared to the changes exhibited by M-type and MW-type pithouses. HM types also showed changes that differed significantly from M-types and MW-types. These first appeared in the middle of the period and then showed a proportional increase at the end of the period. An understanding behind these different trajectories would likely provide useful insight into structural changes that were occurring at the time. Were all of these different pithouse types used in the same way? Were they all family dwellings? Were different types used in the same locations at the same times? Could the increasing size of MW-type pithouses and the introduction of HM-type pithouses be related to more community or ritual-based activities, justifying the extra energy likely spent in their construction? The two major drops in pithouse numbers are significant, with HM-type pithouses becoming the most common pithouse type, doubling in number as M-type and MW-types fell towards the end of the period. This appears significant and worthy of further investigation.

The new skeletal analyses completed in this study helped to provide a more complete understanding of Middle Jomon period population dynamics in the Kanto and Chubu regions. The analyses appear to support the increase and subsequent decrease in birth rates, and likely population levels, in the Kanto and Chubu regions during the Middle Jomon period. The manner in which sites were filtered or weighted, and the span of time to be used for the

analysis, chosen to try to improve representativeness, to help counter edge effects, and reduce confidence envelopes, affected the estimated timing and intensity of these birth rate changes. While there are currently no comparative studies present to help identify which of these possible scenarios is most likely, all versions that included an extended timespan showed smaller confidence envelopes and showed those confidence envelopes exceeding a 15p5 level of 0.173, indicating a likely period of population growth based on the skeletal data. This shows a general correspondence with population estimates based on site and dwelling data. The data set strictly limited to the Middle Jomon period data showed larger confidence envelopes than the extended data sets and did not fully rise above a 15p5 level of 0.173. The findings from this reduced data set are similar to those in this researcher's previous analysis. While they don't show a statistically significant increase in birth rates during the Middle Jomon period in the Kanto and Chubu regions, they also do not preclude that possibility (Noxon 2017).

Despite a certain degree of uncertainty still present in the analysis, I find it likely that there was indeed a period of population growth and decline in the Kanto and Chubu regions during the Middle Jomon period. Skeletal data suggests increasing birth rates at some point in the period, whether it was a smaller peak around 4700 calBP, or a period of higher birth rates throughout a majority of the period with an additional peak between 4800 and 4600 calBP. The skeletal data also appears to show that this period of increased birth rates likely ended towards the end of the Middle Jomon period. The case study of Tama New Town pithouses failed to show any significant changes in Middle Jomon period pithouses that would suggest that the boom and bust of Middle Jomon dwellings was a result of changes in residential mobility as opposed to a change in actual population levels.

The examination of Tama New Town pithouses found that measures of posthole depth, volume, or posthole size variation were unlikely to serve as useful indicators of pithouse architectural change. Mean posthole diameter values show some potential, but discrepancies in their relationships to different pithouse types require further investigation. This study has highlighted the need for a better understanding of Jomon period pithouse types, how they were used, and how much energy was required for their construction. Aggregating these different types into a singular dwelling type masks dynamic changes in settlement structures, and would be akin to condensing the wide variety of ceramic vessels, shapes, and types into a single undifferentiated category of general pottery. The category isn't useless, and information and meaning can still be derived from it, but ignoring the types and variations within this general group obscures large swaths of information that could be learned otherwise.

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Appendix A: Pithouse and Posthole Data

PotholeID	PthouseID	Bld	L	W	Reeflr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
PHI46-1002-1-1001	PI46-1002-1	1	4.63	4.43	NA	16.41	circle	oval	n	M	6 P1	0.19	NA	NA	NA	0.14	0.038	NA	NA	DIA	4	142
PHI46-1002-1-1002	PI46-1002-1	1	4.63	4.43	NA	16.41	circle	oval	n	M	6 P2	0.10	NA	NA	NA	0.14	0.038	NA	NA	DIA	4	142
PHI46-1002-1-1003	PI46-1002-1	1	4.63	4.43	NA	16.41	circle	oval	n	M	6 P3	0.12	NA	NA	NA	0.14	0.038	NA	NA	DIA	4	142
PHI46-1002-1-1004	PI46-1002-1	1	4.63	4.43	NA	16.41	circle	oval	n	M	6 P4	0.16	NA	NA	NA	0.14	0.038	NA	NA	DIA	4	142
PHI46-1002-1-1005	PI46-1002-1	1	4.63	4.43	NA	16.41	circle	oval	n	M	6 P5	0.14	NA	NA	NA	0.14	0.038	NA	NA	DIA	4	142
PHI46-1002-1-1007	PI46-1002-1	1	4.63	4.43	NA	16.41	circle	oval	n	M	6 P7	0.10	NA	NA	NA	0.14	0.038	NA	NA	DIA	4	142
PHI46-1005-1-1001	PI46-1005-1	1	4.8	4.23	NA	16.24	rounded square	oval	n	MW	5 P1	0.17	NA	NA	NA	0.15	0.033	NA	NA	DIA	4	154
PHI46-1005-1-1002	PI46-1005-1	1	4.8	4.23	NA	16.24	rounded square	oval	n	MW	5 P2	0.15	NA	NA	NA	0.15	0.033	NA	NA	DIA	4	154
PHI46-1005-1-1003	PI46-1005-1	1	4.8	4.23	NA	16.24	rounded square	oval	n	MW	5 P3	0.10	NA	NA	NA	0.15	0.033	NA	NA	DIA	4	154
PHI46-1005-1-1004	PI46-1005-1	1	4.8	4.23	NA	16.24	rounded square	oval	n	MW	5 P4	0.14	NA	NA	NA	0.15	0.033	NA	NA	DIA	4	154
PHI46-1005-1-1005	PI46-1005-1	1	4.8	4.23	NA	16.24	rounded square	oval	n	MW	5 P5	0.18	NA	NA	NA	0.15	0.033	NA	NA	DIA	4	154
PHI46-1006-1-1001	PI46-1006-1	1	3.46	2.94	NA	8.14	oval	oval	y	MW	43926 P1	0.16	NA	NA	NA	0.11	0.031	NA	NA	DIA	4	164
PHI46-1006-1-1002	PI46-1006-1	1	3.46	2.94	NA	8.14	oval	oval	y	MW	43926 P2	0.08	NA	NA	NA	0.11	0.031	NA	NA	DIA	4	164
PHI46-1006-1-1003	PI46-1006-1	1	3.46	2.94	NA	8.14	oval	oval	y	MW	43926 P3	0.09	NA	NA	NA	0.11	0.031	NA	NA	DIA	4	164
PHI46-1006-1-1004	PI46-1006-1	1	3.46	2.94	NA	8.14	oval	oval	y	MW	43926 P4	0.13	NA	NA	NA	0.11	0.031	NA	NA	DIA	4	164
PHI46-1006-1-1005	PI46-1006-1	1	3.46	2.94	NA	8.14	oval	oval	y	MW	43926 P5	0.08	NA	NA	NA	0.11	0.031	NA	NA	DIA	4	164
PHI46-1006-1-1006	PI46-1006-1	1	3.46	2.94	NA	8.14	oval	oval	y	MW	43926 P6	0.10	NA	NA	NA	0.11	0.031	NA	NA	DIA	4	164
PHI47-1002-1-1001	PI47-1002-1	1	3.06	2.68	NA	6.56	circle	oval	n	M	5 P1	0.08	0.51	0.51	0.085	0.12	0.037	0.007	0.004	yes	6	9
PHI47-1002-1-1002	PI47-1002-1	1	3.06	2.68	NA	6.56	circle	oval	n	M	5 P2	0.17	0.56	0.51	0.085	0.12	0.037	0.007	0.004	yes	6	9
PHI47-1002-1-1003	PI47-1002-1	1	3.06	2.68	NA	6.56	circle	oval	n	M	5 P3	0.14	0.56	0.51	0.085	0.12	0.037	0.007	0.004	yes	6	9
PHI47-1002-1-1004	PI47-1002-1	1	3.06	2.68	NA	6.56	circle	oval	n	M	5 P4	0.09	0.36	0.51	0.085	0.12	0.037	0.007	0.004	yes	6	9
PHI47-1002-1-1005	PI47-1002-1	1	3.06	2.68	NA	6.56	circle	oval	n	M	5 P5	0.12	0.55	0.51	0.085	0.12	0.037	0.007	0.004	yes	6	9
PHI47-1004-1-1001	PI47-1004-1	1	3.98	4.16	NA	13.25	irregular circle	oval	y	M	4 P1	0.28	0.64	0.55	0.069	0.20	0.063	0.020	0.013	yes	6	14
PHI47-1004-1-1002	PI47-1004-1	1	3.98	4.16	NA	13.25	irregular circle	oval	y	M	4 P2	0.19	0.58	0.55	0.069	0.20	0.063	0.020	0.013	yes	6	14
PHI47-1004-1-1004	PI47-1004-1	1	3.98	4.16	NA	13.25	irregular circle	oval	y	M	4 P4	0.13	0.54	0.55	0.069	0.20	0.063	0.020	0.013	yes	6	14
PHI47-1004-1-1005	PI47-1004-1	1	3.98	4.16	NA	13.25	irregular circle	oval	y	M	4 P5	0.15	0.61	0.55	0.069	0.20	0.063	0.020	0.013	yes	6	14
PHI47-1004-1-1006	PI47-1004-1	1	3.98	4.16	NA	13.25	irregular circle	oval	y	M	4 P6	0.17	0.50	0.55	0.069	0.20	0.063	0.020	0.013	yes	6	14
PHI47-1004-1-1008	PI47-1004-1	1	3.98	4.16	NA	13.25	irregular circle	oval	y	M	4 P8	0.27	0.56	0.55	0.069	0.20	0.063	0.020	0.013	yes	6	14
PHI47-1004-1-1010	PI47-1004-1	1	3.98	4.16	NA	13.25	irregular circle	oval	y	M	4 P10	0.28	0.52	0.55	0.069	0.20	0.063	0.020	0.013	yes	6	14
PHI47-1004-1-1011	PI47-1004-1	1	3.98	4.16	NA	13.25	irregular circle	oval	y	M	4 P11	0.16	0.42	0.55	0.069	0.20	0.063	0.020	0.013	yes	6	14
PHI47-1010-1-1001	PI47-1010-1	1	5.66	4.82	22.36	21.82	oval	oval		3 M	5 P1	0.19	0.53	0.61	0.189	0.20	0.027	0.021	0.010	yes	8	7

PostholeID	PthHoleID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PHI47-1010-1-1002	P147-1010-1	1	5.66	4.82	22.36	21.82	oval	oval	3 M	5 P2	5 P2	0.22	0.50	0.61	0.189	0.20	0.027	0.021	0.010	yes	8	7	
	P147-1010-1	1	5.66	4.82	22.36	21.82	oval	oval	3 M	5 P3	5 P3	0.15	0.44	0.61	0.189	0.20	0.027	0.021	0.010	yes	8	7	
	P147-1010-1	1	5.66	4.82	22.36	21.82	oval	oval	3 M	5 P4	5 P4	0.21	0.91	0.61	0.189	0.20	0.027	0.021	0.010	yes	8	7	
PHI47-1010-1-1004	P147-1010-1	1	5.66	4.82	22.36	21.82	oval	oval	3 M	5 P6	5 P6	0.21	0.50	0.61	0.189	0.20	0.027	0.021	0.010	yes	8	7	
	P147-1010-1	1	5.66	4.82	22.36	21.82	oval	oval	3 M	5 P7	5 P7	0.24	0.86	0.61	0.189	0.20	0.027	0.021	0.010	yes	8	7	
	P147-1010-1	1	5.66	4.82	22.36	21.82	oval	oval	3 M	5 P8	5 P8	0.21	0.56	0.61	0.189	0.20	0.027	0.021	0.010	yes	8	7	
PHI47-1010-1-1007	P147-1010-1	1	5.66	4.82	22.36	21.82	oval	oval	3 M	5 P7	5 P7	0.24	0.86	0.77	0.162	0.30	0.065	0.052	0.014	yes	8	7	
	P147-1010-2	2	6.06	5.84	28.08	28.31	circle	oval	3 M	5 P9	5 P9	0.40	0.56	0.77	0.162	0.30	0.065	0.052	0.014	yes	8	7	
	P147-1010-2	2	6.06	5.84	28.08	28.31	circle	oval	3 M	5 P10	5 P10	0.27	0.98	0.77	0.162	0.30	0.065	0.052	0.014	yes	8	7	
PHI47-1010-2-1011	P147-1010-2	2	6.06	5.84	28.08	28.31	circle	oval	3 M	5 P11	5 P11	0.26	0.68	0.77	0.162	0.30	0.065	0.052	0.014	yes	8	7	
	P147-1010-2	2	6.06	5.84	28.08	28.31	circle	oval	3 M	5 P13	5 P13	0.31	0.75	0.77	0.162	0.30	0.065	0.052	0.014	yes	8	7	
	P147-1010-3	3	6.06	5.84	31.09	28.31	oval	oval	3 M	5 P7	5 P7	0.24	0.86	0.73	0.163	0.28	0.043	0.045	0.015	yes	8	7	
PHI47-1010-3-1007	P147-1010-3	3	6.06	5.84	31.09	28.31	oval	oval	3 M	5 P12	5 P12	0.24	0.50	0.73	0.163	0.28	0.043	0.045	0.015	yes	8	7	
	P147-1010-3	3	6.06	5.84	31.09	28.31	oval	oval	3 M	5 P14	5 P14	0.34	0.62	0.73	0.163	0.28	0.043	0.045	0.015	yes	8	7	
	P147-1010-3	3	6.06	5.84	31.09	28.31	oval	oval	3 M	5 P15	5 P15	0.28	0.88	0.73	0.163	0.28	0.043	0.045	0.015	yes	8	7	
PHI47-1010-3-1015	P147-1010-3	3	6.06	5.84	31.09	28.31	oval	oval	3 M	5 P16	5 P16	0.30	0.78	0.73	0.163	0.28	0.043	0.045	0.015	yes	8	7	
	P147-1011-1	1	5.49	5.26	22.44	23.10	circle/oval	oval	3 M	5 P1	5 P1	0.22	0.50	0.55	0.065	0.20	0.030	0.018	0.007	yes	8	16	
	P147-1011-1	1	5.49	5.26	22.44	23.10	circle/oval	oval	3 M	5 P2	5 P2	0.16	0.51	0.55	0.065	0.20	0.030	0.018	0.007	yes	8	16	
PHI47-1011-1-1003	P147-1011-1	1	5.49	5.26	22.44	23.10	circle/oval	oval	3 M	5 P3	5 P3	0.24	0.66	0.55	0.065	0.20	0.030	0.018	0.007	yes	8	16	
	P147-1011-1	1	5.49	5.26	22.44	23.10	circle/oval	oval	3 M	5 P5	5 P5	0.19	0.52	0.55	0.065	0.20	0.030	0.018	0.007	yes	8	16	
	P147-1011-1	1	5.49	5.26	22.44	23.10	circle/oval	oval	3 M	5 P12	5 P12	0.18	0.54	0.55	0.065	0.20	0.030	0.018	0.007	yes	8	16	
PHI47-1011-1-1012	P147-1011-1	1	5.49	5.26	22.44	23.10	circle/oval	oval	3 M	5 P2	5 P2	0.16	0.51	0.51	0.100	0.19	0.018	0.014	0.004	yes	8	16	
	P147-1011-2	2	5.52	5.49	23.76	24.24	circle/oval	oval	3 M	5 P11	5 P11	0.20	0.66	0.51	0.100	0.19	0.018	0.014	0.004	yes	8	16	
	P147-1011-2	2	5.52	5.49	23.76	24.24	circle/oval	oval	3 M	5 P14	5 P14	0.20	0.44	0.51	0.100	0.19	0.018	0.014	0.004	yes	8	16	
PHI47-1011-2-1014	P147-1011-2	2	5.52	5.49	23.76	24.24	circle/oval	oval	3 M	5 P15	5 P15	0.17	0.53	0.51	0.100	0.19	0.018	0.014	0.004	yes	8	16	
	P147-1011-2	2	5.52	5.49	23.76	24.24	circle/oval	oval	3 M	5 P21	5 P21	0.20	0.40	0.51	0.100	0.19	0.018	0.014	0.004	yes	8	16	
	P147-1011-2	2	5.52	5.49	23.76	24.24	circle/oval	oval	3 M	6 P4	6 P4	0.18	0.69	0.71	0.060	0.22	0.044	0.028	0.012	yes	8	16	
PHI47-1011-3-1004	P147-1011-3	3	5.86	5.49	27.47	25.74	circle/oval	oval	3 M	6 P6	6 P6	0.22	0.65	0.71	0.060	0.22	0.044	0.028	0.012	yes	8	16	
	P147-1011-3	3	5.86	5.49	27.47	25.74	circle/oval	oval	3 M	6 P7	6 P7	0.24	0.63	0.71	0.060	0.22	0.044	0.028	0.012	yes	8	16	
	P147-1011-3	3	5.86	5.49	27.47	25.74	circle/oval	oval	3 M	6 P8	6 P8	0.21	0.77	0.71	0.060	0.22	0.044	0.028	0.012	yes	8	16	
PHI47-1011-3-1008	P147-1011-3	3	5.86	5.49	27.47	25.74	circle/oval	oval	3 M	6 P9	6 P9	0.18	0.76	0.71	0.060	0.22	0.044	0.028	0.012	yes	8	16	
	P147-1011-3	3	5.86	5.49	27.47	25.74	circle/oval	oval	3 M	6 P10	6 P10	0.30	0.75	0.71	0.060	0.22	0.044	0.028	0.012	yes	8	16	
	P147-1012-1	1	5.2	4.4	18.51	18.30	oval	oval	3?	4 P1	4 P1	0.19	0.68	0.71	0.048	0.18	0.036	0.019	0.008	DIA	8	31	
PHI47-1012-1-1001	P147-1012-1	1	5.2	4.4	18.51	18.30	oval	oval	3?	4 P2	4 P2	0.16	0.66	0.71	0.048	0.18	0.036	0.019	0.008	DIA	8	31	
	P147-1012-1	1	5.2	4.4	18.51	18.30	oval	oval	3?	4 P3	4 P3	0.15	0.76	0.71	0.048	0.18	0.036	0.019	0.008	DIA	8	31	
	P147-1012-1	1	5.2	4.4	18.51	18.30	oval	oval	3?	4 P4	4 P4	0.23	0.74	0.71	0.048	0.18	0.036	0.019	0.008	DIA	8	31	
PHI47-1012-1-1004	P147-1012-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.16	0.59	NA	NA	NA	NA	NA	NA	NA	37	
	P147-1013-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.17	0.58	NA	NA	NA	NA	NA	NA	NA	37	
	P147-1013-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.17	0.58	NA	NA	NA	NA	NA	NA	NA	37	

PotholeID	PthHouseID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VoSD	DUUsed	PstRef	PstRef
PHI47-1013-1-1003	PI47-1013-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.07	0.64	NA	NA	NA	NA	NA	NA	NA	37	37
PHI47-1013-1-1004	PI47-1013-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.16	0.61	NA	NA	NA	NA	NA	NA	NA	37	37
PHI47-1013-2-1005	PI47-1013-2	2	4.7	4.4	17.41	16.54	rounded square	oval	4 M	4 M	4 P5	4 P5	0.27	0.63	0.53	0.095	0.20	0.056	0.018	0.013	yes	8	37
PHI47-1013-2-1006	PI47-1013-2	2	4.7	4.4	17.41	16.54	rounded square	oval	4 M	4 M	4 P6	4 P6	0.19	0.43	0.53	0.095	0.20	0.056	0.018	0.013	yes	8	37
PHI47-1013-2-1007	PI47-1013-2	2	4.7	4.4	17.41	16.54	rounded square	oval	4 M	4 M	4 P7	4 P7	0.17	0.47	0.53	0.095	0.20	0.056	0.018	0.013	yes	8	37
PHI47-1013-2-1008	PI47-1013-2	2	4.7	4.4	17.41	16.54	rounded square	oval	4 M	4 M	4 P8	4 P8	0.15	0.59	0.53	0.095	0.20	0.056	0.018	0.013	yes	8	37
PHI47-1013-3-1009	PI47-1013-3	3	5.2	4.93	22.18	20.51	rounded square	oval	4 MW	4 MW	4 P9	4 P9	0.37	0.76	0.72	0.054	0.34	0.064	0.066	0.026	yes	8	37
PHI47-1013-3-1010	PI47-1013-3	3	5.2	4.93	22.18	20.51	rounded square	oval	4 MW	4 MW	4 P10	4 P10	0.40	0.72	0.72	0.054	0.34	0.064	0.066	0.026	yes	8	37
PHI47-1013-3-1011	PI47-1013-3	3	5.2	4.93	22.18	20.51	rounded square	oval	4 MW	4 MW	4 P11	4 P11	0.26	0.64	0.72	0.054	0.34	0.064	0.066	0.026	yes	8	37
PHI47-1013-3-1012	PI47-1013-3	3	5.2	4.93	22.18	20.51	rounded square	oval	4 MW	4 MW	4 P12	4 P12	0.30	0.75	0.72	0.054	0.34	0.064	0.066	0.026	yes	8	37
PHI47-1013-4-1012	PI47-1013-4	4	5.4	5.24	24.8	22.64	rounded square	oval	4 MW	4 MW	43957 P12	43957 P12	0.30	0.75	0.62	0.205	0.26	0.049	0.036	0.023	yes	8	37
PHI47-1013-4-1013	PI47-1013-4	4	5.4	5.24	24.8	22.64	rounded square	oval	4 MW	4 MW	43957 P13	43957 P13	0.25	0.43	0.62	0.205	0.26	0.049	0.036	0.023	yes	8	37
PHI47-1013-4-1014	PI47-1013-4	4	5.4	5.24	24.8	22.64	rounded square	oval	4 MW	4 MW	43957 P14	43957 P14	0.20	0.40	0.62	0.205	0.26	0.049	0.036	0.023	yes	8	37
PHI47-1013-4-1015	PI47-1013-4	4	5.4	5.24	24.8	22.64	rounded square	oval	4 MW	4 MW	43957 P15	43957 P15	0.31	0.88	0.62	0.205	0.26	0.049	0.036	0.023	yes	8	37
PHI47-1013-4-1016	PI47-1013-4	4	5.4	5.24	24.8	22.64	rounded square	oval	4 MW	4 MW	43957 P16	43957 P16	0.24	0.62	0.62	0.205	0.26	0.049	0.036	0.023	yes	8	37
PHI47-1014-1-1001	PI47-1014-1	1	5.6	5.17	22.59	23.16	oval/pentagon	oval	2 M	2 M	5 P1	5 P1	0.35	0.76	0.77	0.045	0.35	0.058	0.075	0.025	DIA	8	44
PHI47-1014-1-1002	PI47-1014-1	1	5.6	5.17	22.59	23.16	oval/pentagon	oval	2 M	2 M	5 P2	5 P2	0.42	0.81	0.77	0.045	0.35	0.058	0.075	0.025	DIA	8	44
PHI47-1014-1-1003	PI47-1014-1	1	5.6	5.17	22.59	23.16	oval/pentagon	oval	2 M	2 M	5 P3	5 P3	0.27	0.82	0.77	0.045	0.35	0.058	0.075	0.025	DIA	8	44
PHI47-1014-1-1004	PI47-1014-1	1	5.6	5.17	22.59	23.16	oval/pentagon	oval	2 M	2 M	5 P4	5 P4	0.33	0.73	0.77	0.045	0.35	0.058	0.075	0.025	DIA	8	44
PHI47-1014-1-1005	PI47-1014-1	1	5.6	5.17	22.59	23.16	oval/pentagon	oval	2 M	2 M	5 P5	5 P5	0.39	0.72	0.77	0.045	0.35	0.058	0.075	0.025	DIA	8	44
PHI47-1014-2-1001	PI47-1014-2	2	5.6	5.17	22.59	23.16	oval/pentagon	oval	2 M	2 M	5 P1	5 P1	0.35	0.76	0.76	0.118	0.38	0.152	0.106	0.098	DIA	8	44
PHI47-1014-2-1002	PI47-1014-2	2	5.6	5.17	22.59	23.16	oval/pentagon	oval	2 M	2 M	5 P2	5 P2	0.42	0.81	0.76	0.118	0.38	0.152	0.106	0.098	DIA	8	44
PHI47-1014-2-1006	PI47-1014-2	2	5.6	5.17	22.59	23.16	oval/pentagon	oval	2 M	2 M	5 P6	5 P6	0.19	0.69	0.76	0.118	0.38	0.152	0.106	0.098	DIA	8	44
PHI47-1014-2-1007	PI47-1014-2	2	5.6	5.17	22.59	23.16	oval/pentagon	oval	2 M	2 M	5 P7	5 P7	0.34	0.61	0.76	0.118	0.38	0.152	0.106	0.098	DIA	8	44
PHI47-1014-2-1008	PI47-1014-2	2	5.6	5.17	22.59	23.16	oval/pentagon	oval	2 M	2 M	5 P8	5 P8	0.61	0.92	0.76	0.118	0.38	0.152	0.106	0.098	DIA	8	44
PHI47-1015-1-1001	PI47-1015-1	1	6.36	6.08	31.88	30.94	rounded square	oval	n	M	6 P1	6 P1	0.24	0.90	0.87	0.061	0.29	0.034	0.057	0.016	yes	8	52
PHI47-1015-1-1002	PI47-1015-1	1	6.36	6.08	31.88	30.94	rounded square	oval	n	M	6 P2	6 P2	0.32	0.90	0.87	0.061	0.29	0.034	0.057	0.016	yes	8	52
PHI47-1015-1-1003	PI47-1015-1	1	6.36	6.08	31.88	30.94	rounded square	oval	n	M	6 P3	6 P3	0.33	0.94	0.87	0.061	0.29	0.034	0.057	0.016	yes	8	52
PHI47-1015-1-1004	PI47-1015-1	1	6.36	6.08	31.88	30.94	rounded square	oval	n	M	6 P4	6 P4	0.28	0.86	0.87	0.061	0.29	0.034	0.057	0.016	yes	8	52
PHI47-1015-1-1005	PI47-1015-1	1	6.36	6.08	31.88	30.94	rounded square	oval	n	M	6 P5	6 P5	0.27	0.76	0.87	0.061	0.29	0.034	0.057	0.016	yes	8	52
PHI47-1015-1-1006	PI47-1015-1	1	6.36	6.08	31.88	30.94	rounded square	oval	n	M	6 P6	6 P6	0.29	0.87	0.87	0.061	0.29	0.034	0.057	0.016	yes	8	52
PHI47-1016-1-1001	PI47-1016-1	1	3.5	3.42	10.9	9.58	oval	oval	n	M	4 P1	4 P1	0.13	0.52	0.48	0.069	0.12	0.015	0.006	0.002	yes	8	71
PHI47-1016-1-1002	PI47-1016-1	1	3.5	3.42	10.9	9.58	oval	oval	n	M	4 P2	4 P2	0.12	0.52	0.48	0.069	0.12	0.015	0.006	0.002	yes	8	71
PHI47-1016-1-1003	PI47-1016-1	1	3.5	3.42	10.9	9.58	oval	oval	n	M	4 P3	4 P3	0.10	0.40	0.48	0.069	0.12	0.015	0.006	0.002	yes	8	71
PHI47-1017-1-1001	PI47-1017-1	1	3.1	2.9	6.99	7.19	oval	oval	n	M	4 P1	4 P1	0.22	0.56	0.52	0.028	0.17	0.040	0.012	0.006	yes	8	74
PHI47-1017-1-1002	PI47-1017-1	1	3.1	2.9	6.99	7.19	oval	oval	n	M	4 P2	4 P2	0.18	0.52	0.52	0.028	0.17	0.040	0.012	0.006	yes	8	74
PHI47-1017-1-1003	PI47-1017-1	1	3.1	2.9	6.99	7.19	oval	oval	n	M	4 P3	4 P3	0.13	0.50	0.52	0.028	0.17	0.040	0.012	0.006	yes	8	74
PHI47-1017-1-1004	PI47-1017-1	1	3.1	2.9	6.99	7.19	oval	oval	n	M	4 P4	4 P4	0.14	0.50	0.52	0.028	0.17	0.040	0.012	0.006	yes	8	74

PstholeID	PthousID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PHI47-1018-1-1001	PI47-1018-1	1	3.8	3.48	11.13	10.58	oval	oval	n?	M	4 P1	0.30	0.52	0.62	0.092	0.22	0.068	0.024	0.011	yes	8	77
PHI47-1018-1-1002	PI47-1018-1	1	3.8	3.48	11.13	10.58	oval	oval	n?	M	4 P2	0.24	0.66	0.62	0.092	0.22	0.068	0.024	0.011	yes	8	77
PHI47-1018-1-1003	PI47-1018-1	1	3.8	3.48	11.13	10.58	oval	oval	n?	M	4 P3	0.13	0.73	0.62	0.092	0.22	0.068	0.024	0.011	yes	8	77
PHI47-1018-1-1004	PI47-1018-1	1	3.8	3.48	11.13	10.58	oval	oval	n?	M	4 P4	0.21	0.58	0.62	0.092	0.22	0.068	0.024	0.011	yes	8	77
PHI47-1019-1-1001	PI47-1019-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.18	0.52	NA	NA	NA	NA	NA	NA	80	80
PHI47-1019-1-1002	PI47-1019-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.14	0.52	NA	NA	NA	NA	NA	NA	80	80
PHI47-1019-1-1003	PI47-1019-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.20	0.68	NA	NA	NA	NA	NA	NA	80	80
PHI47-1019-1-1004	PI47-1019-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.00	0.52	NA	NA	NA	NA	NA	NA	80	80
PHI47-1020-1-1001	PI47-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.18	0.72	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-1-1002	PI47-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.19	0.65	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-1-1003	PI47-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.15	0.50	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-1-1004	PI47-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.19	0.52	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-1-1005	PI47-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P5	0.17	0.62	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-2-1006	PI47-1020-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P6	0.35	0.48	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-2-1007	PI47-1020-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P7	0.32	0.60	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-2-1008	PI47-1020-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P8	0.22	0.44	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-2-1009	PI47-1020-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P9	0.17	0.45	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-2-1010	PI47-1020-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P10	0.25	0.50	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-3-1011	PI47-1020-3	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P11	0.28	0.56	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-3-1012	PI47-1020-3	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P12	0.21	0.52	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-3-1013	PI47-1020-3	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P13	0.17	0.50	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-3-1014	PI47-1020-3	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P14	0.14	0.50	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-3-1015	PI47-1020-3	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P15	0.35	0.48	NA	NA	NA	NA	NA	NA	82	82
PHI47-1020-4-1016	PI47-1020-4	4	5.2	4.6	19.4	19.14	pentagon	oval	4 M	M	6 P16	0.31	0.66	0.70	0.077	0.21	0.086	0.029	0.021	yes	8	82
PHI47-1020-4-1017	PI47-1020-4	4	5.2	4.6	19.4	19.14	pentagon	oval	4 M	M	6 P17	0.27	0.82	0.70	0.077	0.21	0.086	0.029	0.021	yes	8	82
PHI47-1020-4-1018	PI47-1020-4	4	5.2	4.6	19.4	19.14	pentagon	oval	4 M	M	6 P18	0.12	0.68	0.70	0.077	0.21	0.086	0.029	0.021	yes	8	82
PHI47-1020-4-1019	PI47-1020-4	4	5.2	4.6	19.4	19.14	pentagon	oval	4 M	M	6 P19	0.13	0.76	0.70	0.077	0.21	0.086	0.029	0.021	yes	8	82
PHI47-1020-4-1020	PI47-1020-4	4	5.2	4.6	19.4	19.14	pentagon	oval	4 M	M	6 P20	0.16	0.60	0.70	0.077	0.21	0.086	0.029	0.021	yes	8	82
PHI47-1020-4-1021	PI47-1020-4	4	5.2	4.6	19.4	19.14	pentagon	oval	4 M	M	6 P21	0.30	0.70	0.70	0.077	0.21	0.086	0.029	0.021	yes	8	82
PHI47-1021-1-1001	PI47-1021-1	1	5.14	4.9	21.22	20.15	rounded square w/ entrance	oval	n	MW	5 P1	0.25	0.66	0.57	0.100	0.25	0.024	0.029	0.009	yes	8	90
PHI47-1021-1-1002	PI47-1021-1	1	5.14	4.9	21.22	20.15	rounded square w/ entrance	oval	n	MW	5 P2	0.25	0.55	0.57	0.100	0.25	0.024	0.029	0.009	yes	8	90
PHI47-1021-1-1003	PI47-1021-1	1	5.14	4.9	21.22	20.15	rounded square w/ entrance	oval	n	MW	5 P3	0.22	0.42	0.57	0.100	0.25	0.024	0.029	0.009	yes	8	90
PHI47-1021-1-1004	PI47-1021-1	1	5.14	4.9	21.22	20.15	rounded square w/ entrance	oval	n	MW	5 P4	0.27	0.66	0.57	0.100	0.25	0.024	0.029	0.009	yes	8	90
PHI47-1021-1-1005	PI47-1021-1	1	5.14	4.9	21.22	20.15	rounded square w/ entrance	oval	n	MW	5 P5	0.28	0.54	0.57	0.100	0.25	0.024	0.029	0.009	yes	8	90
PHI47-1022-1-1001	PI47-1022-1	1	4.4	4	15.2	14.08	oval	oval	n	M	4 P1	0.25	0.56	0.59	0.104	0.19	0.055	0.018	0.010	yes	8	103
PHI47-1022-1-1002	PI47-1022-1	1	4.4	4	15.2	14.08	oval	oval	n	M	4 P2	0.21	0.74	0.59	0.104	0.19	0.055	0.018	0.010	yes	8	103
PHI47-1022-1-1003	PI47-1022-1	1	4.4	4	15.2	14.08	oval	oval	n	M	4 P3	0.18	0.50	0.59	0.104	0.19	0.055	0.018	0.010	yes	8	103
PHI47-1022-1-1004	PI47-1022-1	1	4.4	4	15.2	14.08	oval	oval	n	M	4 P4	0.12	0.56	0.59	0.104	0.19	0.055	0.018	0.010	yes	8	103

PotholeID	PthHouseID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	ApptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
PHI47-1023-1-1002	PI47-1023-1	1	4.68	4	15.2	14.98	oval	oval	2	uk		5 P2	0.22	0.70	0.71	0.148	0.14	0.084	0.016	0.012	DIA	8	109
PHI47-1023-1-1004	PI47-1023-1	1	4.68	4	15.2	14.98	oval	oval	2	uk		5 P4	0.13	0.66	0.71	0.148	0.14	0.084	0.016	0.012	DIA	8	109
PHI47-1023-1-1005	PI47-1023-1	1	4.68	4	15.2	14.98	oval	oval	2	uk		5 P5	0.00	0.64	0.71	0.148	0.14	0.084	0.016	0.012	DIA	8	109
PHI47-1023-1-1006	PI47-1023-1	1	4.68	4	15.2	14.98	oval	oval	2	uk		5 P6	0.12	0.54	0.71	0.148	0.14	0.084	0.016	0.012	DIA	8	109
PHI47-1023-1-1007	PI47-1023-1	1	4.68	4	15.2	14.98	oval	oval	2	uk		5 P7	0.17	0.98	0.71	0.148	0.14	0.084	0.016	0.012	DIA	8	109
PHI47-1023-1-1009	PI47-1023-1	1	4.68	4	15.2	14.98	oval	oval	2	uk		5 P9	0.22	0.72	0.71	0.148	0.14	0.084	0.016	0.012	DIA	8	109
PHI47-1023-2-1001	PI47-1023-2	2	5.74	5	22.54	22.96	oval	oval	2	uk		5 P1	0.30	0.88	0.67	0.252	0.23	0.071	0.032	0.022	DIA	8	109
PHI47-1023-2-1003	PI47-1023-2	2	5.74	5	22.54	22.96	oval	oval	2	uk		5 P3	0.27	0.72	0.67	0.252	0.23	0.071	0.032	0.022	DIA	8	109
PHI47-1023-2-1006	PI47-1023-2	2	5.74	5	22.54	22.96	oval	oval	2	uk		5 P6	0.12	0.54	0.67	0.252	0.23	0.071	0.032	0.022	DIA	8	109
PHI47-1023-2-1008	PI47-1023-2	2	5.74	5	22.54	22.96	oval	oval	2	uk		5 P8	0.26	0.30	0.67	0.252	0.23	0.071	0.032	0.022	DIA	8	109
PHI47-1023-2-1010	PI47-1023-2	2	5.74	5	22.54	22.96	oval	oval	2	uk		5 P10	0.22	0.90	0.67	0.252	0.23	0.071	0.032	0.022	DIA	8	109
PHI47-1024-1-1001	PI47-1024-1	1	5.2	4.68	19.68	19.47	oval	oval	n	M		5 P1	0.27	0.57	0.55	0.130	0.23	0.035	0.023	0.010	yes	8	116
PHI47-1024-1-1002	PI47-1024-1	1	5.2	4.68	19.68	19.47	oval	oval	n	M		5 P2	0.20	0.68	0.55	0.130	0.23	0.035	0.023	0.010	yes	8	116
PHI47-1024-1-1003	PI47-1024-1	1	5.2	4.68	19.68	19.47	oval	oval	n	M		5 P3	0.19	0.37	0.55	0.130	0.23	0.035	0.023	0.010	yes	8	116
PHI47-1024-1-1004	PI47-1024-1	1	5.2	4.68	19.68	19.47	oval	oval	n	M		5 P4	0.22	0.46	0.55	0.130	0.23	0.035	0.023	0.010	yes	8	116
PHI47-1024-1-1005	PI47-1024-1	1	5.2	4.68	19.68	19.47	oval	oval	n	M		5 P5	0.26	0.65	0.55	0.130	0.23	0.035	0.023	0.010	yes	8	116
PHI47-1025-1-1009	PI47-1025-1	1	4.3	4.12	14.24	14.17	oval	oval	M	M		5 P9	0.17	0.57	0.60	0.095	0.19	0.064	0.019	0.014	DIA	8	123
PHI47-1025-1-1010	PI47-1025-1	1	4.3	4.12	14.24	14.17	oval	oval	M	M		5 P10	0.26	0.53	0.60	0.095	0.19	0.064	0.019	0.014	DIA	8	123
PHI47-1025-1-1012	PI47-1025-1	1	4.3	4.12	14.24	14.17	oval	oval	M	M		5 P12	0.13	0.46	0.60	0.095	0.19	0.064	0.019	0.014	DIA	8	123
PHI47-1025-1-1014	PI47-1025-1	1	4.3	4.12	14.24	14.17	oval	oval	M	M		5 P14	0.14	0.66	0.60	0.095	0.19	0.064	0.019	0.014	DIA	8	123
PHI47-1025-1-1015	PI47-1025-1	1	4.3	4.12	14.24	14.17	oval	oval	M	M		5 P15	0.12	0.65	0.60	0.095	0.19	0.064	0.019	0.014	DIA	8	123
PHI47-1025-1-1016	PI47-1025-1	1	4.3	4.12	14.24	14.17	oval	oval	M	M		5 P16	0.21	0.61	0.60	0.095	0.19	0.064	0.019	0.014	DIA	8	123
PHI47-1025-1-1017	PI47-1025-1	1	4.3	4.12	14.24	14.17	oval	oval	M	M		5 P17	0.28	0.75	0.60	0.095	0.19	0.064	0.019	0.014	DIA	8	123
PHI47-1026-3-1001	PI47-1026-3	3	3.93	3.76	12.12	11.82	oval	oval	3	M		4 P1	0.23	0.67	0.56	0.115	0.25	0.053	0.029	0.017	DIA	8	123
PHI47-1026-3-1002	PI47-1026-3	3	3.93	3.76	12.12	11.82	oval	oval	3	M		4 P2	0.21	0.54	0.56	0.115	0.25	0.053	0.029	0.017	DIA	8	123
PHI47-1026-3-1003	PI47-1026-3	3	3.93	3.76	12.12	11.82	oval	oval	3	M		4 P3	0.22	0.41	0.56	0.115	0.25	0.053	0.029	0.017	DIA	8	123
PHI47-1026-3-1004	PI47-1026-3	3	3.93	3.76	12.12	11.82	oval	oval	3	M		4 P4	0.33	0.63	0.56	0.115	0.25	0.053	0.029	0.017	DIA	8	123
PHI47-1027-1-1001	PI47-1027-1	1	5	4.26	17.04	17.04	oval	oval	n	MW		4 P1	0.24	0.44	0.47	0.057	0.20	0.052	0.015	0.007	yes	8	129
PHI47-1027-1-1002	PI47-1027-1	1	5	4.26	17.04	17.04	oval	oval	n	MW		4 P2	0.18	0.42	0.47	0.057	0.20	0.052	0.015	0.007	yes	8	129
PHI47-1027-1-1003	PI47-1027-1	1	5	4.26	17.04	17.04	oval	oval	n	MW		4 P3	0.13	0.55	0.47	0.057	0.20	0.052	0.015	0.007	yes	8	129
PHI47-1027-1-1004	PI47-1027-1	1	5	4.26	17.04	17.04	oval	oval	n	MW		4 P4	0.24	0.47	0.47	0.057	0.20	0.052	0.015	0.007	yes	8	129
PHI47-1028-1-1001	PI47-1028-1	1	4.7	4.2	15.6	15.79	oval	oval	5	M		4 P1	0.16	0.46	0.43	0.079	0.16	0.018	0.009	0.003	yes	8	136
PHI47-1028-1-1002	PI47-1028-1	1	4.7	4.2	15.6	15.79	oval	oval	5	M		4 P2	0.18	0.48	0.43	0.079	0.16	0.018	0.009	0.003	yes	8	136
PHI47-1028-1-1003	PI47-1028-1	1	4.7	4.2	15.6	15.79	oval	oval	5	M		4 P3	0.17	0.46	0.43	0.079	0.16	0.018	0.009	0.003	yes	8	136
PHI47-1028-1-1004	PI47-1028-1	1	4.7	4.2	15.6	15.79	oval	oval	5	M		4 P4	0.14	0.31	0.43	0.079	0.16	0.018	0.009	0.003	yes	8	136
PHI47-1028-2-1001	PI47-1028-2	2	4.7	4.2	15.6	15.79	oval	oval	5	M		4 P1	0.16	0.46	0.51	0.062	0.20	0.059	0.018	0.014	yes	8	136
PHI47-1028-2-1002	PI47-1028-2	2	4.7	4.2	15.6	15.79	oval	oval	5	M		4 P2	0.18	0.48	0.51	0.062	0.20	0.059	0.018	0.014	yes	8	136
PHI47-1028-2-1005	PI47-1028-2	2	4.7	4.2	15.6	15.79	oval	oval	5	M		4 P5	0.28	0.60	0.51	0.062	0.20	0.059	0.018	0.014	yes	8	136

PostholeID	PthHouseID	Bld	L	W	Reeflr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PHI47-1028-2-1006	PI47-1028-2	2	4.7	4.2	15.6	15.79	oval	oval	5 M	4 P6	0.16	0.51	0.51	0.062	0.20	0.059	0.018	0.014	yes	8	136		
PHI47-1028-3-1007	PI47-1028-3	3	4.96	4.45	17.4	17.66	oval	oval	5 MW	5 P7	0.13	0.50	0.60	0.088	0.24	0.117	0.032	0.029	yes	8	136		
PHI47-1028-3-1008	PI47-1028-3	3	4.96	4.45	17.4	17.66	oval	oval	5 MW	5 P8	0.10	0.70	0.60	0.088	0.24	0.117	0.032	0.029	yes	8	136		
PHI47-1028-3-1009	PI47-1028-3	3	4.96	4.45	17.4	17.66	oval	oval	5 MW	5 P9	0.24	0.53	0.60	0.088	0.24	0.117	0.032	0.029	yes	8	136		
PHI47-1028-3-1010	PI47-1028-3	3	4.96	4.45	17.4	17.66	oval	oval	5 MW	5 P10	0.36	0.68	0.60	0.088	0.24	0.117	0.032	0.029	yes	8	136		
PHI47-1028-3-1011	PI47-1028-3	3	4.96	4.45	17.4	17.66	oval	oval	5 MW	5 P11	0.35	0.60	0.60	0.088	0.24	0.117	0.032	0.029	yes	8	136		
PHI47-1028-4-1010	PI47-1028-4	4	4.96	4.45	17.4	17.66	oval	oval	5 MW	5 P10	0.36	0.68	0.58	0.076	0.31	0.039	0.045	0.016	yes	8	136		
PHI47-1028-4-1011	PI47-1028-4	4	4.96	4.45	17.4	17.66	oval	oval	5 MW	5 P11	0.35	0.60	0.58	0.076	0.31	0.039	0.045	0.016	yes	8	136		
PHI47-1028-4-1012	PI47-1028-4	4	4.96	4.45	17.4	17.66	oval	oval	5 MW	5 P12	0.30	0.48	0.58	0.076	0.31	0.039	0.045	0.016	yes	8	136		
PHI47-1028-4-1013	PI47-1028-4	4	4.96	4.45	17.4	17.66	oval	oval	5 MW	5 P13	0.27	0.59	0.58	0.076	0.31	0.039	0.045	0.016	yes	8	136		
PHI47-1028-4-1014	PI47-1028-4	4	4.96	4.45	17.4	17.66	oval	oval	5 MW	5 P14	0.28	0.53	0.58	0.076	0.31	0.039	0.045	0.016	yes	8	136		
PHI47-1028-5-1010	PI47-1028-5	5	5.16	5	19.9	20.64	circle	oval	5 MW	6 P10	0.36	0.68	0.55	0.099	0.31	0.048	0.043	0.017	yes	8	136		
PHI47-1028-5-1011	PI47-1028-5	5	5.16	5	19.9	20.64	circle	oval	5 MW	6 P11	0.35	0.60	0.55	0.099	0.31	0.048	0.043	0.017	yes	8	136		
PHI47-1028-5-1014	PI47-1028-5	5	5.16	5	19.9	20.64	circle	oval	5 MW	6 P14	0.28	0.53	0.55	0.099	0.31	0.048	0.043	0.017	yes	8	136		
PHI47-1028-5-1015	PI47-1028-5	5	5.16	5	19.9	20.64	circle	oval	5 MW	6 P15	0.30	0.60	0.55	0.099	0.31	0.048	0.043	0.017	yes	8	136		
PHI47-1028-5-1016	PI47-1028-5	5	5.16	5	19.9	20.64	circle	oval	5 MW	6 P16	0.34	0.39	0.55	0.099	0.31	0.048	0.043	0.017	yes	8	136		
PHI47-1028-5-1017	PI47-1028-5	5	5.16	5	19.9	20.64	circle	oval	5 MW	6 P17	0.23	0.52	0.55	0.099	0.31	0.048	0.043	0.017	yes	8	136		
PHI47-1029-1-1001	PI47-1029-1	1	4.96	4.6	18.72	18.25	rounded pentagon	oval	2 M	4 P1	0.27	0.81	0.51	0.202	0.26	0.037	0.028	0.014	DIA	8	145		
PHI47-1029-1-1002	PI47-1029-1	1	4.96	4.6	18.72	18.25	rounded pentagon	oval	2 M	4 P2	0.32	0.43	0.51	0.202	0.26	0.037	0.028	0.014	DIA	8	145		
PHI47-1029-1-1003	PI47-1029-1	1	4.96	4.6	18.72	18.25	rounded pentagon	oval	2 M	4 P3	0.24	0.40	0.51	0.202	0.26	0.037	0.028	0.014	DIA	8	145		
PHI47-1029-1-1004	PI47-1029-1	1	4.96	4.6	18.72	18.25	rounded pentagon	oval	2 M	4 P4	0.24	0.39	0.51	0.202	0.26	0.037	0.028	0.014	DIA	8	145		
PHI47-1029-2-1005	PI47-1029-2	2	4.96	4.6	18.72	18.25	rounded pentagon	oval	2 M	5 P5	0.23	0.60	0.64	0.125	0.26	0.033	0.036	0.014	DIA	8	145		
PHI47-1029-2-1006	PI47-1029-2	2	4.96	4.6	18.72	18.25	rounded pentagon	oval	2 M	5 P6	0.24	0.74	0.64	0.125	0.26	0.033	0.036	0.014	DIA	8	145		
PHI47-1029-2-1007	PI47-1029-2	2	4.96	4.6	18.72	18.25	rounded pentagon	oval	2 M	5 P7	0.30	0.80	0.64	0.125	0.26	0.033	0.036	0.014	DIA	8	145		
PHI47-1029-2-1009	PI47-1029-2	2	4.96	4.6	18.72	18.25	rounded pentagon	oval	2 M	5 P9	0.29	0.59	0.64	0.125	0.26	0.033	0.036	0.014	DIA	8	145		
PHI47-1029-2-1011	PI47-1029-2	2	4.96	4.6	18.72	18.25	rounded pentagon	oval	2 M	5 P11	0.25	0.49	0.64	0.125	0.26	0.033	0.036	0.014	DIA	8	145		
PHI47-1030-1-1001	PI47-1030-1	1	5.54	5.46	24.19	24.20	circle	oval	1 M	5 P1	0.39	0.96	0.86	0.056	0.38	0.021	0.098	0.013	yes	8	151		
PHI47-1030-1-1002	PI47-1030-1	1	5.54	5.46	24.19	24.20	circle	oval	1 M	5 P2	0.39	0.85	0.86	0.056	0.38	0.021	0.098	0.013	yes	8	151		
PHI47-1030-1-1003	PI47-1030-1	1	5.54	5.46	24.19	24.20	circle	oval	1 M	5 P3	0.36	0.82	0.86	0.056	0.38	0.021	0.098	0.013	yes	8	151		
PHI47-1030-1-1004	PI47-1030-1	1	5.54	5.46	24.19	24.20	circle	oval	1 M	5 P4	0.40	0.83	0.86	0.056	0.38	0.021	0.098	0.013	yes	8	151		
PHI47-1030-1-1005	PI47-1030-1	1	5.54	5.46	24.19	24.20	circle	oval	1 M	5 P5	0.35	0.86	0.86	0.056	0.38	0.021	0.098	0.013	yes	8	151		
PHI47-1031-1-1001	PI47-1031-1	1	3.67	3.62	11.19	10.63	rounded pentagon	oval	2 M	4 P1	0.18	0.56	0.56	0.033	0.19	0.021	0.015	0.003	DIA	8	164		
PHI47-1031-1-1002	PI47-1031-1	1	3.67	3.62	11.19	10.63	rounded pentagon	oval	2 M	4 P2	0.21	0.52	0.56	0.033	0.19	0.021	0.015	0.003	DIA	8	164		
PHI47-1031-1-1003	PI47-1031-1	1	3.67	3.62	11.19	10.63	rounded pentagon	oval	2 M	4 P3	0.16	0.60	0.56	0.033	0.19	0.021	0.015	0.003	DIA	8	164		
PHI47-1031-1-1004	PI47-1031-1	1	3.67	3.62	11.19	10.63	rounded pentagon	oval	2 M	4 P4	0.20	0.56	0.56	0.033	0.19	0.021	0.015	0.003	DIA	8	164		
PHI47-1031-2-1005	PI47-1031-2	2	4.85	4.52	18.8	17.54	rounded pentagon	oval	2 M	5 P5	0.18	0.75	0.69	0.108	0.20	0.055	0.024	0.013	DIA	8	164		
PHI47-1031-2-1006	PI47-1031-2	2	4.85	4.52	18.8	17.54	rounded pentagon	oval	2 M	5 P6	0.23	0.77	0.69	0.108	0.20	0.055	0.024	0.013	DIA	8	164		
PHI47-1031-2-1007	PI47-1031-2	2	4.85	4.52	18.8	17.54	rounded pentagon	oval	2 M	5 P7	0.12	0.52	0.69	0.108	0.20	0.055	0.024	0.013	DIA	8	164		

PostholeID	PthousID	Bld	L	W	RecFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PHI47-1031-2-1008	PI47-1031-2	2	4.85	4.52	18.8	17.54	rounded pentagon	oval	2 M	5 P8	5 P8	0.21	0.64	0.69	0.108	0.108	0.20	0.055	0.024	0.013 DIA	8	164	
PHI47-1031-2-1009	PI47-1031-2	2	4.85	4.52	18.8	17.54	rounded pentagon	oval	2 M	5 P9	5 P9	0.26	0.76	0.69	0.108	0.108	0.20	0.055	0.024	0.013 DIA	8	164	
PHI47-1032-1-1006	PI47-1032-1	1	4.22	3.92	12.22	13.23	circle/oval	oval	n	M	4 P6	0.26	0.82	0.73	0.094	0.25	0.029	0.037	0.011 yes	8	171		
PHI47-1032-1-1007	PI47-1032-1	1	4.22	3.92	12.22	13.23	circle/oval	oval	n	M	4 P7	0.23	0.74	0.73	0.094	0.25	0.029	0.037	0.011 yes	8	171		
PHI47-1032-1-1008	PI47-1032-1	1	4.22	3.92	12.22	13.23	circle/oval	oval	n	M	4 P8	0.27	0.60	0.73	0.094	0.25	0.029	0.037	0.011 yes	8	171		
PHI47-1032-1-1009	PI47-1032-1	1	4.22	3.92	12.22	13.23	circle/oval	oval	n	M	4 P9	0.22	0.68	0.73	0.094	0.25	0.029	0.037	0.011 yes	8	171		
PHI47-1032-1-1010	PI47-1032-1	1	4.22	3.92	12.22	13.23	circle/oval	oval	n	M	4 P10	0.29	0.82	0.73	0.094	0.25	0.029	0.037	0.011 yes	8	171		
PHI47-1033-1-1002	PI47-1033-1	1	4.72	4.17	15.63	15.75	oval	oval	1 MW	4 P2	0.23	0.80	0.78	0.038	0.25	0.021	0.037	0.008 yes	8	176			
PHI47-1033-1-1003	PI47-1033-1	1	4.72	4.17	15.63	15.75	oval	oval	1 MW	4 P3	0.26	0.78	0.78	0.038	0.25	0.021	0.037	0.008 yes	8	176			
PHI47-1033-1-1004	PI47-1033-1	1	4.72	4.17	15.63	15.75	oval	oval	1 MW	4 P4	0.27	0.80	0.78	0.038	0.25	0.021	0.037	0.008 yes	8	176			
PHI47-1033-1-1005	PI47-1033-1	1	4.72	4.17	15.63	15.75	oval	oval	1 MW	4 P5	0.23	0.72	0.78	0.038	0.25	0.021	0.037	0.008 yes	8	176			
PHI47-1033-2-1001	PI47-1033-2	2	5.36	5.03	19.87	21.57	oval	oval	2 MW	5 P1	0.26	0.52	0.56	0.059	0.22	0.036	0.021	0.008 yes	8	176			
PHI47-1033-2-1007	PI47-1033-2	2	5.36	5.03	19.87	21.57	oval	oval	2 MW	5 P7	0.18	0.50	0.56	0.059	0.22	0.036	0.021	0.008 yes	8	176			
PHI47-1033-2-1008	PI47-1033-2	2	5.36	5.03	19.87	21.57	oval	oval	2 MW	5 P8	0.20	0.52	0.56	0.059	0.22	0.036	0.021	0.008 yes	8	176			
PHI47-1033-2-1009	PI47-1033-2	2	5.36	5.03	19.87	21.57	oval	oval	2 MW	5 P9	0.25	0.62	0.56	0.059	0.22	0.036	0.021	0.008 yes	8	176			
PHI47-1033-2-1010	PI47-1033-2	2	5.36	5.03	19.87	21.57	oval	oval	2 MW	5 P10	0.21	0.62	0.56	0.059	0.22	0.036	0.021	0.008 yes	8	176			
PHI47-1034-1-1001	PI47-1034-1	1	5.02	4.62	17.64	18.55	rounded pentagon	oval	2 M	4 P1	0.30	0.73	0.79	0.071	0.31	0.035	0.060	0.019 yes	8	185			
PHI47-1034-1-1002	PI47-1034-1	1	5.02	4.62	17.64	18.55	rounded pentagon	oval	2 M	4 P2	0.27	0.73	0.79	0.071	0.31	0.035	0.060	0.019 yes	8	185			
PHI47-1034-1-1003	PI47-1034-1	1	5.02	4.62	17.64	18.55	rounded pentagon	oval	2 M	4 P3	0.35	0.88	0.79	0.071	0.31	0.035	0.060	0.019 yes	8	185			
PHI47-1034-1-1004	PI47-1034-1	1	5.02	4.62	17.64	18.55	rounded pentagon	oval	2 M	4 P4	0.31	0.80	0.79	0.071	0.31	0.035	0.060	0.019 yes	8	185			
PHI47-1034-2-1001	PI47-1034-2	2	5.88	5.29	25.34	24.88	rounded pentagon	oval	2 M	5 P1	0.30	0.73	0.78	0.062	0.27	0.057	0.048	0.024 yes	8	185			
PHI47-1034-2-1002	PI47-1034-2	2	5.88	5.29	25.34	24.88	rounded pentagon	oval	2 M	5 P2	0.27	0.73	0.78	0.062	0.27	0.057	0.048	0.024 yes	8	185			
PHI47-1034-2-1003	PI47-1034-2	2	5.88	5.29	25.34	24.88	rounded pentagon	oval	2 M	5 P3	0.35	0.88	0.78	0.062	0.27	0.057	0.048	0.024 yes	8	185			
PHI47-1034-2-1005	PI47-1034-2	2	5.88	5.29	25.34	24.88	rounded pentagon	oval	2 M	5 P5	0.21	0.78	0.78	0.062	0.27	0.057	0.048	0.024 yes	8	185			
PHI47-1034-2-1006	PI47-1034-2	2	5.88	5.29	25.34	24.88	rounded pentagon	oval	2 M	5 P6	0.24	0.76	0.78	0.062	0.27	0.057	0.048	0.024 yes	8	185			
PHI47-1035-1-1001	PI47-1035-1	1	4.88	4.38	17.41	17.10	rounded rectangle	oval	n	M	4 P1	0.20	0.86	0.84	0.110	0.18	0.046	0.022	0.009 yes	8	193		
PHI47-1035-1-1002	PI47-1035-1	1	4.88	4.38	17.41	17.10	rounded rectangle	oval	n	M	4 P2	0.13	0.98	0.84	0.110	0.18	0.046	0.022	0.009 yes	8	193		
PHI47-1035-1-1003	PI47-1035-1	1	4.88	4.38	17.41	17.10	rounded rectangle	oval	n	M	4 P3	0.23	0.74	0.84	0.110	0.18	0.046	0.022	0.009 yes	8	193		
PHI47-1035-1-1004	PI47-1035-1	1	4.88	4.38	17.41	17.10	rounded rectangle	oval	n	M	4 P4	0.15	0.76	0.84	0.110	0.18	0.046	0.022	0.009 yes	8	193		
PHI47-1036-1-1001	PI47-1036-1	1	4.14	3.32	11.39	11.00	oval	oval	n	M	4 P1	0.12	0.68	0.66	0.054	0.14	0.016	0.010	0.003 yes	8	199		
PHI47-1036-1-1002	PI47-1036-1	1	4.14	3.32	11.39	11.00	oval	oval	n	M	4 P2	0.15	0.58	0.66	0.054	0.14	0.016	0.010	0.003 yes	8	199		
PHI47-1036-1-1003	PI47-1036-1	1	4.14	3.32	11.39	11.00	oval	oval	n	M	4 P3	0.13	0.68	0.66	0.054	0.14	0.016	0.010	0.003 yes	8	199		
PHI47-1036-1-1004	PI47-1036-1	1	4.14	3.32	11.39	11.00	oval	oval	n	M	4 P4	0.16	0.70	0.66	0.054	0.14	0.016	0.010	0.003 yes	8	199		
PHI47-1037-1-1001	PI47-1037-1	1	5.38	5.34	23.63	22.98	circle	oval	n	M	uk	P1	0.37	0.48	0.58	0.069	0.27	0.091	0.035	0.019 yes	8	205	
PHI47-1037-1-1002	PI47-1037-1	1	5.38	5.34	23.63	22.98	circle	oval	n	M	uk	P2	0.34	0.58	0.58	0.069	0.27	0.091	0.035	0.019 yes	8	205	
PHI47-1037-1-1003	PI47-1037-1	1	5.38	5.34	23.63	22.98	circle	oval	n	M	uk	P3	0.23	0.60	0.58	0.069	0.27	0.091	0.035	0.019 yes	8	205	
PHI47-1037-1-1004	PI47-1037-1	1	5.38	5.34	23.63	22.98	circle	oval	n	M	uk	P4	0.23	0.54	0.58	0.069	0.27	0.091	0.035	0.019 yes	8	205	
PHI47-1037-1-1005	PI47-1037-1	1	5.38	5.34	23.63	22.98	circle	oval	n	M	uk	P5	0.12	0.68	0.58	0.069	0.27	0.091	0.035	0.019 yes	8	205	

PotholeID	PthousID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PHI47-1037-1-1006	PI47-1037-1	1	5.38	5.34	23.63	22.98	circle	oval	n	M	uk	P6	0.31	0.62	0.58	0.069	0.27	0.091	0.035	0.019	yes	8	205
PHI47-1038-1-1001	PI47-1038-1	1	4.02	3.54	11.55	11.38	oval	oval	n	M		4 P1	0.21	0.60	0.63	0.068	0.25	0.045	0.032	0.014	yes	8	206
PHI47-1038-1-1002	PI47-1038-1	1	4.02	3.54	11.55	11.38	oval	oval	n	M		4 P2	0.22	0.64	0.63	0.068	0.25	0.045	0.032	0.014	yes	8	206
PHI47-1038-1-1003	PI47-1038-1	1	4.02	3.54	11.55	11.38	oval	oval	n	M		4 P3	0.30	0.72	0.63	0.068	0.25	0.045	0.032	0.014	yes	8	206
PHI47-1038-1-1004	PI47-1038-1	1	4.02	3.54	11.55	11.38	oval	oval	n	M		4 P4	0.27	0.56	0.63	0.068	0.25	0.045	0.032	0.014	yes	8	206
PHI47-1039-1-1008	PI47-1039-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P8	0.27	0.34	NA	NA	NA	NA	NA	NA	NA	NA	151
PHI47-1039-1-1009	PI47-1039-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P9	0.18	0.41	NA	NA	NA	NA	NA	NA	NA	NA	151
PHI47-1039-1-1010	PI47-1039-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P10	0.15	0.44	NA	NA	NA	NA	NA	NA	NA	NA	151
PHI47-1039-1-1011	PI47-1039-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P11	0.29	0.44	NA	NA	NA	NA	NA	NA	NA	NA	151
PHI47-1039-2-1008	PI47-1039-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P8	0.27	0.34	NA	NA	NA	NA	NA	NA	NA	NA	151
PHI47-1039-2-1011	PI47-1039-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P11	0.29	0.44	NA	NA	NA	NA	NA	NA	NA	NA	151
PHI47-1039-2-1012	PI47-1039-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P12	0.25	0.37	NA	NA	NA	NA	NA	NA	NA	NA	151
PHI47-1039-2-1013	PI47-1039-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P13	0.26	0.39	NA	NA	NA	NA	NA	NA	NA	NA	151
PHI47-1039-2-1014	PI47-1039-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P14	0.27	0.42	NA	NA	NA	NA	NA	NA	NA	NA	151
PHI47-1040-1-1001	PI47-1040-1	1	3.65	3.45	9.71	10.07	oval	oval	n	M		4 P1	0.16	0.68	0.59	0.074	0.17	0.025	0.014	0.004	DIA	8	214
PHI47-1040-1-1002	PI47-1040-1	1	3.65	3.45	9.71	10.07	oval	oval	n	M		4 P2	0.20	0.59	0.59	0.074	0.17	0.025	0.014	0.004	DIA	8	214
PHI47-1040-1-1003	PI47-1040-1	1	3.65	3.45	9.71	10.07	oval	oval	n	M		4 P3	0.14	0.50	0.59	0.074	0.17	0.025	0.014	0.004	DIA	8	214
PHI47-1040-1-1004	PI47-1040-1	1	3.65	3.45	9.71	10.07	oval	oval	n	M		4 P4	0.18	0.60	0.59	0.074	0.17	0.025	0.014	0.004	DIA	8	214
PHI47-1041-1-1001	PI47-1041-1	1	5.32	4.87	20.64	20.73	rounded pentagon	oval	n	M		5 P1	0.32	0.58	0.65	0.069	0.25	0.049	0.033	0.011	yes	8	218
PHI47-1041-1-1002	PI47-1041-1	1	5.32	4.87	20.64	20.73	rounded pentagon	oval	n	M		5 P2	0.25	0.70	0.65	0.069	0.25	0.049	0.033	0.011	yes	8	218
PHI47-1041-1-1003	PI47-1041-1	1	5.32	4.87	20.64	20.73	rounded pentagon	oval	n	M		5 P3	0.19	0.62	0.65	0.069	0.25	0.049	0.033	0.011	yes	8	218
PHI47-1041-1-1004	PI47-1041-1	1	5.32	4.87	20.64	20.73	rounded pentagon	oval	n	M		5 P4	0.23	0.74	0.65	0.069	0.25	0.049	0.033	0.011	yes	8	218
PHI47-1041-1-1005	PI47-1041-1	1	5.32	4.87	20.64	20.73	rounded pentagon	oval	n	M		5 P5	0.27	0.60	0.65	0.069	0.25	0.049	0.033	0.011	yes	8	218
PHI47-1042-1-1002	PI47-1042-1	1	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P2	0.18	0.75	0.59	0.108	0.19	0.034	0.016	0.005	DIA	8	223
PHI47-1042-1-1003	PI47-1042-1	1	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P3	0.15	0.62	0.59	0.108	0.19	0.034	0.016	0.005	DIA	8	223
PHI47-1042-1-1011	PI47-1042-1	1	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P11	0.22	0.55	0.59	0.108	0.19	0.034	0.016	0.005	DIA	8	223
PHI47-1042-1-1015	PI47-1042-1	1	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P15	0.22	0.46	0.59	0.108	0.19	0.034	0.016	0.005	DIA	8	223
PHI47-1042-1-1017	PI47-1042-1	1	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P17	0.16	0.55	0.59	0.108	0.19	0.034	0.016	0.005	DIA	8	223
PHI47-1042-2-1001	PI47-1042-2	2	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P1	0.21	0.73	0.51	0.197	0.21	0.026	0.018	0.004	DIA	8	223
PHI47-1042-2-1002	PI47-1042-2	2	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P2	0.18	0.75	0.51	0.197	0.21	0.026	0.018	0.004	DIA	8	223
PHI47-1042-2-1004	PI47-1042-2	2	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P4	0.19	0.57	0.51	0.197	0.21	0.026	0.018	0.004	DIA	8	223
PHI47-1042-2-1012	PI47-1042-2	2	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P12	0.24	0.35	0.51	0.197	0.21	0.026	0.018	0.004	DIA	8	223
PHI47-1042-2-1013	PI47-1042-2	2	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P13	0.24	0.36	0.51	0.197	0.21	0.026	0.018	0.004	DIA	8	223
PHI47-1042-2-1014	PI47-1042-2	2	5.7	5.18	21.44	23.62	oval	oval	2 MW			5 P14	0.22	0.32	0.51	0.197	0.21	0.026	0.018	0.004	DIA	8	223
PHI47-1043-1-1001	PI47-1043-1	1	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW			4 P1	0.35	0.78	0.70	0.077	0.28	0.067	0.048	0.026	yes	8	231
PHI47-1043-1-1004	PI47-1043-1	1	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW			4 P4	0.34	0.74	0.70	0.077	0.28	0.067	0.048	0.026	yes	8	231
PHI47-1043-1-1011	PI47-1043-1	1	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW			4 P11	0.22	0.66	0.70	0.077	0.28	0.067	0.048	0.026	yes	8	231
PHI47-1043-1-1015	PI47-1043-1	1	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW			4 P15	0.24	0.61	0.70	0.077	0.28	0.067	0.048	0.026	yes	8	231

PotholeID	PthousID	Bld	L	W	RefFlr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VoSD	DUUsed	PtRef	PstRef
PHI47-1043-2-1001	PI47-1043-2	2	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW	4 P1	3 MW	4 P1	0.35	0.78	0.74	0.048	0.32	0.034	0.061	0.012	yes	8	231
PHI47-1043-2-1002	PI47-1043-2	2	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW	4 P2	3 MW	4 P2	0.27	0.76	0.74	0.048	0.32	0.034	0.061	0.012	yes	8	231
PHI47-1043-2-1003	PI47-1043-2	2	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW	4 P3	3 MW	4 P3	0.34	0.67	0.74	0.048	0.32	0.034	0.061	0.012	yes	8	231
PHI47-1043-2-1004	PI47-1043-2	2	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW	4 P4	3 MW	4 P4	0.34	0.74	0.74	0.048	0.32	0.034	0.061	0.012	yes	8	231
PHI47-1043-3-1001	PI47-1043-3	3	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW	4 P1	3 MW	4 P1	0.35	0.78	0.79	0.053	0.31	0.023	0.060	0.010	yes	8	231
PHI47-1043-3-1005	PI47-1043-3	3	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW	4 P5	3 MW	4 P5	0.31	0.79	0.79	0.053	0.31	0.023	0.060	0.010	yes	8	231
PHI47-1043-3-1006	PI47-1043-3	3	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW	4 P6	3 MW	4 P6	0.30	0.85	0.79	0.053	0.31	0.023	0.060	0.010	yes	8	231
PHI47-1043-3-1007	PI47-1043-3	3	5.61	4.96	23.8	22.26	rounded rectangle	oval	3 MW	4 P7	3 MW	4 P7	0.29	0.72	0.79	0.053	0.31	0.023	0.060	0.010	yes	8	231
PHI47-1044-1-1001	PI47-1044-1	1	4.24	4.23	15.81	14.35	circle	oval	3 M	4 P1	3 M	4 P1	0.21	0.46	0.52	0.112	0.17	0.027	0.012	0.002	DIA	8	238
PHI47-1044-1-1002	PI47-1044-1	1	4.24	4.23	15.81	14.35	circle	oval	3 M	4 P2	3 M	4 P2	0.18	0.43	0.52	0.112	0.17	0.027	0.012	0.002	DIA	8	238
PHI47-1044-1-1003	PI47-1044-1	1	4.24	4.23	15.81	14.35	circle	oval	3 M	4 P3	3 M	4 P3	0.16	0.50	0.52	0.112	0.17	0.027	0.012	0.002	DIA	8	238
PHI47-1044-1-1004	PI47-1044-1	1	4.24	4.23	15.81	14.35	circle	oval	3 M	4 P4	3 M	4 P4	0.15	0.68	0.52	0.112	0.17	0.027	0.012	0.002	DIA	8	238
PHI47-1044-2-1005	PI47-1044-2	2	5.24	4.74	20.57	19.87	oval	oval	3 M	5 P5	3 M	5 P5	0.23	0.60	0.56	0.076	0.23	0.035	0.022	0.005	DIA	8	238
PHI47-1044-2-1006	PI47-1044-2	2	5.24	4.74	20.57	19.87	oval	oval	3 M	5 P6	3 M	5 P6	0.27	0.44	0.56	0.076	0.23	0.035	0.022	0.005	DIA	8	238
PHI47-1044-2-1007	PI47-1044-2	2	5.24	4.74	20.57	19.87	oval	oval	3 M	5 P7	3 M	5 P7	0.18	0.52	0.56	0.076	0.23	0.035	0.022	0.005	DIA	8	238
PHI47-1044-2-1008	PI47-1044-2	2	5.24	4.74	20.57	19.87	oval	oval	3 M	5 P8	3 M	5 P8	0.23	0.59	0.56	0.076	0.23	0.035	0.022	0.005	DIA	8	238
PHI47-1044-2-1013	PI47-1044-2	2	5.24	4.74	20.57	19.87	oval	oval	3 M	5 P13	3 M	5 P13	0.22	0.63	0.56	0.076	0.23	0.035	0.022	0.005	DIA	8	238
PHI47-1044-3-1008	PI47-1044-3	3	5.69	5.32	24	24.22	oval	oval	3 M	5 P8	3 M	5 P8	0.23	0.59	0.58	0.041	0.26	0.034	0.031	0.009	DIA	8	238
PHI47-1044-3-1009	PI47-1044-3	3	5.69	5.32	24	24.22	oval	oval	3 M	5 P9	3 M	5 P9	0.22	0.57	0.58	0.041	0.26	0.034	0.031	0.009	DIA	8	238
PHI47-1044-3-1010	PI47-1044-3	3	5.69	5.32	24	24.22	oval	oval	3 M	5 P10	3 M	5 P10	0.27	0.52	0.58	0.041	0.26	0.034	0.031	0.009	DIA	8	238
PHI47-1044-3-1011	PI47-1044-3	3	5.69	5.32	24	24.22	oval	oval	3 M	5 P11	3 M	5 P11	0.25	0.63	0.58	0.041	0.26	0.034	0.031	0.009	DIA	8	238
PHI47-1044-3-1012	PI47-1044-3	3	5.69	5.32	24	24.22	oval	oval	3 M	5 P12	3 M	5 P12	0.31	0.60	0.58	0.041	0.26	0.034	0.031	0.009	DIA	8	238
PHI47-1045-1-1001	PI47-1045-1	NA	NA	NA	NA	NA	NA	NA	M	NA	NA	P1	0.31	0.32	NA	NA	NA	NA	NA	NA	NA	NA	246
PHI47-1045-1-1006	PI47-1045-1	NA	NA	NA	NA	NA	NA	NA	M	NA	NA	P6	0.38	0.30	NA	NA	NA	NA	NA	NA	NA	NA	246
PHI47-1045-1-1009	PI47-1045-1	NA	NA	NA	NA	NA	NA	NA	M	NA	NA	P9	0.27	0.50	NA	NA	NA	NA	NA	NA	NA	NA	246
PHI47-1045-1-1017	PI47-1045-1	NA	NA	NA	NA	NA	NA	NA	M	NA	NA	P17	0.28	0.50	NA	NA	NA	NA	NA	NA	NA	NA	246
PHI47-1045-2-1002	PI47-1045-2	2	5.3	4.42	17.11	18.74	oval?	oval	3 M	5 P2	3 M	5 P2	0.32	0.82	0.66	0.103	0.27	0.068	0.040	0.024	DIA	8	246
PHI47-1045-2-1003	PI47-1045-2	2	5.3	4.42	17.11	18.74	oval?	oval	3 M	5 P3	3 M	5 P3	0.35	0.68	0.66	0.103	0.27	0.068	0.040	0.024	DIA	8	246
PHI47-1045-2-1005	PI47-1045-2	2	5.3	4.42	17.11	18.74	oval?	oval	3 M	5 P5	3 M	5 P5	0.25	0.57	0.66	0.103	0.27	0.068	0.040	0.024	DIA	8	246
PHI47-1045-2-1007	PI47-1045-2	2	5.3	4.42	17.11	18.74	oval?	oval	3 M	5 P7	3 M	5 P7	0.18	0.66	0.66	0.103	0.27	0.068	0.040	0.024	DIA	8	246
PHI47-1045-2-1008	PI47-1045-2	2	5.3	4.42	17.11	18.74	oval?	oval	3 M	5 P8	3 M	5 P8	0.22	0.57	0.66	0.103	0.27	0.068	0.040	0.024	DIA	8	246
PHI47-1045-3-1002	PI47-1045-3	3	5.6	5	21.42	22.40	oval	oval	3 MW	6 P2	3 MW	6 P2	0.32	0.82	0.65	0.101	0.26	0.061	0.038	0.022	DIA	8	246
PHI47-1045-3-1003	PI47-1045-3	3	5.6	5	21.42	22.40	oval	oval	3 MW	6 P3	3 MW	6 P3	0.35	0.68	0.65	0.101	0.26	0.061	0.038	0.022	DIA	8	246
PHI47-1045-3-1007	PI47-1045-3	3	5.6	5	21.42	22.40	oval	oval	3 MW	6 P7	3 MW	6 P7	0.18	0.66	0.65	0.101	0.26	0.061	0.038	0.022	DIA	8	246
PHI47-1045-3-1008	PI47-1045-3	3	5.6	5	21.42	22.40	oval	oval	3 MW	6 P8	3 MW	6 P8	0.22	0.57	0.65	0.101	0.26	0.061	0.038	0.022	DIA	8	246
PHI47-1045-3-1014	PI47-1045-3	3	5.6	5	21.42	22.40	oval	oval	3 MW	6 P14	3 MW	6 P14	0.25	0.54	0.65	0.101	0.26	0.061	0.038	0.022	DIA	8	246
PHI47-1045-3-1016	PI47-1045-3	3	5.6	5	21.42	22.40	oval	oval	3 MW	6 P16	3 MW	6 P16	0.25	0.60	0.65	0.101	0.26	0.061	0.038	0.022	DIA	8	246
PHI47-1046-1-1001	PI47-1046-1	1	4.7	3.92	12.06	14.74	rounded square	oval	2 M	4 P1	2 M	4 P1	0.29	0.61	0.63	0.054	0.21	0.056	0.023	0.012	yes	8	252

PostholeID	PthHoleID	Bld	L	W	ReCFr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VoSD	DUUsed	PstRef	PstRef
PHI47-1046-1-1002	P147-1046-1	1	4.7	3.92	12.06	14.74	rounded square	oval	2 M	4 P2	0.18	0.68	0.63	0.054	0.21	0.056	0.023	0.012	yes	8	252		
	P147-1046-1	1	4.7	3.92	12.06	14.74	rounded square	oval	2 M	4 P5	0.21	0.66	0.63	0.054	0.21	0.056	0.023	0.012	yes	8	252		
	P147-1046-1	1	4.7	3.92	12.06	14.74	rounded square	oval	2 M	4 P11	0.16	0.56	0.63	0.054	0.21	0.056	0.023	0.012	yes	8	252		
PHI47-1046-2-1001	P147-1046-2	2	4.52	4.5	17.9	16.27	rounded square	oval	2 MW	4 P1	0.29	0.61	0.68	0.085	0.22	0.045	0.027	0.010	yes	8	252		
	P147-1046-2	2	4.52	4.5	17.9	16.27	rounded square	oval	2 MW	4 P2	0.18	0.68	0.68	0.085	0.22	0.045	0.027	0.010	yes	8	252		
	P147-1046-2	2	4.52	4.5	17.9	16.27	rounded square	oval	2 MW	4 P3	0.22	0.80	0.68	0.085	0.22	0.045	0.027	0.010	yes	8	252		
PHI47-1046-2-1003	P147-1046-2	2	4.52	4.5	17.9	16.27	rounded square	oval	2 MW	4 P4	0.20	0.63	0.68	0.085	0.22	0.045	0.027	0.010	yes	8	252		
	P147-1047-1	1	5.38	4.7	21.84	20.23	oval	oval	1 M	4-5?	P17	0.34	0.73	0.74	0.015	0.35	0.020	0.071	0.008	yes	8	252	
	P147-1047-1	1	5.38	4.7	21.84	20.23	oval	oval	1 M	4-5?	P18	0.34	0.76	0.74	0.015	0.35	0.020	0.071	0.008	yes	8	252	
PHI47-1047-1-1019	P147-1047-1	1	5.38	4.7	21.84	20.23	oval	oval	1 M	4-5?	P19	0.37	0.74	0.74	0.015	0.35	0.020	0.071	0.008	yes	8	252	
	P147-1049-1	1	4.9	4.5 NA		17.64	oval	oval	1 MW	4 P13	0.24	0.12	0.16	0.054	0.19	0.043	0.004	0.001	yes	8	176		
	P147-1049-1	1	4.9	4.5 NA		17.64	oval	oval	1 MW	4 P15	0.16	0.14	0.16	0.054	0.19	0.043	0.004	0.001	yes	8	176		
PHI47-1049-1-1016	P147-1049-1	1	4.9	4.5 NA		17.64	oval	oval	1 MW	4 P16	0.15	0.24	0.16	0.054	0.19	0.043	0.004	0.001	yes	8	176		
	P147-1049-1	1	4.9	4.5 NA		17.64	oval	oval	1 MW	4 P19	0.20	0.14	0.16	0.054	0.19	0.043	0.004	0.001	yes	8	176		
	P147-1049-2	2	4.9	4.5 NA		17.64	oval	oval	2 MW	5 P11	0.24	0.22	0.22	0.059	0.20	0.060	0.007	0.003	yes	8	176		
PHI47-1049-2-1011	P147-1049-2	2	4.9	4.5 NA		17.64	oval	oval	2 MW	5 P12	0.14	0.28	0.22	0.059	0.20	0.060	0.007	0.003	yes	8	176		
	P147-1049-2	2	4.9	4.5 NA		17.64	oval	oval	2 MW	5 P13	0.24	0.12	0.22	0.059	0.20	0.060	0.007	0.003	yes	8	176		
	P147-1049-2-1013	P147-1049-2	2	4.9	4.5 NA		17.64	oval	oval	2 MW	5 P20	0.24	0.24	0.22	0.059	0.20	0.060	0.007	0.003	yes	8	176	
PHI47-1049-2-1020	P147-1049-2	2	4.9	4.5 NA		17.64	oval	oval	2 MW	5 P37	0.12	0.22	0.22	0.059	0.20	0.060	0.007	0.003	yes	8	176		
	P147-1049-2	2	4.9	4.5 NA		17.64	oval	oval	n	M	5 P1	0.25	0.78	0.73	0.142	0.22	0.016	0.029	0.008	yes	8	171	
	P147-1050-1	1	5.15	4.85	19.78	19.98	circle/oval	oval	n	M	5 P2	0.21	0.66	0.73	0.142	0.22	0.016	0.029	0.008	yes	8	171	
PHI47-1050-1-1002	P147-1050-1	1	5.15	4.85	19.78	19.98	circle/oval	oval	n	M	5 P3	0.23	0.88	0.73	0.142	0.22	0.016	0.029	0.008	yes	8	171	
	P147-1050-1	1	5.15	4.85	19.78	19.98	circle/oval	oval	n	M	5 P4	0.21	0.52	0.73	0.142	0.22	0.016	0.029	0.008	yes	8	171	
	P147-1050-1	1	5.15	4.85	19.78	19.98	circle/oval	oval	n	M	5 P5	0.21	0.81	0.73	0.142	0.22	0.016	0.029	0.008	yes	8	171	
PHI47-1050-1-1005	P147-1050-1	1	5.15	4.85	19.78	19.98	circle/oval	oval	n	M	5 P1	0.16	0.65	0.69	0.046	0.15	0.005	0.012	0.001	yes	9	4	
	P148-1001-2	2	4.5	4	15.9	14.40	irregular pentagon	oval	2 W	circ	P1	0.22	0.99	0.84	0.165	0.16	0.027	0.019	0.009	yes	9	7	
	P148-1001-2	2	4.5	4	15.9	14.40	irregular pentagon	oval	2 W	circ	P2	0.15	0.72	0.69	0.046	0.15	0.005	0.012	0.001	yes	9	4	
PHI48-1001-2-1003	P148-1001-2	2	4.5	4	15.9	14.40	irregular pentagon	oval	2 W	circ	P3	0.15	0.63	0.69	0.046	0.15	0.005	0.012	0.001	yes	9	4	
	P148-1001-2	2	4.5	4	15.9	14.40	irregular pentagon	oval	2 W	circ	P4	0.15	0.74	0.69	0.046	0.15	0.005	0.012	0.001	yes	9	4	
	P148-1001-2	2	4.5	4	15.9	14.40	irregular pentagon	oval	2 W	circ	P6	0.15	0.69	0.69	0.046	0.15	0.005	0.012	0.001	yes	9	4	
PHI48-1001-2-1006	P148-1001-2	2	4.5	4	15.9	14.40	irregular pentagon	oval	2 W	circ	P1	0.22	0.99	0.84	0.165	0.16	0.027	0.019	0.009	yes	9	7	
	P148-1004-1	1	5.4	5.2	19.4	22.46	rounded square	oval	2 W	circ	P1	0.18	0.95	0.84	0.165	0.16	0.027	0.019	0.009	yes	9	7	
	P148-1004-1	1	5.4	5.2	19.4	22.46	rounded square	oval	2 W	circ	P6	0.16	1.01	0.84	0.165	0.16	0.027	0.019	0.009	yes	9	7	
PHI48-1004-1-1001	P148-1004-1	1	5.4	5.2	19.4	22.46	rounded square	oval	2 W	circ	P9	0.14	0.56	0.84	0.165	0.16	0.027	0.019	0.009	yes	9	7	
	P148-1004-1	1	5.4	5.2	19.4	22.46	rounded square	oval	2 W	circ	P24	0.14	0.70	0.84	0.165	0.16	0.027	0.019	0.009	yes	9	7	
	P148-1004-1	1	5.4	5.2	19.4	22.46	rounded square	oval	2 W	circ	P25	0.16	0.80	0.84	0.165	0.16	0.027	0.019	0.009	yes	9	7	
PHI48-1004-1-1025	P148-1004-1	1	5.4	5.2	19.4	22.46	rounded square	oval	2 W	circ	P28	0.14	0.86	0.84	0.165	0.16	0.027	0.019	0.009	yes	9	7	
	P148-1004-1	1	5.4	5.2	19.4	22.46	rounded square	oval	2 W	circ	P10	0.13	0.48	0.75	0.179	0.17	0.033	0.018	0.009	yes	9	7	
	P148-1004-2-1010	P148-1004-2	2	5.7	5.2	21.2	23.71	rounded square	oval	2 W	circ	P13	0.20	0.87	0.75	0.179	0.17	0.033	0.018	0.009	yes	9	7
PHI48-1004-2-1013	P148-1004-2	2	5.7	5.2	21.2	23.71	rounded square	oval	2 W	circ	P13	0.20	0.87	0.75	0.179	0.17	0.033	0.018	0.009	yes	9	7	

PotholeID	PthHoleID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PHI48-1004-2-1016	PH48-1004-2	2	5.7	5.2	21.2	23.71	rounded square	oval	2	W	circ	P16	0.19	0.88	0.75	0.179	0.17	0.033	0.018	0.009	yes	9	7
PHI48-1004-2-1018	PH48-1004-2	2	5.7	5.2	21.2	23.71	rounded square	oval	2	W	circ	P18	0.19	0.82	0.75	0.179	0.17	0.033	0.018	0.009	yes	9	7
PHI48-1004-2-1021	PH48-1004-2	2	5.7	5.2	21.2	23.71	rounded square	oval	2	W	circ	P21	0.13	0.87	0.75	0.179	0.17	0.033	0.018	0.009	yes	9	7
PHI48-1004-2-1022	PH48-1004-2	2	5.7	5.2	21.2	23.71	rounded square	oval	2	W	circ	P22	0.18	0.56	0.75	0.179	0.17	0.033	0.018	0.009	yes	9	7
PHI48-1012-1-1001	PH48-1012-1	1	4.3	4.2	16.4	14.45	irregular square	oval	n	M	circ	P1	0.21	0.30	NA	NA	0.17	0.024	NA	NA	DIA	9	10
PHI48-1012-1-1002	PH48-1012-1	1	4.3	4.2	16.4	14.45	irregular square	oval	n	M	circ	P2	0.20	0.30	NA	NA	0.17	0.024	NA	NA	DIA	9	10
PHI48-1012-1-1003	PH48-1012-1	1	4.3	4.2	16.4	14.45	irregular square	oval	n	M	circ	P3	0.17	0.52	NA	NA	0.17	0.024	NA	NA	DIA	9	10
PHI48-1012-1-1004	PH48-1012-1	1	4.3	4.2	16.4	14.45	irregular square	oval	n	M	circ	P4	0.17	0.37	NA	NA	0.17	0.024	NA	NA	DIA	9	10
PHI48-1012-1-1005	PH48-1012-1	1	4.3	4.2	16.4	14.45	irregular square	oval	n	M	circ	P5	0.13	0.34	NA	NA	0.17	0.024	NA	NA	DIA	9	10
PHI48-1012-1-1006	PH48-1012-1	1	4.3	4.2	16.4	14.45	irregular square	oval	n	M	circ	P6	0.18	0.36	NA	NA	0.17	0.024	NA	NA	DIA	9	10
PHI48-1012-1-1007	PH48-1012-1	1	4.3	4.2	16.4	14.45	irregular square	oval	n	M	circ	P7	0.14	NA	NA	NA	0.17	0.024	NA	NA	DIA	9	10
PHI48-1012-1-1008	PH48-1012-1	1	4.3	4.2	16.4	14.45	irregular square	oval	n	M	circ	P8	0.17	NA	NA	NA	0.17	0.024	NA	NA	DIA	9	10
PHI48-1012-1-1009	PH48-1012-1	1	4.3	4.2	16.4	14.45	irregular square	oval	n	M	circ	P9	0.19	NA	NA	NA	0.17	0.024	NA	NA	DIA	9	10
PHI48-1022-1-1002	PH48-1022-1	1	4.8	2.2	13.3	8.45	oval	oval	3	MW	4	P2	0.18	0.62	0.66	0.045	0.19	0.033	0.019	0.007	yes	9	17
PHI48-1022-1-1005	PH48-1022-1	1	4.8	2.2	13.3	8.45	oval	oval	3	MW	4	P5	0.23	0.68	0.66	0.045	0.19	0.033	0.019	0.007	yes	9	17
PHI48-1022-1-1006	PH48-1022-1	1	4.8	2.2	13.3	8.45	oval	oval	3	MW	4	P6	0.16	0.71	0.66	0.045	0.19	0.033	0.019	0.007	yes	9	17
PHI48-1022-1-1007	PH48-1022-1	1	4.8	2.2	13.3	8.45	oval	oval	3	MW	4	P7	0.20	0.62	0.66	0.045	0.19	0.033	0.019	0.007	yes	9	17
PHI48-1025-2-1001	PH48-1025-2	2	5.4	5.2	16	22.46	irregular circle	oval	2	MW	4	P1	0.16	0.77	0.72	0.066	0.20	0.051	0.024	0.013	yes	9	19
PHI48-1025-2-1002	PH48-1025-2	2	5.4	5.2	16	22.46	irregular circle	oval	2	MW	4	P2	0.22	0.71	0.72	0.066	0.20	0.051	0.024	0.013	yes	9	19
PHI48-1025-2-1003	PH48-1025-2	2	5.4	5.2	16	22.46	irregular circle	oval	2	MW	4	P3	0.26	0.77	0.72	0.066	0.20	0.051	0.024	0.013	yes	9	19
PHI48-1025-2-1004	PH48-1025-2	2	5.4	5.2	16	22.46	irregular circle	oval	2	MW	4	P4	0.16	0.63	0.72	0.066	0.20	0.051	0.024	0.013	yes	9	19
PHI48-1026-1-1001	PH48-1026-1	1	4.8	NA	11.2	NA	oval	oval	n	MW	5	P1	0.25	0.38	0.48	0.178	0.19	0.045	0.014	0.009	yes	9	21
PHI48-1026-1-1002	PH48-1026-1	1	4.8	NA	11.2	NA	oval	oval	n	MW	5	P2	0.18	0.36	0.48	0.178	0.19	0.045	0.014	0.009	yes	9	21
PHI48-1026-1-1004	PH48-1026-1	1	4.8	NA	11.2	NA	oval	oval	n	MW	5	P4	0.17	0.43	0.48	0.178	0.19	0.045	0.014	0.009	yes	9	21
PHI48-1026-1-1005	PH48-1026-1	1	4.8	NA	11.2	NA	oval	oval	n	MW	5	P5	0.21	0.79	0.48	0.178	0.19	0.045	0.014	0.009	yes	9	21
PHI48-1026-1-1006	PH48-1026-1	1	4.8	NA	11.2	NA	oval	oval	n	MW	5	P6	0.13	0.42	0.48	0.178	0.19	0.045	0.014	0.009	yes	9	21
PHI48-1028-1-1001	PH48-1028-1	1	4.3	3	11.7	10.32	circle	oval	n	M	5	P1	0.17	0.63	0.59	0.103	0.15	0.039	0.012	0.006	yes	9	23
PHI48-1028-1-1002	PH48-1028-1	1	4.3	3	11.7	10.32	circle	oval	n	M	5	P2	0.20	0.53	0.59	0.103	0.15	0.039	0.012	0.006	yes	9	23
PHI48-1028-1-1008	PH48-1028-1	1	4.3	3	11.7	10.32	circle	oval	n	M	5	P8	0.17	0.76	0.59	0.103	0.15	0.039	0.012	0.006	yes	9	23
PHI48-1028-1-1010	PH48-1028-1	1	4.3	3	11.7	10.32	circle	oval	n	M	5	P10	0.10	0.53	0.59	0.103	0.15	0.039	0.012	0.006	yes	9	23
PHI48-1028-1-1012	PH48-1028-1	1	4.3	3	11.7	10.32	circle	oval	n	M	5	P12	0.13	0.52	0.59	0.103	0.15	0.039	0.012	0.006	yes	9	23
PHI48-1029-2-1001	PH48-1029-2	2	5.3	4.6	16.4	19.50	oval	oval	2	M	4	P1	0.20	0.76	0.72	0.122	0.18	0.034	0.020	0.009	yes	9	24
PHI48-1029-2-1002	PH48-1029-2	2	5.3	4.6	16.4	19.50	oval	oval	2	M	4	P2	0.13	0.59	0.72	0.122	0.18	0.034	0.020	0.009	yes	9	24
PHI48-1029-2-1003	PH48-1029-2	2	5.3	4.6	16.4	19.50	oval	oval	2	M	4	P3	0.21	0.87	0.72	0.122	0.18	0.034	0.020	0.009	yes	9	24
PHI48-1029-2-1004	PH48-1029-2	2	5.3	4.6	16.4	19.50	oval	oval	2	M	4	P4	0.18	0.66	0.72	0.122	0.18	0.034	0.020	0.009	yes	9	24
PHI48-1030-1-1001	PH48-1030-1	1	4.6	3.8	13	13.98	oval	oval	n	MW	5	P1	0.08	0.35	0.59	0.247	0.20	0.116	0.029	0.029	yes	9	26
PHI48-1030-1-1002	PH48-1030-1	1	4.6	3.8	13	13.98	oval	oval	n	MW	5	P2	0.12	0.47	0.59	0.247	0.20	0.116	0.029	0.029	yes	9	26
PHI48-1030-1-1003	PH48-1030-1	1	4.6	3.8	13	13.98	oval	oval	n	MW	5	P3	0.32	0.63	0.59	0.247	0.20	0.116	0.029	0.029	yes	9	26

PostholeID	PthHoleID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dep	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
PHI48-1030-1-1004	PI48-1030-1	1	4.6	3.8	13	13.98	oval	oval	n	MW	5 P4	5 P4	0.28	0.92	0.59	0.247	0.20	0.116	0.029	yes	9	26	
PHI49-1001-1-1001	PI49-1001-1	1	5.3	NA	NA	NA	rounded square	oval	uk	MW	5 P1	5 P1	0.21	NA	NA	NA	0.18	0.045	NA	DIA	10	62	
PHI49-1001-1-1002	PI49-1001-1	1	5.3	NA	NA	NA	rounded square	oval	uk	MW	5 P2	5 P2	0.20	NA	NA	NA	0.18	0.045	NA	DIA	10	62	
PHI49-1001-1-1003	PI49-1001-1	1	5.3	NA	NA	NA	rounded square	oval	uk	MW	5 P3	5 P3	0.24	NA	NA	NA	0.18	0.045	NA	DIA	10	62	
PHI49-1001-1-1004	PI49-1001-1	1	5.3	NA	NA	NA	rounded square	oval	uk	MW	5 P4	5 P4	0.14	NA	NA	NA	0.18	0.045	NA	DIA	10	62	
PHI49-1001-1-1006	PI49-1001-1	1	5.3	NA	NA	NA	rounded square	oval	uk	MW	5 P6	5 P6	0.13	NA	NA	NA	0.18	0.045	NA	DIA	10	62	
PHI49-1002-1-1003	PI49-1002-1	1	3.54	NA	NA	9.84	circle	circle	2 M	M	5 P3	5 P3	0.13	NA	NA	NA	0.13	0.026	NA	DIA	10	66	
PHI49-1002-1-1007	PI49-1002-1	1	3.54	NA	NA	9.84	circle	circle	2 M	M	5 P7	5 P7	0.16	NA	NA	NA	0.13	0.026	NA	DIA	10	66	
PHI49-1002-1-1009	PI49-1002-1	1	3.54	NA	NA	9.84	circle	circle	2 M	M	5 P9	5 P9	0.14	NA	NA	NA	0.13	0.026	NA	DIA	10	66	
PHI49-1002-1-1012	PI49-1002-1	1	3.54	NA	NA	9.84	circle	circle	2 M	M	5 P12	5 P12	0.10	NA	NA	NA	0.13	0.026	NA	DIA	10	66	
PHI49-1002-1-1013	PI49-1002-1	1	3.54	NA	NA	9.84	circle	circle	2 M	M	5 P13	5 P13	0.11	NA	NA	NA	0.13	0.026	NA	DIA	10	66	
PHI49-1003-1-1001	PI49-1003-1	1	3.5	3.2	NA	8.96	circle/oval	oval	uk	M	4 P1	4 P1	0.15	NA	NA	NA	0.15	0.015	NA	DIA	10	71	
PHI49-1003-1-1002	PI49-1003-1	1	3.5	3.2	NA	8.96	circle/oval	oval	uk	M	4 P2	4 P2	0.13	NA	NA	NA	0.15	0.015	NA	DIA	10	71	
PHI49-1003-1-1003	PI49-1003-1	1	3.5	3.2	NA	8.96	circle/oval	oval	uk	M	4 P3	4 P3	0.16	NA	NA	NA	0.15	0.015	NA	DIA	10	71	
PHI49-1003-1-1004	PI49-1003-1	1	3.5	3.2	NA	8.96	circle/oval	oval	uk	M	4 P4	4 P4	0.16	NA	NA	NA	0.15	0.015	NA	DIA	10	71	
PHI49-1004-1-1001	PI49-1004-1	1	3.54	NA	NA	9.84	circle	circle	2 M	M	5 P1	5 P1	0.14	NA	NA	NA	0.13	0.027	NA	DIA	10	66	
PHI49-1004-1-1002	PI49-1004-1	1	3.54	NA	NA	9.84	circle	circle	2 M	M	5 P2	5 P2	0.13	NA	NA	NA	0.13	0.027	NA	DIA	10	66	
PHI49-1004-1-1005	PI49-1004-1	1	3.54	NA	NA	9.84	circle	circle	2 M	M	5 P5	5 P5	0.16	NA	NA	NA	0.13	0.027	NA	DIA	10	66	
PHI49-1004-1-1006	PI49-1004-1	1	3.54	NA	NA	9.84	circle	circle	2 M	M	5 P6	5 P6	0.12	NA	NA	NA	0.13	0.027	NA	DIA	10	66	
PHI49-1004-1-1014	PI49-1004-1	1	3.54	NA	NA	9.84	circle	circle	2 M	M	5 P14	5 P14	0.09	NA	NA	NA	0.13	0.027	NA	DIA	10	66	
PHI49-1010-1-1001	PI49-1010-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.14	0.56	NA	NA	NA	NA	NA	NA	NA	91	
PHI49-1010-1-1003	PI49-1010-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.08	0.36	NA	NA	NA	NA	NA	NA	NA	91	
PHI49-1010-1-1004	PI49-1010-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.16	0.34	NA	NA	NA	NA	NA	NA	NA	91	
PHI49-1010-1-1005	PI49-1010-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P5	0.16	0.34	NA	NA	NA	NA	NA	NA	NA	91	
PHI50-1012-1-1006	PI50-1012-1	1	3.9	3.4	NA	10.61	UK	oval	uk	uk	6 P6	6 P6	0.08	NA	NA	NA	0.12	0.028	NA	DIA	11	29	
PHI50-1012-1-1008	PI50-1012-1	1	3.9	3.4	NA	10.61	UK	oval	uk	uk	6 P8	6 P8	0.10	NA	NA	NA	0.12	0.028	NA	DIA	11	29	
PHI50-1012-1-1015	PI50-1012-1	1	3.9	3.4	NA	10.61	UK	oval	uk	uk	6 P15	6 P15	0.13	NA	NA	NA	0.12	0.028	NA	DIA	11	29	
PHI50-1012-1-1016	PI50-1012-1	1	3.9	3.4	NA	10.61	UK	oval	uk	uk	6 P16	6 P16	0.11	NA	NA	NA	0.12	0.028	NA	DIA	11	29	
PHI50-1012-1-1021	PI50-1012-1	1	3.9	3.4	NA	10.61	UK	oval	uk	uk	6 P21	6 P21	0.12	NA	NA	NA	0.12	0.028	NA	DIA	11	29	
PHI50-1012-1-1024	PI50-1012-1	1	3.9	3.4	NA	10.61	UK	oval	uk	uk	6 P24	6 P24	0.17	NA	NA	NA	0.12	0.028	NA	DIA	11	29	
PHI50-1026-1-1005	PI50-1026-1	1	4.35	3.8	NA	13.22	circle	oval	uk	W	circ	P5	0.12	NA	NA	NA	0.13	0.035	NA	DIA	11	66	
PHI50-1026-1-1006	PI50-1026-1	1	4.35	3.8	NA	13.22	circle	oval	uk	W	circ	P6	0.10	NA	NA	NA	0.13	0.035	NA	DIA	11	66	
PHI50-1026-1-1007	PI50-1026-1	1	4.35	3.8	NA	13.22	circle	oval	uk	W	circ	P7	0.10	NA	NA	NA	0.13	0.035	NA	DIA	11	66	
PHI50-1026-1-1008	PI50-1026-1	1	4.35	3.8	NA	13.22	circle	oval	uk	W	circ	P8	0.19	NA	NA	NA	0.13	0.035	NA	DIA	11	66	
PHI50-1026-1-1010	PI50-1026-1	1	4.35	3.8	NA	13.22	circle	oval	uk	W	circ	P10	0.13	NA	NA	NA	0.13	0.035	NA	DIA	11	66	
PHI50-1026-1-1012	PI50-1026-1	1	4.35	3.8	NA	13.22	circle	oval	uk	W	circ	P12	0.17	NA	NA	NA	0.13	0.035	NA	DIA	11	66	
PHI50-1026-1-1017	PI50-1026-1	1	4.35	3.8	NA	13.22	circle	oval	uk	W	circ	P17	0.13	NA	NA	NA	0.13	0.035	NA	DIA	11	66	
PHI50-1029-1-1002	PI50-1029-1	1	NA	NA	NA	NA	pentagon	oval	2 M	M	5 P2	5 P2	0.11	NA	NA	NA	0.12	0.047	NA	DIA	11	92	

PostholeID	PthHouseID	Bld	L	W	Reeflr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUsed	PthRef	PstRef
PHI50-1029-1-1010	P150-1029-1	1	NA	NA	NA	NA	pentagon	oval	2	M	5 P10	0.19 NA	NA	NA	NA	0.12	0.047 NA	NA	DIA	11	92	
PHI50-1029-1-1014	P150-1029-1	1	NA	NA	NA	NA	pentagon	oval	2	M	5 P14	0.07 NA	NA	NA	NA	0.12	0.047 NA	NA	DIA	11	92	
PHI50-1029-1-1025	P150-1029-1	1	NA	NA	NA	NA	pentagon	oval	2	M	5 P25	0.08 NA	NA	NA	NA	0.12	0.047 NA	NA	DIA	11	92	
PHI50-1029-1-1033	P150-1029-1	1	NA	NA	NA	NA	pentagon	oval	2	M	5 P33	0.13 NA	NA	NA	NA	0.12	0.047 NA	NA	DIA	11	92	
PHI50-1029-2-1002	P150-1029-2	2	4.2	4.2 NA	14.11	pentagon	oval	oval	2	M	5 P2	0.11 NA	NA	NA	NA	0.16	0.084 NA	NA	DIA	11	92	
PHI50-1029-2-1010	P150-1029-2	2	4.2	4.2 NA	14.11	pentagon	oval	oval	2	M	5 P10	0.19 NA	NA	NA	NA	0.16	0.084 NA	NA	DIA	11	92	
PHI50-1029-2-1016	P150-1029-2	2	4.2	4.2 NA	14.11	pentagon	oval	oval	2	M	5 P16	0.08 NA	NA	NA	NA	0.16	0.084 NA	NA	DIA	11	92	
PHI50-1029-2-1026	P150-1029-2	2	4.2	4.2 NA	14.11	pentagon	oval	oval	2	M	5 P26	0.30 NA	NA	NA	NA	0.16	0.084 NA	NA	DIA	11	92	
PHI50-1029-2-1033	P150-1029-2	2	4.2	4.2 NA	14.11	pentagon	oval	oval	2	M	5 P33	0.13 NA	NA	NA	NA	0.16	0.084 NA	NA	DIA	11	92	
PHI50-1036-1-1003	P150-1036-1	1	4.4	4.2 NA	14.78	circle	oval	oval	n	MW	5 P3	0.17 NA	NA	NA	NA	0.14	0.053 NA	NA	DIA	11	153	
PHI50-1036-1-1004	P150-1036-1	1	4.4	4.2 NA	14.78	circle	oval	oval	n	MW	5 P4	0.12 NA	NA	NA	NA	0.14	0.053 NA	NA	DIA	11	153	
PHI50-1036-1-1014	P150-1036-1	1	4.4	4.2 NA	14.78	circle	oval	oval	n	MW	5 P14	0.21 NA	NA	NA	NA	0.14	0.053 NA	NA	DIA	11	153	
PHI50-1036-1-1018	P150-1036-1	1	4.4	4.2 NA	14.78	circle	oval	oval	n	MW	5 P18	0.08 NA	NA	NA	NA	0.14	0.053 NA	NA	DIA	11	153	
PHI50-1036-1-1026	P150-1036-1	1	4.4	4.2 NA	14.78	circle	oval	oval	n	MW	5 P26	0.10 NA	NA	NA	NA	0.14	0.053 NA	NA	DIA	11	153	
PHI50-1037-1-1001	P150-1037-1	1	6	6 NA	28.80	UK	oval	oval	2	MW	uk P1	0.23 NA	NA	NA	NA	0.23	0.030 NA	NA	DIA	11	155	
PHI50-1037-1-1005	P150-1037-1	1	6	6 NA	28.80	UK	oval	oval	2	MW	uk P5	0.24 NA	NA	NA	NA	0.23	0.030 NA	NA	DIA	11	155	
PHI50-1037-1-1007	P150-1037-1	1	6	6 NA	28.80	UK	oval	oval	2	MW	uk P7	0.17 NA	NA	NA	NA	0.23	0.030 NA	NA	DIA	11	155	
PHI50-1037-1-1014	P150-1037-1	1	6	6 NA	28.80	UK	oval	oval	2	MW	uk P14	0.25 NA	NA	NA	NA	0.23	0.030 NA	NA	DIA	11	155	
PHI50-1037-1-1016	P150-1037-1	1	6	6 NA	28.80	UK	oval	oval	2	MW	uk P16	0.23 NA	NA	NA	NA	0.23	0.030 NA	NA	DIA	11	155	
PHI50-1037-1-1019	P150-1037-1	1	6	6 NA	28.80	UK	oval	oval	2	MW	uk P19	0.25 NA	NA	NA	NA	0.23	0.030 NA	NA	DIA	11	155	
PHI50-1037-2-1004	P150-1037-2	2	6	6 NA	28.80	UK	oval	oval	2	MW	uk P4	0.33 NA	NA	NA	NA	0.32	0.052 NA	NA	DIA	11	155	
PHI50-1037-2-1008	P150-1037-2	2	6	6 NA	28.80	UK	oval	oval	2	MW	uk P8	0.35 NA	NA	NA	NA	0.32	0.052 NA	NA	DIA	11	155	
PHI50-1037-2-1012	P150-1037-2	2	6	6 NA	28.80	UK	oval	oval	2	MW	uk P12	0.36 NA	NA	NA	NA	0.32	0.052 NA	NA	DIA	11	155	
PHI50-1037-2-1015	P150-1037-2	2	6	6 NA	28.80	UK	oval	oval	2	MW	uk P15	0.30 NA	NA	NA	NA	0.32	0.052 NA	NA	DIA	11	155	
PHI50-1037-2-1018	P150-1037-2	2	6	6 NA	28.80	UK	oval	oval	2	MW	uk P18	0.23 NA	NA	NA	NA	0.32	0.052 NA	NA	DIA	11	155	
PHI50-1038-1-1002	P150-1038-1	1	4.5	4.5 NA	16.20	circle-oval	oval	oval	n	M	5 P2	0.16 NA	NA	NA	NA	0.17	0.017 NA	NA	DIA	11	177	
PHI50-1038-1-1004	P150-1038-1	1	4.5	4.5 NA	16.20	circle-oval	oval	oval	n	M	5 P4	0.20 NA	NA	NA	NA	0.17	0.017 NA	NA	DIA	11	177	
PHI50-1038-1-1008	P150-1038-1	1	4.5	4.5 NA	16.20	circle-oval	oval	oval	n	M	5 P8	0.17 NA	NA	NA	NA	0.17	0.017 NA	NA	DIA	11	177	
PHI50-1038-1-1012	P150-1038-1	1	4.5	4.5 NA	16.20	circle-oval	oval	oval	n	M	5 P12	0.16 NA	NA	NA	NA	0.17	0.017 NA	NA	DIA	11	177	
PHI50-1038-1-1017	P150-1038-1	1	4.5	4.5 NA	16.20	circle-oval	oval	oval	n	M	5 P17	0.17 NA	NA	NA	NA	0.17	0.017 NA	NA	DIA	11	177	
PHI50-1041-1-1004	P150-1041-1	1	4.1	4 NA	13.12	circle-oval	oval	oval	n	uk	5 P4	0.24 NA	NA	NA	NA	0.16	0.055 NA	NA	DIA	11	197	
PHI50-1041-1-1007	P150-1041-1	1	4.1	4 NA	13.12	circle-oval	oval	oval	n	uk	5 P7	0.10 NA	NA	NA	NA	0.16	0.055 NA	NA	DIA	11	197	
PHI50-1041-1-1016	P150-1041-1	1	4.1	4 NA	13.12	circle-oval	oval	oval	n	uk	5 P16	0.17 NA	NA	NA	NA	0.16	0.055 NA	NA	DIA	11	197	
PHI50-1041-1-1021	P150-1041-1	1	4.1	4 NA	13.12	circle-oval	oval	oval	n	uk	5 P21	0.13 NA	NA	NA	NA	0.16	0.055 NA	NA	DIA	11	197	
PHI50-1041-1-1027	P150-1041-1	1	4.1	4 NA	13.12	circle-oval	oval	oval	n	uk	5 P27	0.13 NA	NA	NA	NA	0.16	0.055 NA	NA	DIA	11	197	
PHI50-1056-1-1050	P150-1056-1	1	4.5	4.2 NA	15.12	circle	oval	oval	2	MW	6 P50	0.11 NA	NA	NA	NA	0.19	0.046 NA	NA	DIA	11	250	
PHI50-1056-1-1052	P150-1056-1	1	4.5	4.2 NA	15.12	circle	oval	oval	2	MW	6 P52	0.21 NA	NA	NA	NA	0.19	0.046 NA	NA	DIA	11	250	
PHI50-1056-1-1053	P150-1056-1	1	4.5	4.2 NA	15.12	circle	oval	oval	2	MW	6 P53	0.25 NA	NA	NA	NA	0.19	0.046 NA	NA	DIA	11	250	

PostholeID	PthHoleID	Bld	L	W	RecfFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUsed	PthRef	PstRef
PHI50-1056-1-1055	P150-1056-1	1	4.5	4.2 NA		15.12 circle	oval	2 MW	6 P55	0.18 NA	NA	NA	0.19	0.046 NA	NA	DIA	11	250				
PHI50-1056-1-1057	P150-1056-1	1	4.5	4.2 NA		15.12 circle	oval	2 MW	6 P57	0.16 NA	NA	NA	0.19	0.046 NA	NA	DIA	11	250				
PHI50-1056-1-1062	P150-1056-1	1	4.5	4.2 NA		15.12 circle	oval	2 MW	6 P62	0.20 NA	NA	NA	0.19	0.046 NA	NA	DIA	11	250				
PHI50-1057-1-1001	P150-1057-1	1	4.5	3.2 NA		11.52 circle/oval	oval	uk	uk	P1	0.16 NA	NA	NA	0.17	0.045 NA	NA	DIA	11	250			
PHI50-1057-1-1002	P150-1057-1	1	4.5	3.2 NA		11.52 circle/oval	oval	uk	uk	P2	0.18 NA	NA	NA	0.17	0.045 NA	NA	DIA	11	250			
PHI50-1057-1-1003	P150-1057-1	1	4.5	3.2 NA		11.52 circle/oval	oval	uk	uk	P3	0.23 NA	NA	NA	0.17	0.045 NA	NA	DIA	11	250			
PHI50-1057-1-1004	P150-1057-1	1	4.5	3.2 NA		11.52 circle/oval	oval	uk	uk	P4	0.23 NA	NA	NA	0.17	0.045 NA	NA	DIA	11	250			
PHI50-1057-1-1005	P150-1057-1	1	4.5	3.2 NA		11.52 circle/oval	oval	uk	uk	P5	0.19 NA	NA	NA	0.17	0.045 NA	NA	DIA	11	250			
PHI50-1057-1-1006	P150-1057-1	1	4.5	3.2 NA		11.52 circle/oval	oval	uk	uk	P6	0.10 NA	NA	NA	0.17	0.045 NA	NA	DIA	11	250			
PHI50-1057-1-1007	P150-1057-1	1	4.5	3.2 NA		11.52 circle/oval	oval	uk	uk	P7	0.16 NA	NA	NA	0.17	0.045 NA	NA	DIA	11	250			
PHI50-1057-1-1009	P150-1057-1	1	4.5	3.2 NA		11.52 circle/oval	oval	uk	uk	P9	0.16 NA	NA	NA	0.17	0.045 NA	NA	DIA	11	250			
PHI50-1060-1-1001	P150-1060-1	1	3.2	3.2 NA		8.19 circle/oval	oval	n	M	6 P1	0.07 NA	NA	NA	0.16	0.067 NA	NA	DIA	11	269			
PHI50-1060-1-1002	P150-1060-1	1	3.2	3.2 NA		8.19 circle/oval	oval	n	M	6 P2	0.16 NA	NA	NA	0.16	0.067 NA	NA	DIA	11	269			
PHI50-1060-1-1003	P150-1060-1	1	3.2	3.2 NA		8.19 circle/oval	oval	n	M	6 P3	0.10 NA	NA	NA	0.16	0.067 NA	NA	DIA	11	269			
PHI50-1060-1-1004	P150-1060-1	1	3.2	3.2 NA		8.19 circle/oval	oval	n	M	6 P4	0.16 NA	NA	NA	0.16	0.067 NA	NA	DIA	11	269			
PHI50-1060-1-1005	P150-1060-1	1	3.2	3.2 NA		8.19 circle/oval	oval	n	M	6 P5	0.19 NA	NA	NA	0.16	0.067 NA	NA	DIA	11	269			
PHI50-1060-1-1006	P150-1060-1	1	3.2	3.2 NA		8.19 circle/oval	oval	n	M	6 P6	0.26 NA	NA	NA	0.16	0.067 NA	NA	DIA	11	269			
PHI50-1066-1-1002	P150-1066-1	1	3.3	3.1 NA		8.18 circle	oval	uk	uk	5 P2	0.08 NA	NA	NA	0.14	0.043 NA	NA	DIA	11	273			
PHI50-1066-1-1007	P150-1066-1	1	3.3	3.1 NA		8.18 circle	oval	uk	uk	5 P7	0.19 NA	NA	NA	0.14	0.043 NA	NA	DIA	11	273			
PHI50-1066-1-1009	P150-1066-1	1	3.3	3.1 NA		8.18 circle	oval	uk	uk	5 P9	0.14 NA	NA	NA	0.14	0.043 NA	NA	DIA	11	273			
PHI50-1066-1-1011	P150-1066-1	1	3.3	3.1 NA		8.18 circle	oval	uk	uk	5 P11	0.12 NA	NA	NA	0.14	0.043 NA	NA	DIA	11	273			
PHI50-1066-1-1014	P150-1066-1	1	3.3	3.1 NA		8.18 circle	oval	uk	uk	5 P14	0.16 NA	NA	NA	0.14	0.043 NA	NA	DIA	11	273			
PHI51-1012-1-1001	P151-1012-1	1	5.1	4.6 NA		18.77 rounded rectangle	oval	n	M	5 P1	0.21 NA	NA	NA	0.20	0.041 NA	NA	DIA	12	6			
PHI51-1012-1-1002	P151-1012-1	1	5.1	4.6 NA		18.77 rounded rectangle	oval	n	M	5 P2	0.25 NA	NA	NA	0.20	0.041 NA	NA	DIA	12	6			
PHI51-1012-1-1003	P151-1012-1	1	5.1	4.6 NA		18.77 rounded rectangle	oval	n	M	5 P3	0.14 NA	NA	NA	0.20	0.041 NA	NA	DIA	12	6			
PHI51-1012-1-1004	P151-1012-1	1	5.1	4.6 NA		18.77 rounded rectangle	oval	n	M	5 P4	0.21 NA	NA	NA	0.20	0.041 NA	NA	DIA	12	6			
PHI51-1012-1-1005	P151-1012-1	1	5.1	4.6 NA		18.77 rounded rectangle	oval	n	M	5 P5	0.22 NA	NA	NA	0.20	0.041 NA	NA	DIA	12	6			
PHI51-1015-1-1001	P151-1015-1	1	3.3	3.1 NA		8.18 rounded square/oval	oval	n	W	6 P1	0.13 NA	NA	NA	0.11	0.026 NA	NA	DIA	12	28			
PHI51-1015-1-1002	P151-1015-1	1	3.3	3.1 NA		8.18 rounded square/oval	oval	n	W	6 P2	0.08 NA	NA	NA	0.11	0.026 NA	NA	DIA	12	28			
PHI51-1015-1-1003	P151-1015-1	1	3.3	3.1 NA		8.18 rounded square/oval	oval	n	W	6 P3	0.10 NA	NA	NA	0.11	0.026 NA	NA	DIA	12	28			
PHI51-1015-1-1004	P151-1015-1	1	3.3	3.1 NA		8.18 rounded square/oval	oval	n	W	6 P4	0.15 NA	NA	NA	0.11	0.026 NA	NA	DIA	12	28			
PHI51-1015-1-1005	P151-1015-1	1	3.3	3.1 NA		8.18 rounded square/oval	oval	n	W	6 P5	0.11 NA	NA	NA	0.11	0.026 NA	NA	DIA	12	28			
PHI51-1015-1-1006	P151-1015-1	1	3.3	3.1 NA		8.18 rounded square/oval	oval	n	W	6 P6	0.08 NA	NA	NA	0.11	0.026 NA	NA	DIA	12	28			
PHI51-1027-1-1001	P151-1027-1	1	NA	NA	NA	NA	oval	2 MW	4 P1	0.18 NA	NA	NA	NA	0.17	0.050 NA	NA	DIA	12	55			
PHI51-1027-1-1008	P151-1027-1	1	NA	NA	NA	NA	oval	2 MW	4 P8	0.19 NA	NA	NA	NA	0.17	0.050 NA	NA	DIA	12	55			
PHI51-1027-1-1010	P151-1027-1	1	NA	NA	NA	NA	oval	2 MW	4 P10	0.10 NA	NA	NA	NA	0.17	0.050 NA	NA	DIA	12	55			
PHI51-1027-1-1029	P151-1027-1	1	NA	NA	NA	NA	oval	2 MW	4 P29	0.21 NA	NA	NA	NA	0.17	0.050 NA	NA	DIA	12	55			
PHI51-1027-2-1005	P151-1027-2	2	4.5	4.5 NA		16.20 circle-oval	oval	2 MW	5 P5	0.27 NA	NA	NA	NA	0.21	0.035 NA	NA	DIA	12	55			

PotholeID	PthousID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	MDep	DepSD	MDia	DiaSD	MVol	VolSD	DUsed	PtRef	PstRef
PHI51-1027-2-1012	P151-1027-2	2	4.5	4.5	NA	16.20	circle-oval	oval	2 MW	5 P12		5 P12	0.19 NA	NA	NA	0.21	0.035 NA	NA	DIA	12	55	
PHI51-1027-2-1021	P151-1027-2	2	4.5	4.5	NA	16.20	circle-oval	oval	2 MW	5 P21		5 P21	0.22 NA	NA	NA	0.21	0.035 NA	NA	DIA	12	55	
PHI51-1027-2-1022	P151-1027-2	2	4.5	4.5	NA	16.20	circle-oval	oval	2 MW	5 P22		5 P22	0.19 NA	NA	NA	0.21	0.035 NA	NA	DIA	12	55	
PHI51-1027-2-1028	P151-1027-2	2	4.5	4.5	NA	16.20	circle-oval	oval	2 MW	5 P28		5 P28	0.19 NA	NA	NA	0.21	0.035 NA	NA	DIA	12	55	
PHI52-1019-1-1001	P152-1019-1	1	4 NA	NA		12.57	circle	circle	no	M		4 P1	0.21 NA	NA	NA	0.19	0.047 NA	NA	DIA	13	23	
PHI52-1019-1-1001	P152-1019-1	1	4 NA	NA		12.57	circle	circle	no	M		4 P1	0.21 NA	NA	NA	0.19	0.047 NA	NA	DIA	13	23	
PHI52-1019-1-1001	P152-1019-1	1	4 NA	NA		12.57	circle	circle	no	M		4 P1	0.23 NA	NA	NA	0.19	0.047 NA	NA	DIA	13	23	
PHI52-1019-1-1001	P152-1019-1	1	4 NA	NA		12.57	circle	circle	no	M		4 P1	0.23 NA	NA	NA	0.19	0.047 NA	NA	DIA	13	23	
PHI52-1019-1-1003	P152-1019-1	1	4 NA	NA		12.57	circle	circle	no	M		4 P3	0.12 NA	NA	NA	0.19	0.047 NA	NA	DIA	13	23	
PHI52-1019-1-1004	P152-1019-1	1	4 NA	NA		12.57	circle	circle	no	M		4 P4	0.21 NA	NA	NA	0.19	0.047 NA	NA	DIA	13	23	
PHI52-1037-1-1001	P152-1037-1	1	5 NA	NA		19.63	UK	circle	n	M		7 P1	0.34 NA	NA	NA	0.28	0.056 NA	NA	DIA	13	35	
PHI52-1037-1-1002	P152-1037-1	1	5 NA	NA		19.63	UK	circle	n	M		7 P2	0.24 NA	NA	NA	0.28	0.056 NA	NA	DIA	13	35	
PHI52-1037-1-1003	P152-1037-1	1	5 NA	NA		19.63	UK	circle	n	M		7 P3	0.25 NA	NA	NA	0.28	0.056 NA	NA	DIA	13	35	
PHI52-1037-1-1004	P152-1037-1	1	5 NA	NA		19.63	UK	circle	n	M		7 P4	0.24 NA	NA	NA	0.28	0.056 NA	NA	DIA	13	35	
PHI52-1037-1-1005	P152-1037-1	1	5 NA	NA		19.63	UK	circle	n	M		7 P5	0.27 NA	NA	NA	0.28	0.056 NA	NA	DIA	13	35	
PHI52-1037-1-1006	P152-1037-1	1	5 NA	NA		19.63	UK	circle	n	M		7 P6	0.25 NA	NA	NA	0.28	0.056 NA	NA	DIA	13	35	
PHI52-1037-1-1007	P152-1037-1	1	5 NA	NA		19.63	UK	circle	n	M		7 P7	0.38 NA	NA	NA	0.28	0.056 NA	NA	DIA	13	35	
PHI52-1038-1-1001	P152-1038-1	1	4 NA	NA		12.57	circle?	circle	uk	M		4 P1	0.31 NA	NA	NA	0.27	0.031 NA	NA	DIA	13	36	
PHI52-1038-1-1002	P152-1038-1	1	4 NA	NA		12.57	circle?	circle	uk	M		4 P2	0.26 NA	NA	NA	0.27	0.031 NA	NA	DIA	13	36	
PHI52-1038-1-1003	P152-1038-1	1	4 NA	NA		12.57	circle?	circle	uk	M		4 P3	0.26 NA	NA	NA	0.27	0.031 NA	NA	DIA	13	36	
PHI52-1038-1-1004	P152-1038-1	1	4 NA	NA		12.57	circle?	circle	uk	M		4 P4	0.24 NA	NA	NA	0.27	0.031 NA	NA	DIA	13	36	
PHI52-1038-2-1004	P152-1038-2	2	4 NA	NA		12.57	circle?	circle	uk	M		4 P4	0.26 NA	NA	NA	0.24	0.018 NA	NA	DIA	13	36	
PHI52-1038-2-1005	P152-1038-2	2	4 NA	NA		12.57	circle?	circle	uk	M		4 P5	0.24 NA	NA	NA	0.24	0.018 NA	NA	DIA	13	36	
PHI52-1038-2-1006	P152-1038-2	2	4 NA	NA		12.57	circle?	circle	uk	M		4 P6	0.22 NA	NA	NA	0.24	0.018 NA	NA	DIA	13	36	
PHI52-1038-2-1007	P152-1038-2	2	4 NA	NA		12.57	circle?	circle	uk	M		4 P7	0.24 NA	NA	NA	0.24	0.018 NA	NA	DIA	13	36	
PHI53-1001-1-1001	P153-1001-1	1	4.1 NA	NA		13.20	circle	circle	n	W	44084 P1	0.15 NA	NA	NA	NA	0.15	0.018 NA	NA	DIA	14	8	
PHI53-1001-1-1002	P153-1001-1	1	4.1 NA	NA		13.20	circle	circle	n	W	44084 P2	0.16 NA	NA	NA	NA	0.15	0.018 NA	NA	DIA	14	8	
PHI53-1001-1-1003	P153-1001-1	1	4.1 NA	NA		13.20	circle	circle	n	W	44084 P3	0.16 NA	NA	NA	NA	0.15	0.018 NA	NA	DIA	14	8	
PHI53-1001-1-1004	P153-1001-1	1	4.1 NA	NA		13.20	circle	circle	n	W	44084 P4	0.16 NA	NA	NA	NA	0.15	0.018 NA	NA	DIA	14	8	
PHI53-1001-1-1005	P153-1001-1	1	4.1 NA	NA		13.20	circle	circle	n	W	44084 P5	0.16 NA	NA	NA	NA	0.15	0.018 NA	NA	DIA	14	8	
PHI53-1001-1-1006	P153-1001-1	1	4.1 NA	NA		13.20	circle	circle	n	W	44084 P6	0.17 NA	NA	NA	NA	0.15	0.018 NA	NA	DIA	14	8	
PHI53-1001-1-1007	P153-1001-1	1	4.1 NA	NA		13.20	circle	circle	n	W	44084 P7	0.12 NA	NA	NA	NA	0.15	0.018 NA	NA	DIA	14	8	
PHI53-2001-1-1001	P153-2001-1	1	3.1 NA	NA		7.55	circle	circle	n	M		4 P1	0.13	0.37	0.50	0.202	0.18	0.080	0.018	0.019 DIA	15	4
PHI53-2001-1-1002	P153-2001-1	1	3.1 NA	NA		7.55	circle	circle	n	M		4 P2	0.10	0.38	0.50	0.202	0.18	0.080	0.018	0.019 DIA	15	4
PHI53-2001-1-1003	P153-2001-1	1	3.1 NA	NA		7.55	circle	circle	n	M		4 P3	0.27	0.80	0.50	0.202	0.18	0.080	0.018	0.019 DIA	15	4
PHI53-2001-1-1004	P153-2001-1	1	3.1 NA	NA		7.55	circle	circle	n	M		4 P4	0.23	0.46	0.50	0.202	0.18	0.080	0.018	0.019 DIA	15	4
PHI55-1005-1-1001	P155-1005-1	1	5.5 NA		18.2 NA		rounded square	oval	2 MW	5 P1		5 P1	0.27	0.47	0.49	0.048	0.27	0.017	0.029	0.006 yes	18	67
PHI55-1005-1-1006	P155-1005-1	1	5.5 NA		18.2 NA		rounded square	oval	2 MW	5 P6		5 P6	0.27	0.55	0.49	0.048	0.27	0.017	0.029	0.006 yes	18	67

PotholeID	PthHoleID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PHI55-1005-1-1009	PHI55-1005-1	1	5.5	NA	18.2	NA	rounded square	oval	2	MW	5	P9	0.25	0.44	0.49	0.048	0.27	0.017	0.029	0.006	yes	18	67
PHI55-1005-1-1011	PHI55-1005-1	1	5.5	NA	18.2	NA	rounded square	oval	2	MW	5	P11	0.30	0.51	0.49	0.048	0.27	0.017	0.029	0.006	yes	18	67
PHI55-1005-2-1002	PHI55-1005-2	2	4.8	NA	NA	NA	rounded square	oval	n	MW	5	P2	0.25	0.51	0.53	0.088	0.25	0.039	0.026	0.009	yes	18	67
PHI55-1005-2-1005	PHI55-1005-2	2	4.8	NA	NA	NA	rounded square	oval	n	MW	5	P5	0.20	0.44	0.53	0.088	0.25	0.039	0.026	0.009	yes	18	67
PHI55-1005-2-1010	PHI55-1005-2	2	4.8	NA	NA	NA	rounded square	oval	n	MW	5	P10	0.25	0.65	0.53	0.088	0.25	0.039	0.026	0.009	yes	18	67
PHI55-1005-2-1011	PHI55-1005-2	2	4.8	NA	NA	NA	rounded square	oval	n	MW	5	P11	0.30	0.51	0.53	0.088	0.25	0.039	0.026	0.009	yes	18	67
PHI55-1007-1-1001	PHI55-1007-1	1	4	3.2	NA	10.24	rounded square	oval	uk	MW	5-6?	P1	0.25	0.45	0.54	0.075	0.22	0.064	0.022	0.011	yes	18	9
PHI55-1007-1-1002	PHI55-1007-1	1	4	3.2	NA	10.24	rounded square	oval	uk	MW	5-6?	P2	0.23	0.50	0.54	0.075	0.22	0.064	0.022	0.011	yes	18	9
PHI55-1007-1-1003	PHI55-1007-1	1	4	3.2	NA	10.24	rounded square	oval	uk	MW	5-6?	P3	0.28	0.59	0.54	0.075	0.22	0.064	0.022	0.011	yes	18	9
PHI55-1007-1-1004	PHI55-1007-1	1	4	3.2	NA	10.24	rounded square	oval	uk	MW	5-6?	P4	0.13	0.61	0.54	0.075	0.22	0.064	0.022	0.011	yes	18	9
PHI55-1008-1-1002	PHI55-1008-1	1	NA	NA	NA	NA	circle	oval	2	MW	5-6?	P2	0.21	0.74	0.69	0.054	0.23	0.038	0.029	0.007	yes	18	10
PHI55-1008-1-1004	PHI55-1008-1	1	NA	NA	NA	NA	circle	oval	2	MW	5-6?	P4	0.25	0.67	0.69	0.054	0.23	0.038	0.029	0.007	yes	18	10
PHI55-1008-1-1006	PHI55-1008-1	1	NA	NA	NA	NA	circle	oval	2	MW	5-6?	P6	0.26	0.65	0.69	0.054	0.23	0.038	0.029	0.007	yes	18	10
PHI55-1008-1-1009	PHI55-1008-1	1	NA	NA	NA	NA	circle	oval	2	MW	5-6?	P9	0.17	0.76	0.69	0.054	0.23	0.038	0.029	0.007	yes	18	10
PHI55-1008-1-1011	PHI55-1008-1	1	NA	NA	NA	NA	circle	oval	2	MW	5-6?	P11	0.26	0.64	0.69	0.054	0.23	0.038	0.029	0.007	yes	18	10
PHI55-1008-2-1001	PHI55-1008-2	2	5.7	5.35	19.16	24.40	circle	oval	2	MW	6	P1	0.27	0.74	0.77	0.065	0.28	0.047	0.049	0.018	yes	18	10
PHI55-1008-2-1003	PHI55-1008-2	2	5.7	5.35	19.16	24.40	circle	oval	2	MW	6	P3	0.28	0.75	0.77	0.065	0.28	0.047	0.049	0.018	yes	18	10
PHI55-1008-2-1005	PHI55-1008-2	2	5.7	5.35	19.16	24.40	circle	oval	2	MW	6	P5	0.33	0.81	0.77	0.065	0.28	0.047	0.049	0.018	yes	18	10
PHI55-1008-2-1008	PHI55-1008-2	2	5.7	5.35	19.16	24.40	circle	oval	2	MW	6	P8	0.34	0.79	0.77	0.065	0.28	0.047	0.049	0.018	yes	18	10
PHI55-1008-2-1012	PHI55-1008-2	2	5.7	5.35	19.16	24.40	circle	oval	2	MW	6	P12	0.22	0.68	0.77	0.065	0.28	0.047	0.049	0.018	yes	18	10
PHI55-1008-2-1014	PHI55-1008-2	2	5.7	5.35	19.16	24.40	circle	oval	2	MW	6	P14	0.24	0.87	0.77	0.065	0.28	0.047	0.049	0.018	yes	18	10
PHI55-1010-1-1006	PHI55-1010-1	1	4.2	3.8	11.6	12.77	rounded square	oval	n	MW	4	P6	0.22	0.64	0.61	0.077	0.20	0.021	0.019	0.006	yes	18	9
PHI55-1010-1-1009	PHI55-1010-1	1	4.2	3.8	11.6	12.77	rounded square	oval	n	MW	4	P9	0.22	0.68	0.61	0.077	0.20	0.021	0.019	0.006	yes	18	9
PHI55-1010-1-1011	PHI55-1010-1	1	4.2	3.8	11.6	12.77	rounded square	oval	n	MW	4	P11	0.18	0.61	0.61	0.077	0.20	0.021	0.019	0.006	yes	18	9
PHI55-1010-1-1014	PHI55-1010-1	1	4.2	3.8	11.6	12.77	rounded square	oval	n	MW	4	P14	0.18	0.50	0.61	0.077	0.20	0.021	0.019	0.006	yes	18	9
PHI55-1011-1-1012	PHI55-1011-1	1	5.4	5	21	21.60	rounded square	oval	y	MW	6	P12	0.31	0.63	0.55	0.150	0.28	0.040	0.035	0.012	yes	18	67
PHI55-1011-1-1013	PHI55-1011-1	1	5.4	5	21	21.60	rounded square	oval	y	MW	6	P13	0.31	0.44	0.55	0.150	0.28	0.040	0.035	0.012	yes	18	67
PHI55-1011-1-1014	PHI55-1011-1	1	5.4	5	21	21.60	rounded square	oval	y	MW	6	P14	0.32	0.47	0.55	0.150	0.28	0.040	0.035	0.012	yes	18	67
PHI55-1011-1-1015	PHI55-1011-1	1	5.4	5	21	21.60	rounded square	oval	y	MW	6	P15	0.22	0.44	0.55	0.150	0.28	0.040	0.035	0.012	yes	18	67
PHI55-1011-1-1016	PHI55-1011-1	1	5.4	5	21	21.60	rounded square	oval	y	MW	6	P16	0.27	0.78	0.55	0.150	0.28	0.040	0.035	0.012	yes	18	67
PHI55-1012-1-1018	PHI55-1012-1	2	5.2	4.7	16	19.55	irregular circle	oval	y	MW	6	P18	0.20	0.91	0.50	0.374	0.16	0.035	0.013	0.012	yes	18	67
PHI55-1012-1-1019	PHI55-1012-1	2	5.2	4.7	16	19.55	irregular circle	oval	y	MW	6	P19	0.18	0.60	0.50	0.374	0.16	0.035	0.013	0.012	yes	18	67
PHI55-1012-1-1020	PHI55-1012-1	2	5.2	4.7	16	19.55	irregular circle	oval	y	MW	6	P20	0.18	0.76	0.50	0.374	0.16	0.035	0.013	0.012	yes	18	67
PHI55-1012-1-1021	PHI55-1012-1	2	5.2	4.7	16	19.55	irregular circle	oval	y	MW	6	P21	0.11	0.08	0.50	0.374	0.16	0.035	0.013	0.012	yes	18	67
PHI55-1012-1-1022	PHI55-1012-1	2	5.2	4.7	16	19.55	irregular circle	oval	y	MW	6	P22	0.15	0.13	0.50	0.374	0.16	0.035	0.013	0.012	yes	18	67
PHI55-1012-1-1016	PHI55-1012-1	1	3.3	2.5	NA	6.60	rounded square	oval	n	M	uk	P16	0.14	0.43	0.42	0.015	0.15	0.028	0.008	0.003	yes	18	9
PHI55-1012-1-1018	PHI55-1012-1	1	3.3	2.5	NA	6.60	rounded square	oval	n	M	uk	P18	0.14	0.40	0.42	0.015	0.15	0.028	0.008	0.003	yes	18	9
PHI55-1012-1-1020	PHI55-1012-1	1	3.3	2.5	NA	6.60	rounded square	oval	n	M	uk	P20	0.19	0.42	0.42	0.015	0.15	0.028	0.008	0.003	yes	18	9

PotholeID	PthHouseID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PHI55-1013-1-1008	PHI55-1013-1	1	NA	NA	NA	NA	circle	oval	uk	MW		P8	0.14	0.33	0.48	0.160	0.14	0.003	0.007	0.002	yes	18	8
PHI55-1013-1-1011	PHI55-1013-1	1	NA	NA	NA	NA	circle	oval	uk	MW		P11	0.14	0.65	0.48	0.160	0.14	0.003	0.007	0.002	yes	18	8
PHI55-1013-1-1012	PHI55-1013-1	1	NA	NA	NA	NA	circle	oval	uk	MW		P12	0.13	0.47	0.48	0.160	0.14	0.003	0.007	0.002	yes	18	8
PHI55-1015-1-1005	PHI55-1015-1	1	4	3.6	10.7	11.52	circle/rounded square	oval		5?		P5	0.10	0.59	0.50	0.104	0.09	0.037	0.004	0.004	DIA	19	8
PHI55-1015-1-1008	PHI55-1015-1	1	4	3.6	10.7	11.52	circle/rounded square	oval		5?		P8	0.08	0.56	0.50	0.104	0.09	0.037	0.004	0.004	DIA	19	8
PHI55-1015-1-1009	PHI55-1015-1	1	4	3.6	10.7	11.52	circle/rounded square	oval		5?		P9	0.16	0.60	0.50	0.104	0.09	0.037	0.004	0.004	DIA	19	8
PHI55-1015-1-1010	PHI55-1015-1	1	4	3.6	10.7	11.52	circle/rounded square	oval		5?		P10	0.05	0.35	0.50	0.104	0.09	0.037	0.004	0.004	DIA	19	8
PHI55-1015-1-1012	PHI55-1015-1	1	4	3.6	10.7	11.52	circle/rounded square	oval		5?		P12	0.09	0.50	0.50	0.104	0.09	0.037	0.004	0.004	DIA	19	8
PHI55-1015-1-1014	PHI55-1015-1	1	4	3.6	10.7	11.52	circle/rounded square	oval		5?		P14	0.07	0.40	0.50	0.104	0.09	0.037	0.004	0.004	DIA	19	8
PHI55-1016-1-1001	PHI55-1016-1	1	3.4	NA	7.8	9.08	rounded square	circle	n	M		4 P1	0.08	0.28	0.42	0.141	0.09	0.017	0.003	0.001	DIA	19	9
PHI55-1016-1-1002	PHI55-1016-1	1	3.4	NA	7.8	9.08	rounded square	circle	n	M		4 P2	0.08	0.60	0.42	0.141	0.09	0.017	0.003	0.001	DIA	19	9
PHI55-1016-1-1003	PHI55-1016-1	1	3.4	NA	7.8	9.08	rounded square	circle	n	M		4 P3	0.09	0.34	0.42	0.141	0.09	0.017	0.003	0.001	DIA	19	9
PHI55-1016-1-1004	PHI55-1016-1	1	3.4	NA	7.8	9.08	rounded square	circle	n	M		4 P4	0.11	0.46	0.42	0.141	0.09	0.017	0.003	0.001	DIA	19	9
PHI55-1017-1-1001	PHI55-1017-1	1	4.5	NA	14	15.90	circle?	circle	n	M		4 P1	0.15	0.62	0.62	0.195	0.14	0.023	0.009	0.002	DIA	19	11
PHI55-1017-1-1002	PHI55-1017-1	1	4.5	NA	14	15.90	circle?	circle	n	M		4 P2	0.10	0.86	0.62	0.195	0.14	0.023	0.009	0.002	DIA	19	11
PHI55-1017-1-1003	PHI55-1017-1	1	4.5	NA	14	15.90	circle?	circle	n	M		4 P3	0.16	0.31	0.62	0.195	0.14	0.023	0.009	0.002	DIA	19	11
PHI55-1017-1-1004	PHI55-1017-1	1	4.5	NA	14	15.90	circle?	circle	n	M		4 P4	0.14	0.64	0.62	0.195	0.14	0.023	0.009	0.002	DIA	19	11
PHI55-1017-1-1005	PHI55-1017-1	1	4.5	NA	14	15.90	circle?	circle	n	M		4 P5	0.14	0.65	0.62	0.195	0.14	0.023	0.009	0.002	DIA	19	11
PHI55-1018-1-1007	PHI55-1018-1	1	3.05	NA	8	7.31	oval	circle	n	M	4?	P7	0.06	0.29	0.37	0.120	0.13	0.052	0.006	0.005	DIA	19	9
PHI55-1018-1-1017	PHI55-1018-1	1	3.05	NA	8	7.31	oval	circle	n	M	4?	P17	0.11	0.25	0.37	0.120	0.13	0.052	0.006	0.005	DIA	19	9
PHI55-1018-1-1018	PHI55-1018-1	1	3.05	NA	8	7.31	oval	circle	n	M	4?	P18	0.18	0.47	0.37	0.120	0.13	0.052	0.006	0.005	DIA	19	9
PHI55-1018-1-1021	PHI55-1018-1	1	3.05	NA	8	7.31	oval	circle	n	M	4?	P21	0.15	0.48	0.37	0.120	0.13	0.052	0.006	0.005	DIA	19	9
PHI55-1020-1-1001	PHI55-1020-1	1	3	NA	6.9	7.07	circle	circle	n	MW	4-5?	P1	0.10	0.45	0.53	0.097	0.09	0.023	0.003	0.001	yes	19	17
PHI55-1020-1-1002	PHI55-1020-1	1	3	NA	6.9	7.07	circle	circle	n	MW	4-5?	P2	0.12	0.44	0.53	0.097	0.09	0.023	0.003	0.001	yes	19	17
PHI55-1020-1-1003	PHI55-1020-1	1	3	NA	6.9	7.07	circle	circle	n	MW	4-5?	P3	0.07	0.60	0.53	0.097	0.09	0.023	0.003	0.001	yes	19	17
PHI55-1020-1-1004	PHI55-1020-1	1	3	NA	6.9	7.07	circle	circle	n	MW	4-5?	P4	0.09	0.51	0.53	0.097	0.09	0.023	0.003	0.001	yes	19	17
PHI55-1020-1-1005	PHI55-1020-1	1	3	NA	6.9	7.07	circle	circle	n	MW	4-5?	P5	0.07	0.66	0.53	0.097	0.09	0.023	0.003	0.001	yes	19	17
PHI55-1021-1-1001	PHI55-1021-1	1	4.2	NA	12.4	13.85	rounded square	circle	n	MW		5 P1	0.11	0.72	0.65	0.131	0.13	0.034	0.009	0.003	DIA	19	19
PHI55-1021-1-1002	PHI55-1021-1	1	4.2	NA	12.4	13.85	rounded square	circle	n	MW		5 P2	0.10	0.61	0.65	0.131	0.13	0.034	0.009	0.003	DIA	19	19
PHI55-1021-1-1005	PHI55-1021-1	1	4.2	NA	12.4	13.85	rounded square	circle	n	MW		5 P5	0.11	0.73	0.65	0.131	0.13	0.034	0.009	0.003	DIA	19	19
PHI55-1021-1-1006	PHI55-1021-1	1	4.2	NA	12.4	13.85	rounded square	circle	n	MW		5 P6	0.14	0.77	0.65	0.131	0.13	0.034	0.009	0.003	DIA	19	19
PHI55-1021-1-1007	PHI55-1021-1	1	4.2	NA	12.4	13.85	rounded square	circle	n	MW		5 P7	0.19	0.44	0.65	0.131	0.13	0.034	0.009	0.003	DIA	19	19
PHI55-1023-1-1001	PHI55-1023-1	1	4.95	4.75	17.1	18.81	rounded square	oval	n	MW		4 P1	0.26	0.69	0.55	0.278	0.25	0.028	0.030	0.017	yes	19	21
PHI55-1023-1-1002	PHI55-1023-1	1	4.95	4.75	17.1	18.81	rounded square	oval	n	MW		4 P2	0.27	0.78	0.55	0.278	0.25	0.028	0.030	0.017	yes	19	21
PHI55-1023-1-1003	PHI55-1023-1	1	4.95	4.75	17.1	18.81	rounded square	oval	n	MW		4 P3	0.26	0.56	0.55	0.278	0.25	0.028	0.030	0.017	yes	19	21
PHI55-1023-1-1004	PHI55-1023-1	1	4.95	4.75	17.1	18.81	rounded square	oval	n	MW		4 P4	0.21	0.15	0.55	0.278	0.25	0.028	0.030	0.017	yes	19	21
PHI55-1024-1-1001	PHI55-1024-1	1	4	NA	11	12.57	circle/pentagon	circle	n	MW		4 P1	0.20	0.83	0.73	0.109	0.18	0.035	0.020	0.010	yes	19	24
PHI55-1024-1-1002	PHI55-1024-1	1	4	NA	11	12.57	circle/pentagon	circle	n	MW		4 P2	0.21	0.82	0.73	0.109	0.18	0.035	0.020	0.010	yes	19	24

PotholeID	PthHouseID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PHI55-1024-1-1003	PI55-1024-1	1	4	NA	11	12.57	circle/pentagon	circle	n	MW	4	P3	0.14	0.63	0.73	0.109	0.18	0.035	0.020	0.010	yes	19	24
PHI55-1024-1-1004	PI55-1024-1	1	4	NA	11	12.57	circle/pentagon	circle	n	MW	4	P4	0.16	0.65	0.73	0.109	0.18	0.035	0.020	0.010	yes	19	24
PHI55-1025-1-1001	PI55-1025-1	1	4.6	3.9	14.3	14.35	oval	oval	n	MW	6	P1	0.18	0.90	0.72	0.142	0.17	0.045	0.017	0.011	DIA	19	27
PHI55-1025-1-1002	PI55-1025-1	1	4.6	3.9	14.3	14.35	oval	oval	n	MW	6	P2	0.24	0.73	0.72	0.142	0.17	0.045	0.017	0.011	DIA	19	27
PHI55-1025-1-1003	PI55-1025-1	1	4.6	3.9	14.3	14.35	oval	oval	n	MW	6	P3	0.12	0.60	0.72	0.142	0.17	0.045	0.017	0.011	DIA	19	27
PHI55-1025-1-1004	PI55-1025-1	1	4.6	3.9	14.3	14.35	oval	oval	n	MW	6	P4	0.12	0.58	0.72	0.142	0.17	0.045	0.017	0.011	DIA	19	27
PHI55-1025-1-1005	PI55-1025-1	1	4.6	3.9	14.3	14.35	oval	oval	n	MW	6	P5	0.16	0.61	0.72	0.142	0.17	0.045	0.017	0.011	DIA	19	27
PHI55-1025-1-1006	PI55-1025-1	1	4.6	3.9	14.3	14.35	oval	oval	n	MW	6	P6	0.18	0.87	0.72	0.142	0.17	0.045	0.017	0.011	DIA	19	27
PHI55-1027-1-1001	PI55-1027-1	1	5.3	NA	20.5	22.06	circle	circle	n	MW	6	P1	0.13	0.57	0.46	0.073	0.19	0.057	0.013	0.007	yes	19	30
PHI55-1027-1-1003	PI55-1027-1	1	5.3	NA	20.5	22.06	circle	circle	n	MW	6	P3	0.26	0.43	0.46	0.073	0.19	0.057	0.013	0.007	yes	19	30
PHI55-1027-1-1005	PI55-1027-1	1	5.3	NA	20.5	22.06	circle	circle	n	MW	6	P5	0.21	0.41	0.46	0.073	0.19	0.057	0.013	0.007	yes	19	30
PHI55-1027-1-1007	PI55-1027-1	1	5.3	NA	20.5	22.06	circle	circle	n	MW	6	P7	0.16	0.45	0.46	0.073	0.19	0.057	0.013	0.007	yes	19	30
PHI55-1029-1-1001	PI55-1029-1	1	4.4	4.2	13.7	14.78	oval	oval	n	MW	5	P1	0.23	0.63	0.65	0.098	0.20	0.047	0.022	0.010	DIA	19	28
PHI55-1029-1-1002	PI55-1029-1	1	4.4	4.2	13.7	14.78	oval	oval	n	MW	5	P2	0.23	0.79	0.65	0.098	0.20	0.047	0.022	0.010	DIA	19	28
PHI55-1029-1-1003	PI55-1029-1	1	4.4	4.2	13.7	14.78	oval	oval	n	MW	5	P3	0.13	0.54	0.65	0.098	0.20	0.047	0.022	0.010	DIA	19	28
PHI55-1029-1-1004	PI55-1029-1	1	4.4	4.2	13.7	14.78	oval	oval	n	MW	5	P4	0.18	0.70	0.65	0.098	0.20	0.047	0.022	0.010	DIA	19	28
PHI55-1029-1-1005	PI55-1029-1	1	4.4	4.2	13.7	14.78	oval	oval	n	MW	5	P5	0.24	0.58	0.65	0.098	0.20	0.047	0.022	0.010	DIA	19	28
PHI55-2004-1-1001	PI55-2004-1	1	3.8	3.5	8.9	10.64	rounded square	oval	n	M	4	P1	0.11	0.77	0.71	0.161	0.14	0.026	0.011	0.006	yes	18	4
PHI55-2004-1-1003	PI55-2004-1	1	3.8	3.5	8.9	10.64	rounded square	oval	n	M	4	P3	0.16	0.72	0.71	0.161	0.14	0.026	0.011	0.006	yes	18	4
PHI55-2004-1-1006	PI55-2004-1	1	3.8	3.5	8.9	10.64	rounded square	oval	n	M	4	P6	0.11	0.49	0.71	0.161	0.14	0.026	0.011	0.006	yes	18	4
PHI55-2004-1-1007	PI55-2004-1	1	3.8	3.5	8.9	10.64	rounded square	oval	n	M	4	P7	0.16	0.87	0.71	0.161	0.14	0.026	0.011	0.006	yes	18	4
PHI56-1001-1-1001	PI56-1001-1	1	4.7	4.5	NA	16.92	circle	oval	2	M	6	P1	0.13	NA	NA	NA	0.13	0.018	NA	NA	DIA	21	7
PHI56-1001-1-1005	PI56-1001-1	1	4.7	4.5	NA	16.92	circle	oval	2	M	6	P5	0.15	NA	NA	NA	0.13	0.018	NA	NA	DIA	21	7
PHI56-1001-1-1006	PI56-1001-1	1	4.7	4.5	NA	16.92	circle	oval	2	M	6	P6	0.10	NA	NA	NA	0.13	0.018	NA	NA	DIA	21	7
PHI56-1001-1-1008	PI56-1001-1	1	4.7	4.5	NA	16.92	circle	oval	2	M	6	P8	0.14	NA	NA	NA	0.13	0.018	NA	NA	DIA	21	7
PHI56-1001-1-1011	PI56-1001-1	1	4.7	4.5	NA	16.92	circle	oval	2	M	6	P11	0.14	NA	NA	NA	0.13	0.018	NA	NA	DIA	21	7
PHI56-2001-1-1001	PI56-2001-1	1	4.1	3.9	NA	12.79	circle	oval	y?	M	4	P1	0.13	0.48	0.60	0.077	0.17	0.073	0.016	0.016	yes	20	4
PHI56-2001-1-1002	PI56-2001-1	1	4.1	3.9	NA	12.79	circle	oval	y?	M	4	P2	0.14	0.64	0.60	0.077	0.17	0.073	0.016	0.016	yes	20	4
PHI56-2001-1-1003	PI56-2001-1	1	4.1	3.9	NA	12.79	circle	oval	y?	M	4	P3	0.28	0.64	0.60	0.077	0.17	0.073	0.016	0.016	yes	20	4
PHI56-2001-1-1004	PI56-2001-1	1	4.1	3.9	NA	12.79	circle	oval	y?	M	4	P4	0.14	0.62	0.60	0.077	0.17	0.073	0.016	0.016	yes	20	4
PHI56-2002-1-1001	PI56-2002-1	1	4.2	NA	NA	13.85	oval	circle	n	M	4-5?	P1	0.16	NA	NA	NA	0.21	0.052	NA	NA	DIA	20	5
PHI56-2002-1-1002	PI56-2002-1	1	4.2	NA	NA	13.85	oval	circle	n	M	4-5?	P2	0.28	NA	NA	NA	0.21	0.052	NA	NA	DIA	20	5
PHI56-2002-1-1003	PI56-2002-1	1	4.2	NA	NA	13.85	oval	circle	n	M	4-5?	P3	0.15	NA	NA	NA	0.21	0.052	NA	NA	DIA	20	5
PHI56-2002-1-1004	PI56-2002-1	1	4.2	NA	NA	13.85	oval	circle	n	M	4-5?	P4	0.24	NA	NA	NA	0.21	0.052	NA	NA	DIA	20	5
PHI56-2002-1-1005	PI56-2002-1	1	4.2	NA	NA	13.85	oval	circle	n	M	4-5?	P5	0.21	NA	NA	NA	0.21	0.052	NA	NA	DIA	20	5
PHI245-1001-1-1002	P245-1001-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P2	0.35	0.72	NA	NA	NA	NA	NA	NA	NA	NA	6
PHI245-1001-1-1003	P245-1001-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P3	0.20	0.68	NA	NA	NA	NA	NA	NA	NA	NA	6
PHI245-1001-1-1004	P245-1001-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P4	0.33	0.86	NA	NA	NA	NA	NA	NA	NA	NA	6

PestholeID	PitHouseID	Bld	L	W	RecFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MTol	VolSD	DUUsed	PstRef	PstRef
PH245-1001-1-1005	P245-1001-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P5	0.28	0.87	NA	NA	NA	NA	NA	NA	NA	6	
PH245-1001-2-1006	P245-1001-2	2	5.6	4.6	NA	20.61	oval	oval	y?	M	43990 P1	P6	0.25	0.78	0.76	0.103	0.26	0.038	0.042	0.018	yes	23	6
PH245-1001-2-1007	P245-1001-2	2	5.6	4.6	NA	20.61	oval	oval	y?	M	43990 P2	P7	0.27	0.74	0.76	0.103	0.26	0.038	0.042	0.018	yes	23	6
PH245-1001-2-1009	P245-1001-2	2	5.6	4.6	NA	20.61	oval	oval	y?	M	43990 P3	P9	0.25	0.62	0.76	0.103	0.26	0.038	0.042	0.018	yes	23	6
PH245-1001-2-1010	P245-1001-2	2	5.6	4.6	NA	20.61	oval	oval	y?	M	43990 P4	P10	0.26	0.77	0.76	0.103	0.26	0.038	0.042	0.018	yes	23	6
PH245-1001-2-1011	P245-1001-2	2	5.6	4.6	NA	20.61	oval	oval	y?	M	43990 P5	P11	0.21	0.70	0.76	0.103	0.26	0.038	0.042	0.018	yes	23	6
PH245-1001-2-1012	P245-1001-2	2	5.6	4.6	NA	20.61	oval	oval	y?	M	43990 P6	P12	0.32	0.93	0.76	0.103	0.26	0.038	0.042	0.018	yes	23	6
PH245-1010-1-1032	P245-1010-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P32	0.22	0.32	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-1-1039	P245-1010-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P39	0.12	0.39	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-1-1046	P245-1010-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P46	0.16	0.46	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-1-1058	P245-1010-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P58	0.16	0.58	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-1-1063	P245-1010-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P63	0.21	0.63	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-2-1080	P245-1010-2	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P80	0.36	0.80	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-2-1088	P245-1010-2	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P88	0.16	0.88	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-2-1090	P245-1010-2	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P90	0.59	0.90	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-2-1100	P245-1010-2	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P100	0.41	1.00	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-2-1109	P245-1010-2	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P109	0.31	1.09	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-3-1068	P245-1010-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P68	0.21	0.68	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-3-1075	P245-1010-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P75	0.20	0.75	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-3-1077	P245-1010-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P77	0.35	0.77	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-3-1090	P245-1010-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P90	0.12	0.90	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-3-1090	P245-1010-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P90	0.12	0.90	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-3-1090	P245-1010-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P90	0.59	0.90	NA	NA	NA	NA	NA	NA	NA	4	
PH245-1010-3-1090	P245-1010-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P90	0.59	0.90	NA	NA	NA	NA	NA	NA	NA	4	
PH246-1028-1-1001	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P1	P1	0.08	0.50	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH246-1028-1-1002	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P2	P2	0.06	0.35	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH246-1028-1-1003	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P3	P3	0.08	0.52	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH246-1028-1-1005	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P5	P5	0.08	0.51	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH246-1028-1-1006	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P6	P6	0.07	0.60	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH246-1028-1-1007	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P7	P7	0.09	0.50	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH246-1028-1-1008	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P8	P8	0.08	0.60	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH246-1028-1-1009	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P9	P9	0.03	0.40	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH246-1028-1-1010	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P10	P10	0.07	0.50	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH246-1028-1-1011	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P11	P11	0.04	0.35	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH246-1028-1-1014	P246-1028-1	1	4.5	4.5	NA	16.20	oval	oval	y?	M	43990 P14	P14	0.09	0.31	0.47	0.100	0.07	0.020	0.002	0.001	yes	25	20
PH248-1001-1-1001	P248-1001-1	1	3.3	2.8	NA	7.39 rounded square		oval	rep	M	4 P1	4 P1	0.15	0.49	0.40	0.183	0.14	0.023	0.006	0.002	yes	27	5
PH248-1001-1-1002	P248-1001-1	1	3.3	2.8	NA	7.39 rounded square		oval	rep	M	4 P2	4 P2	0.16	0.38	0.40	0.183	0.14	0.023	0.006	0.002	yes	27	5
PH248-1001-1-1003	P248-1001-1	1	3.3	2.8	NA	7.39 rounded square		oval	rep	M	4 P3	4 P3	0.15	0.21	0.40	0.183	0.14	0.023	0.006	0.002	yes	27	5

PestholeID	PitHouseID	Bld	L	W	RefFlr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVal	VolSD	DUUsed	PstRef	PstRef
PH248-1001-1-1004	P248-1001-1	1	3.3	2.8	NA	7.39	rounded square	oval	rep	M	4	P4	0.10	0.67	0.40	0.183	0.14	0.023	0.006	0.002	yes	27	5
PH248-1001-1-1005	P248-1001-1	1	3.3	2.8	NA	7.39	rounded square	oval	rep	M	4	P5	0.15	0.27	0.40	0.183	0.14	0.023	0.006	0.002	yes	27	5
PH249-1001-1-1001	P249-1001-1	1	4.7	4	NA	15.04	UK	oval	2	MW	5	P1	0.19	0.60	0.62	0.057	0.19	0.034	0.019	0.006	DIA	28	5
PH249-1001-1-1002	P249-1001-1	1	4.7	4	NA	15.04	UK	oval	2	MW	5	P2	0.18	0.65	0.62	0.057	0.19	0.034	0.019	0.006	DIA	28	5
PH249-1001-1-1003	P249-1001-1	1	4.7	4	NA	15.04	UK	oval	2	MW	5	P3	0.24	0.55	0.62	0.057	0.19	0.034	0.019	0.006	DIA	28	5
PH249-1001-1-1004	P249-1001-1	1	4.7	4	NA	15.04	UK	oval	2	MW	5	P4	0.15	0.60	0.62	0.057	0.19	0.034	0.019	0.006	DIA	28	5
PH249-1001-1-1009	P249-1001-1	1	4.7	4	NA	15.04	UK	oval	2	MW	5	P9	0.21	0.70	0.62	0.057	0.19	0.034	0.019	0.006	DIA	28	5
PH249-1001-2-1001	P249-1001-2	2	5	4.7	NA	18.80	UK	oval	2	MW	9?	P1	0.19	0.60	0.61	0.127	0.20	0.049	0.019	0.009	DIA	28	5
PH249-1001-2-1002	P249-1001-2	2	5	4.7	NA	18.80	UK	oval	2	MW	9?	P2	0.18	0.65	0.61	0.127	0.20	0.049	0.019	0.009	DIA	28	5
PH249-1001-2-1003	P249-1001-2	2	5	4.7	NA	18.80	UK	oval	2	MW	9?	P3	0.24	0.55	0.61	0.127	0.20	0.049	0.019	0.009	DIA	28	5
PH249-1001-2-1004	P249-1001-2	2	5	4.7	NA	18.80	UK	oval	2	MW	9?	P4	0.15	0.60	0.61	0.127	0.20	0.049	0.019	0.009	DIA	28	5
PH249-1001-2-1005	P249-1001-2	2	5	4.7	NA	18.80	UK	oval	2	MW	9?	P5	0.16	0.50	0.61	0.127	0.20	0.049	0.019	0.009	DIA	28	5
PH249-1001-2-1006	P249-1001-2	2	5	4.7	NA	18.80	UK	oval	2	MW	9?	P6	0.13	0.85	0.61	0.127	0.20	0.049	0.019	0.009	DIA	28	5
PH249-1001-2-1007	P249-1001-2	2	5	4.7	NA	18.80	UK	oval	2	MW	9?	P7	0.23	0.40	0.61	0.127	0.20	0.049	0.019	0.009	DIA	28	5
PH249-1001-2-1008	P249-1001-2	2	5	4.7	NA	18.80	UK	oval	2	MW	9?	P8	0.28	0.65	0.61	0.127	0.20	0.049	0.019	0.009	DIA	28	5
PH249-1001-2-1009	P249-1001-2	2	5	4.7	NA	18.80	UK	oval	2	MW	9?	P9	0.21	0.70	0.61	0.127	0.20	0.049	0.019	0.009	DIA	28	5
PH251-1004-1-1001	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P1	0.15	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1002	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P2	0.14	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1003	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P3	0.18	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1004	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P4	0.13	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1005	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P5	0.13	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1006	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P6	0.12	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1007	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P7	0.15	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1008	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P8	0.16	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1009	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P9	0.15	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1010	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P10	0.15	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1011	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P11	0.13	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH251-1004-1-1012	P251-1004-1	1	5.11	4.99	NA	20.40	rounded square	oval	n	M	circ	P12	0.13	NA	NA	NA	0.14	0.016	NA	NA	DIA	30	14
PH255-1001-1-1001	P255-1001-1	1	3	NA	NA	7.07	circle	circle	n	M	4	P1	0.13	0.62	0.60	0.120	0.14	0.024	0.010	0.006	DIA	34	4
PH255-1001-1-1002	P255-1001-1	1	3	NA	NA	7.07	circle	circle	n	M	4	P2	0.18	0.75	0.60	0.120	0.14	0.024	0.010	0.006	DIA	34	4
PH255-1001-1-1003	P255-1001-1	1	3	NA	NA	7.07	circle	circle	n	M	4	P3	0.13	0.58	0.60	0.120	0.14	0.024	0.010	0.006	DIA	34	4
PH255-1001-1-1004	P255-1001-1	1	3	NA	NA	7.07	circle	circle	n	M	4	P4	0.12	0.46	0.60	0.120	0.14	0.024	0.010	0.006	DIA	34	4
PH256-1037-1-1001	P256-1037-1	1	4.6	4.45	NA	16.38	rounded rectangle	oval	2	MW	4	P1	0.24	NA	NA	NA	0.21	0.024	NA	NA	DIA	36	14
PH256-1037-1-1002	P256-1037-1	1	4.6	4.45	NA	16.38	rounded rectangle	oval	2	MW	4	P2	0.18	NA	NA	NA	0.21	0.024	NA	NA	DIA	36	14
PH256-1037-1-1003	P256-1037-1	1	4.6	4.45	NA	16.38	rounded rectangle	oval	2	MW	4	P3	0.20	NA	NA	NA	0.21	0.024	NA	NA	DIA	36	14
PH256-1037-1-1004	P256-1037-1	1	4.6	4.45	NA	16.38	rounded rectangle	oval	2	MW	4	P4	0.22	NA	NA	NA	0.21	0.024	NA	NA	DIA	36	14
PH256-1037-2-1005	P256-1037-2	2	5.3	5.1	NA	21.62	rounded rectangle	oval	2	MW	5	P5	0.27	NA	NA	NA	0.22	0.040	NA	NA	DIA	36	14
PH256-1037-2-1006	P256-1037-2	2	5.3	5.1	NA	21.62	rounded rectangle	oval	2	MW	5	P6	0.20	NA	NA	NA	0.22	0.040	NA	NA	DIA	36	14

PotholeID	PitHouseID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PitRef	PstRef
PH256-1037-2-1007	P256-1037-2	2	5.3	5.1	NA	21.62	rounded rectangle	oval	2	MW	5	P7	0.17	NA	NA	NA	0.22	0.040	NA	NA	DIA	36	14
PH256-1037-2-1008	P256-1037-2	2	5.3	5.1	NA	21.62	rounded rectangle	oval	2	MW	5	P8	0.25	NA	NA	NA	0.22	0.040	NA	NA	DIA	36	14
PH256-1037-2-1009	P256-1037-2	2	5.3	5.1	NA	21.62	rounded rectangle	oval	2	MW	5	P9	0.22	NA	NA	NA	0.22	0.040	NA	NA	DIA	36	14
PH257-1010-1-1001	P257-1010-1	1	5	4.5	15.7	18.00	UK	oval	n	M	4?	P1	0.17	0.36	0.38	0.146	0.15	0.024	0.007	0.003	yes	37	47
PH257-1010-1-1002	P257-1010-1	1	5	4.5	15.7	18.00	UK	oval	n	M	4?	P2	0.15	0.54	0.38	0.146	0.15	0.024	0.007	0.003	yes	37	47
PH257-1010-1-1003	P257-1010-1	1	5	4.5	15.7	18.00	UK	oval	n	M	4?	P3	0.12	0.25	0.38	0.146	0.15	0.024	0.007	0.003	yes	37	47
PH257-1012-1-1001	P257-1012-1	1	5	5	NA	20.00	UK	oval	n	MW	6	P1	0.15	0.78	NA	NA	0.16	0.032	NA	NA	DIA	37	49
PH257-1012-1-1002	P257-1012-1	1	5	5	NA	20.00	UK	oval	n	MW	6	P2	0.22	0.77	NA	NA	0.16	0.032	NA	NA	DIA	37	49
PH257-1012-1-1003	P257-1012-1	1	5	5	NA	20.00	UK	oval	n	MW	6	P3	0.16	0.76	NA	NA	0.16	0.032	NA	NA	DIA	37	49
PH257-1012-1-1004	P257-1012-1	1	5	5	NA	20.00	UK	oval	n	MW	6	P4	0.12	0.60	NA	NA	0.16	0.032	NA	NA	DIA	37	49
PH257-1012-1-1005	P257-1012-1	1	5	5	NA	20.00	UK	oval	n	MW	6	P5	0.17	0.68	NA	NA	0.16	0.032	NA	NA	DIA	37	49
PH257-1012-1-1006	P257-1012-1	1	5	5	NA	20.00	UK	oval	n	MW	6	P6	0.15	NA	NA	NA	0.16	0.032	NA	NA	DIA	37	49
PH257-1014-1-1001	P257-1014-1	1	4.38	3.25	9.9	11.39	UK	oval	n	M	4	P1	0.15	0.68	0.65	0.073	0.16	0.026	0.013	0.003	yes	37	51
PH257-1014-1-1002	P257-1014-1	1	4.38	3.25	9.9	11.39	UK	oval	n	M	4	P2	0.15	0.63	0.65	0.073	0.16	0.026	0.013	0.003	yes	37	51
PH257-1014-1-1003	P257-1014-1	1	4.38	3.25	9.9	11.39	UK	oval	n	M	4	P3	0.15	0.72	0.65	0.073	0.16	0.026	0.013	0.003	yes	37	51
PH257-1014-1-1004	P257-1014-1	1	4.38	3.25	9.9	11.39	UK	oval	n	M	4	P4	0.20	0.55	0.65	0.073	0.16	0.026	0.013	0.003	yes	37	51
PH257-1015-1-1001	P257-1015-1	1	4.7	4.3	15.2	16.17	UK	oval	n	M	4	P1	0.25	0.64	0.75	0.174	0.26	0.075	0.042	0.023	yes	37	52
PH257-1015-1-1002	P257-1015-1	1	4.7	4.3	15.2	16.17	UK	oval	n	M	4	P2	0.36	0.68	0.75	0.174	0.26	0.075	0.042	0.023	yes	37	52
PH257-1015-1-1003	P257-1015-1	1	4.7	4.3	15.2	16.17	UK	oval	n	M	4	P3	0.25	1.01	0.75	0.174	0.26	0.075	0.042	0.023	yes	37	52
PH257-1015-1-1004	P257-1015-1	1	4.7	4.3	15.2	16.17	UK	oval	n	M	4	P4	0.18	0.67	0.75	0.174	0.26	0.075	0.042	0.023	yes	37	52
PH257-1017-1-1001	P257-1017-1	1	3.65	2.9	7.8	8.47	oval	oval	n	M	4	P1	0.24	0.64	0.69	0.038	0.20	0.028	0.021	0.005	DIA	37	54
PH257-1017-1-1002	P257-1017-1	1	3.65	2.9	7.8	8.47	oval	oval	n	M	4	P2	0.18	0.72	0.69	0.038	0.20	0.028	0.021	0.005	DIA	37	54
PH257-1017-1-1003	P257-1017-1	1	3.65	2.9	7.8	8.47	oval	oval	n	M	4	P3	0.19	0.69	0.69	0.038	0.20	0.028	0.021	0.005	DIA	37	54
PH257-1017-1-1004	P257-1017-1	1	3.65	2.9	7.8	8.47	oval	oval	n	M	4	P4	0.18	0.72	0.69	0.038	0.20	0.028	0.021	0.005	DIA	37	54
PH257-1018-1-1001	P257-1018-1	1	4	3	9	9.60	oval	oval	n	M	4	P1	0.17	0.83	0.80	0.081	0.18	0.048	0.022	0.014	yes	37	55
PH257-1018-1-1002	P257-1018-1	1	4	3	9	9.60	oval	oval	n	M	4	P2	0.24	0.90	0.80	0.081	0.18	0.048	0.022	0.014	yes	37	55
PH257-1018-1-1003	P257-1018-1	1	4	3	9	9.60	oval	oval	n	M	4	P3	0.19	0.72	0.80	0.081	0.18	0.048	0.022	0.014	yes	37	55
PH257-1018-1-1004	P257-1018-1	1	4	3	9	9.60	oval	oval	n	M	4	P4	0.13	0.75	0.80	0.081	0.18	0.048	0.022	0.014	yes	37	55
PH257-1019-1-1001	P257-1019-1	1	4.7	4.4	15	16.54	oval	oval	2	M	4	P1	0.18	0.77	NA	NA	0.17	0.021	NA	NA	DIA	37	56
PH257-1019-1-1002	P257-1019-1	1	4.7	4.4	15	16.54	oval	oval	2	M	4	P2	0.17	0.65	NA	NA	0.17	0.021	NA	NA	DIA	37	56
PH257-1019-1-1003	P257-1019-1	1	4.7	4.4	15	16.54	oval	oval	2	M	4	P3	0.15	NA	NA	NA	0.17	0.021	NA	NA	DIA	37	56
PH257-1019-1-1004	P257-1019-1	1	4.7	4.4	15	16.54	oval	oval	2	M	4	P4	0.20	0.53	NA	NA	0.17	0.021	NA	NA	DIA	37	56
PH257-1019-2-1005	P257-1019-2	2	4.7	4.4	15	16.54	oval	oval	2	M	4	P5	0.16	0.71	0.74	0.067	0.22	0.064	0.030	0.016	DIA	37	56
PH257-1019-2-1006	P257-1019-2	2	4.7	4.4	15	16.54	oval	oval	2	M	4	P6	0.21	0.82	0.74	0.067	0.22	0.064	0.030	0.016	DIA	37	56
PH257-1019-2-1007	P257-1019-2	2	4.7	4.4	15	16.54	oval	oval	2	M	4	P7	0.29	0.70	0.74	0.067	0.22	0.064	0.030	0.016	DIA	37	56
PH257-1020-1-1001	P257-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.22	0.99	NA	NA	NA	NA	NA	NA	NA	NA	57
PH257-1020-1-1002	P257-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.19	0.86	NA	NA	NA	NA	NA	NA	NA	NA	57
PH257-1020-1-1003	P257-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.21	0.67	NA	NA	NA	NA	NA	NA	NA	NA	57

PostholeID	PitHouseID	Bld	L	W	RectFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PitRef	PstRef
PH257-1020-1-1004	P257-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.22	0.67	NA	NA	NA	NA	NA	NA	NA	NA	57
PH257-1020-1-1005	P257-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P5	0.22	0.70	NA	NA	NA	NA	NA	NA	NA	NA	57
PH257-1020-1-1006	P257-1020-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P6	0.18	0.82	NA	NA	NA	NA	NA	NA	NA	NA	57
PH257-1021-1-1001	P257-1021-1	1	4	3.85	12.7	12.32	circle	oval	n	M	4 P1	0.20	0.72	0.57	0.205	0.16	0.029	0.013	0.008	yes	37	58	
PH257-1021-1-1002	P257-1021-1	1	4	3.85	12.7	12.32	circle	oval	n	M	4 P2	0.16	0.71	0.57	0.205	0.16	0.029	0.013	0.008	yes	37	58	
PH257-1021-1-1003	P257-1021-1	1	4	3.85	12.7	12.32	circle	oval	n	M	4 P3	0.14	0.28	0.57	0.205	0.16	0.029	0.013	0.008	yes	37	58	
PH257-1021-1-1004	P257-1021-1	1	4	3.85	12.7	12.32	circle	oval	n	M	4 P4	0.14	0.55	0.57	0.205	0.16	0.029	0.013	0.008	yes	37	58	
PH257-1023-1-1001	P257-1023-1	1	4.4	4	12.2	14.08	circle	oval	y?	M	4 P1	0.18	0.58	0.51	0.066	0.16	0.022	0.010	0.004	yes	37	60	
PH257-1023-1-1002	P257-1023-1	1	4.4	4	12.2	14.08	circle	oval	y?	M	4 P2	0.18	0.54	0.51	0.066	0.16	0.022	0.010	0.004	yes	37	60	
PH257-1023-1-1003	P257-1023-1	1	4.4	4	12.2	14.08	circle	oval	y?	M	4 P3	0.13	0.43	0.51	0.066	0.16	0.022	0.010	0.004	yes	37	60	
PH257-1023-1-1004	P257-1023-1	1	4.4	4	12.2	14.08	circle	oval	y?	M	4 P4	0.15	0.48	0.51	0.066	0.16	0.022	0.010	0.004	yes	37	60	
PH257-1025-1-1001	P257-1025-1	1	4.9	4.2	14.9	16.46	oval	oval	n	M	5 P1	0.21	0.75	0.70	0.141	0.20	0.060	0.026	0.015	yes	37	62	
PH257-1025-1-1002	P257-1025-1	1	4.9	4.2	14.9	16.46	oval	oval	n	M	5 P2	0.20	0.74	0.70	0.141	0.20	0.060	0.026	0.015	yes	37	62	
PH257-1025-1-1003	P257-1025-1	1	4.9	4.2	14.9	16.46	oval	oval	n	M	5 P3	0.25	0.80	0.70	0.141	0.20	0.060	0.026	0.015	yes	37	62	
PH257-1025-1-1004	P257-1025-1	1	4.9	4.2	14.9	16.46	oval	oval	n	M	5 P4	0.26	0.75	0.70	0.141	0.20	0.060	0.026	0.015	yes	37	62	
PH257-1025-1-1005	P257-1025-1	1	4.9	4.2	14.9	16.46	oval	oval	n	M	5 P5	0.11	0.45	0.70	0.141	0.20	0.060	0.026	0.015	yes	37	62	
PH257-1026-1-1001	P257-1026-1	1	5	4.5	11.6	18.00	oval	oval	n	M	6?	P1	0.22	0.65	NA	NA	0.25	0.047	NA	NA	DIA	37	63
PH257-1026-1-1002	P257-1026-1	1	5	4.5	11.6	18.00	oval	oval	n	M	6?	P2	0.26	0.64	NA	NA	0.25	0.047	NA	NA	DIA	37	63
PH257-1026-1-1003	P257-1026-1	1	5	4.5	11.6	18.00	oval	oval	n	M	6?	P3	0.33	0.45	NA	NA	0.25	0.047	NA	NA	DIA	37	63
PH257-1026-1-1004	P257-1026-1	1	5	4.5	11.6	18.00	oval	oval	n	M	6?	P4	0.23	0.43	NA	NA	0.25	0.047	NA	NA	DIA	37	63
PH257-1026-1-1005	P257-1026-1	1	5	4.5	11.6	18.00	oval	oval	n	M	6?	P5	0.21	NA	NA	NA	0.25	0.047	NA	NA	DIA	37	63
PH257-1027-1-1001	P257-1027-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.20	0.95	NA	NA	NA	NA	NA	NA	NA	NA	64
PH257-1027-1-1002	P257-1027-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.11	1.05	NA	NA	NA	NA	NA	NA	NA	NA	64
PH257-1027-1-1003	P257-1027-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.11	1.10	NA	NA	NA	NA	NA	NA	NA	NA	64
PH257-1027-1-1004	P257-1027-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.17	0.98	NA	NA	NA	NA	NA	NA	NA	NA	64
PH257-1027-2-1006	P257-1027-2	2	5.1	4.7	16.1	19.18	oval	oval	3?	M	6 P6	0.14	0.82	0.79	0.050	0.21	0.046	0.026	0.010	DIA	37	64	
PH257-1027-2-1007	P257-1027-2	2	5.1	4.7	16.1	19.18	oval	oval	3?	M	6 P7	0.18	0.84	0.79	0.050	0.21	0.046	0.026	0.010	DIA	37	64	
PH257-1027-2-1008	P257-1027-2	2	5.1	4.7	16.1	19.18	oval	oval	3?	M	6 P8	0.25	0.76	0.79	0.050	0.21	0.046	0.026	0.010	DIA	37	64	
PH257-1027-2-1009	P257-1027-2	2	5.1	4.7	16.1	19.18	oval	oval	3?	M	6 P9	0.25	0.70	0.79	0.050	0.21	0.046	0.026	0.010	DIA	37	64	
PH257-1027-2-1010	P257-1027-2	2	5.1	4.7	16.1	19.18	oval	oval	3?	M	6 P10	0.23	0.78	0.79	0.050	0.21	0.046	0.026	0.010	DIA	37	64	
PH257-1027-2-1011	P257-1027-2	2	5.1	4.7	16.1	19.18	oval	oval	3?	M	6 P11	0.18	0.81	0.79	0.050	0.21	0.046	0.026	0.010	DIA	37	64	
PH257-1028-1-1001	P257-1028-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.10	0.82	NA	NA	NA	NA	NA	NA	NA	NA	65
PH257-1028-1-1002	P257-1028-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.11	0.50	NA	NA	NA	NA	NA	NA	NA	NA	65
PH257-1028-1-1003	P257-1028-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.22	0.60	NA	NA	NA	NA	NA	NA	NA	NA	65
PH257-1028-1-1004	P257-1028-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.10	0.61	NA	NA	NA	NA	NA	NA	NA	NA	65
PH257-1028-2-1005	P257-1028-2	2	4	4	11.7	12.80	circle	oval	2 M		4 P5	0.16	0.78	0.75	0.058	0.16	0.026	0.017	0.006	DIA	37	65	
PH257-1028-2-1006	P257-1028-2	2	4	4	11.7	12.80	circle	oval	2 M		4 P6	0.17	0.76	0.75	0.058	0.16	0.026	0.017	0.006	DIA	37	65	
PH257-1028-2-1007	P257-1028-2	2	4	4	11.7	12.80	circle	oval	2 M		4 P7	0.14	0.65	0.75	0.058	0.16	0.026	0.017	0.006	DIA	37	65	

PotholeID	PitHoleSID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MTol	VolSD	DUUsed	PitRef	PstRef
PH257-1028-2-1008	P257-1028-2	2	4	4	11.7	12.80	circle	oval	2	M	4	P8	0.15	0.76	0.75	0.058	0.16	0.026	0.017	0.006	DIA	37	65
PH257-1028-2-1009	P257-1028-2	2	4	4	11.7	12.80	circle	oval	2	M	4	P9	0.21	0.80	0.75	0.058	0.16	0.026	0.017	0.006	DIA	37	65
PH257-1029-1-1001	P257-1029-1	1	4.4	4	NA	14.08	circle	oval	n	M	5	P1	0.34	0.78	1.00	0.156	0.28	0.035	0.063	0.013	yes	37	66
PH257-1029-1-1002	P257-1029-1	1	4.4	4	NA	14.08	circle	oval	n	M	5	P2	0.28	1.13	1.00	0.156	0.28	0.035	0.063	0.013	yes	37	66
PH257-1029-1-1003	P257-1029-1	1	4.4	4	NA	14.08	circle	oval	n	M	5	P3	0.29	1.17	1.00	0.156	0.28	0.035	0.063	0.013	yes	37	66
PH257-1029-1-1004	P257-1029-1	1	4.4	4	NA	14.08	circle	oval	n	M	5	P4	0.26	0.95	1.00	0.156	0.28	0.035	0.063	0.013	yes	37	66
PH257-1029-1-1005	P257-1029-1	1	4.4	4	NA	14.08	circle	oval	n	M	5	P5	0.26	0.98	1.00	0.156	0.28	0.035	0.063	0.013	yes	37	66
PH257-1031-1-1001	P257-1031-1	1	4.6	4	NA	14.72	oval	oval	n	M	5	P1	0.16	0.65	0.62	0.050	0.17	0.043	0.015	0.007	yes	37	68
PH257-1031-1-1002	P257-1031-1	1	4.6	4	NA	14.72	oval	oval	n	M	5	P2	0.16	0.68	0.62	0.050	0.17	0.043	0.015	0.007	yes	37	68
PH257-1031-1-1003	P257-1031-1	1	4.6	4	NA	14.72	oval	oval	n	M	5	P3	0.25	0.55	0.62	0.050	0.17	0.043	0.015	0.007	yes	37	68
PH257-1031-1-1004	P257-1031-1	1	4.6	4	NA	14.72	oval	oval	n	M	5	P4	0.15	0.60	0.62	0.050	0.17	0.043	0.015	0.007	yes	37	68
PH257-1031-1-1005	P257-1031-1	1	4.6	4	NA	14.72	oval	oval	n	M	5	P5	0.15	0.60	0.62	0.050	0.17	0.043	0.015	0.007	yes	37	68
PH257-1032-1-1001	P257-1032-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P1	0.24	0.69	NA	NA	NA	NA	NA	NA	NA	NA	69
PH257-1032-1-1002	P257-1032-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P2	0.22	0.66	NA	NA	NA	NA	NA	NA	NA	NA	69
PH257-1032-1-1003	P257-1032-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P3	0.27	0.61	NA	NA	NA	NA	NA	NA	NA	NA	69
PH257-1032-1-1004	P257-1032-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P4	0.35	0.99	NA	NA	NA	NA	NA	NA	NA	NA	69
PH257-1032-2-1005	P257-1032-2	2	4.5	4.5	15.4	16.20	circle	oval	2	MW	4	P5	0.24	0.58	0.49	0.121	0.16	0.068	0.012	0.012	yes	37	69
PH257-1032-2-1007	P257-1032-2	2	4.5	4.5	15.4	16.20	circle	oval	2	MW	4	P7	0.11	0.53	0.49	0.121	0.16	0.068	0.012	0.012	yes	37	69
PH257-1032-2-1008	P257-1032-2	2	4.5	4.5	15.4	16.20	circle	oval	2	MW	4	P8	0.13	0.35	0.49	0.121	0.16	0.068	0.012	0.012	yes	37	69
PH257-1033-1-1001	P257-1033-1	1	3.6	3.4	7.9	9.79	circle	oval	n	M	5	P1	0.24	0.26	0.42	0.131	0.23	0.053	0.017	0.006	yes	37	70
PH257-1033-1-1002	P257-1033-1	1	3.6	3.4	7.9	9.79	circle	oval	n	M	5	P2	0.19	0.57	0.42	0.131	0.23	0.053	0.017	0.006	yes	37	70
PH257-1033-1-1003	P257-1033-1	1	3.6	3.4	7.9	9.79	circle	oval	n	M	5	P3	0.23	0.52	0.42	0.131	0.23	0.053	0.017	0.006	yes	37	70
PH257-1033-1-1004	P257-1033-1	1	3.6	3.4	7.9	9.79	circle	oval	n	M	5	P4	0.18	0.43	0.42	0.131	0.23	0.053	0.017	0.006	yes	37	70
PH257-1033-1-1005	P257-1033-1	1	3.6	3.4	7.9	9.79	circle	oval	n	M	5	P5	0.32	0.32	0.42	0.131	0.23	0.053	0.017	0.006	yes	37	70
PH257-1034-1-1001	P257-1034-1	1	5.1	4.8	16.9	19.58	circle	oval	n	M	5	P1	0.18	0.46	0.47	0.088	0.19	0.044	0.015	0.008	DIA	37	71
PH257-1034-1-1002	P257-1034-1	1	5.1	4.8	16.9	19.58	circle	oval	n	M	5	P2	0.18	0.50	0.47	0.088	0.19	0.044	0.015	0.008	DIA	37	71
PH257-1034-1-1003	P257-1034-1	1	5.1	4.8	16.9	19.58	circle	oval	n	M	5	P3	0.22	0.52	0.47	0.088	0.19	0.044	0.015	0.008	DIA	37	71
PH257-1034-1-1004	P257-1034-1	1	5.1	4.8	16.9	19.58	circle	oval	n	M	5	P4	0.25	0.54	0.47	0.088	0.19	0.044	0.015	0.008	DIA	37	71
PH257-1034-1-1005	P257-1034-1	1	5.1	4.8	16.9	19.58	circle	oval	n	M	5	P5	0.13	0.32	0.47	0.088	0.19	0.044	0.015	0.008	DIA	37	71
PH257-1035-1-1001	P257-1035-1	1	5	5	18.3	20.00	circle	oval	n	M	6	P1	0.32	0.83	0.64	0.128	0.24	0.055	0.032	0.018	DIA	37	72
PH257-1035-1-1002	P257-1035-1	1	5	5	18.3	20.00	circle	oval	n	M	6	P2	0.21	0.70	0.64	0.128	0.24	0.055	0.032	0.018	DIA	37	72
PH257-1035-1-1003	P257-1035-1	1	5	5	18.3	20.00	circle	oval	n	M	6	P3	0.22	0.68	0.64	0.128	0.24	0.055	0.032	0.018	DIA	37	72
PH257-1035-1-1004	P257-1035-1	1	5	5	18.3	20.00	circle	oval	n	M	6	P4	0.28	0.46	0.64	0.128	0.24	0.055	0.032	0.018	DIA	37	72
PH257-1035-1-1005	P257-1035-1	1	5	5	18.3	20.00	circle	oval	n	M	6	P5	0.17	0.55	0.64	0.128	0.24	0.055	0.032	0.018	DIA	37	72
PH257-1035-1-1006	P257-1035-1	1	5	5	18.3	20.00	circle	oval	n	M	6	P6	0.27	0.62	0.64	0.128	0.24	0.055	0.032	0.018	DIA	37	72
PH257-1037-1-1003	P257-1037-1	1	3.8	3.35	8.3	10.18	circle	oval	2	M	4	P3	0.16	0.84	0.64	0.196	0.15	0.031	0.012	0.005	yes	37	74
PH257-1037-1-1004	P257-1037-1	1	3.8	3.35	8.3	10.18	circle	oval	2	M	4	P4	0.11	0.77	0.64	0.196	0.15	0.031	0.012	0.005	yes	37	74
PH257-1037-1-1005	P257-1037-1	1	3.8	3.35	8.3	10.18	circle	oval	2	M	4	P5	0.18	0.52	0.64	0.196	0.15	0.031	0.012	0.005	yes	37	74

PostholeID	PitHouseID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH257-1037-1-1006	P257-1037-1	1	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P6	0.16	0.43	0.64	0.196	0.15	0.031	0.012	0.005	yes	37
	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P1	0.18	0.74	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P2	0.22	0.64	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P3	0.16	0.84	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
PH257-1037-2-1003	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P4	0.11	0.77	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P4	0.11	0.77	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P4	0.11	0.77	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P4	0.11	0.77	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
PH257-1037-2-1004	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P4	0.11	0.77	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P4	0.11	0.77	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P4	0.11	0.77	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
	P257-1037-2	2	3.8	3.35	8.3	10.18	circle	oval	2	M		4	P4	0.11	0.77	0.75	0.083	0.17	0.047	0.017	0.007	yes	37
PH257-1039-1-1001	P257-1039-1	1	3.9	3.6	9.2	11.23	circle	oval	n	M		4	P1	0.08	0.21	0.39	0.179	0.08	0.005	0.002	0.001	DIA	37
	P257-1039-1	1	3.9	3.6	9.2	11.23	circle	oval	n	M		4	P2	0.08	0.60	0.39	0.179	0.08	0.005	0.002	0.001	DIA	37
	P257-1039-1	1	3.9	3.6	9.2	11.23	circle	oval	n	M		4	P3	0.09	0.46	0.39	0.179	0.08	0.005	0.002	0.001	DIA	37
	P257-1039-1	1	3.9	3.6	9.2	11.23	circle	oval	n	M		4	P4	0.08	0.27	0.39	0.179	0.08	0.005	0.002	0.001	DIA	37
PH257-1039-1-1004	P257-1039-1	1	3.9	3.6	9.2	11.23	circle	oval	n	M		4	P4	0.08	0.27	0.39	0.179	0.08	0.005	0.002	0.001	DIA	37
	P257-1040-1	1	3.8	3.7	11	11.25	circle	oval	n	M		4	P1	0.20	0.63	0.53	0.120	0.17	0.030	0.013	0.007	DIA	37
	P257-1040-1	1	3.8	3.7	11	11.25	circle	oval	n	M		4	P2	0.19	0.62	0.53	0.120	0.17	0.030	0.013	0.007	DIA	37
	P257-1040-1	1	3.8	3.7	11	11.25	circle	oval	n	M		4	P3	0.15	0.48	0.53	0.120	0.17	0.030	0.013	0.007	DIA	37
PH257-1040-1-1003	P257-1040-1	1	3.8	3.7	11	11.25	circle	oval	n	M		4	P4	0.14	0.38	0.53	0.120	0.17	0.030	0.013	0.007	DIA	37
	P257-1040-1	1	3.8	3.7	11	11.25	circle	oval	n	M		4	P4	0.14	0.38	0.53	0.120	0.17	0.030	0.013	0.007	DIA	37
	P257-1041-1	1	3.8	3.6	10.3	10.94	circle	oval	n	M		4	P1	0.19	0.90	0.83	0.117	0.20	0.008	0.025	0.003	yes	37
	P257-1041-1	1	3.8	3.6	10.3	10.94	circle	oval	n	M		4	P2	0.20	0.87	0.83	0.117	0.20	0.008	0.025	0.003	yes	37
PH257-1041-1-1002	P257-1041-1	1	3.8	3.6	10.3	10.94	circle	oval	n	M		4	P3	0.21	0.65	0.83	0.117	0.20	0.008	0.025	0.003	yes	37
	P257-1041-1	1	3.8	3.6	10.3	10.94	circle	oval	n	M		4	P4	0.20	0.88	0.83	0.117	0.20	0.008	0.025	0.003	yes	37
	P257-1042-1	1	2.75	2.5	5.6	5.50	circle	oval	n	M	circ?	P1	0.05	0.25	0.28	0.061	0.06	0.020	0.001	0.000	DIA	37	
	P257-1042-1	1	2.75	2.5	5.6	5.50	circle	oval	n	M	circ?	P2	0.05	0.39	0.28	0.061	0.06	0.020	0.001	0.000	DIA	37	
PH257-1042-1-1003	P257-1042-1	1	2.75	2.5	5.6	5.50	circle	oval	n	M	circ?	P3	0.04	0.26	0.28	0.061	0.06	0.020	0.001	0.000	DIA	37	
	P257-1042-1	1	2.75	2.5	5.6	5.50	circle	oval	n	M	circ?	P4	0.07	0.25	0.28	0.061	0.06	0.020	0.001	0.000	DIA	37	
	P257-1042-1	1	2.75	2.5	5.6	5.50	circle	oval	n	M	circ?	P5	0.08	0.26	0.28	0.061	0.06	0.020	0.001	0.000	DIA	37	
	P257-1043-1	1	3.2	3.2	7.5	8.19	circle	oval	n	M	irreg	P1	0.10	0.45	0.37	0.085	0.09	0.038	0.003	0.003	yes	37	
PH257-1043-1-1002	P257-1043-1	1	3.2	3.2	7.5	8.19	circle	oval	n	M	irreg	P2	0.07	0.30	0.37	0.085	0.09	0.038	0.003	0.003	yes	37	
	P257-1043-1	1	3.2	3.2	7.5	8.19	circle	oval	n	M	irreg	P3	0.04	0.40	0.37	0.085	0.09	0.038	0.003	0.003	yes	37	
	P257-1043-1	1	3.2	3.2	7.5	8.19	circle	oval	n	M	irreg	P4	0.09	0.26	0.37	0.085	0.09	0.038	0.003	0.003	yes	37	
	P257-1043-1	1	3.2	3.2	7.5	8.19	circle	oval	n	M	irreg	P5	0.14	0.44	0.37	0.085	0.09	0.038	0.003	0.003	yes	37	
PH257-1043-1-1005	P257-1043-1	1	3.2	3.2	7.5	8.19	circle	oval	n	M	irreg	P5	0.14	0.44	0.37	0.085	0.09	0.038	0.003	0.003	yes	37	
	P257-1044-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.11	0.19	NA	NA	NA	NA	NA	NA	NA	NA	8
	P257-1044-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.12	0.25	NA	NA	NA	NA	NA	NA	NA	NA	8
	P257-1044-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.12	0.55	NA	NA	NA	NA	NA	NA	NA	NA	8
PH257-1044-1-1003	P257-1044-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.16	0.35	NA	NA	NA	NA	NA	NA	NA	NA	8
	P257-1044-2	2	4	3.5	10.8	11.20	oval	oval	2	M	5	P5	0.21	0.65	0.74	0.167	0.14	0.075	0.013	0.008	yes	37	
	P257-1044-2	2	4	3.5	10.8	11.20	oval	oval	2	M	5	P6	0.16	0.67	0.74	0.167	0.14	0.075	0.013	0.008	yes	37	
	P257-1044-2	2	4	3.5	10.8	11.20	oval	oval	2	M	5	P7	0.16	0.98	0.74	0.167	0.14	0.075	0.013	0.008	yes	37	
PH257-1044-2-1007	P257-1044-2	2	4	3.5	10.8	11.20	oval	oval	2	M	5	P8	0.19	0.50	0.74	0.167	0.14	0.075	0.013	0.008	yes	37	
	P257-1044-2	2	4	3.5	10.8	11.20	oval	oval	2	M	5	P9	0.12	0.84	0.74	0.167	0.14	0.075	0.013	0.008	yes	37	
	P257-1044-2	2	4	3.5	10.8	11.20	oval	oval	2	M	5	P10	0.00	0.77	0.74	0.167	0.14	0.075	0.013	0.008	yes	37	
	P257-1045-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.21	0.55	NA	NA	NA	NA	NA	NA	NA	NA	8

PotholeID	PitHouseID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
PH257-1045-1-1002	P257-1045-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.13	0.75	NA	NA	NA	NA	NA	NA	NA	82	82
PH257-1045-1-1003	P257-1045-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.15	0.60	NA	NA	NA	NA	NA	NA	NA	82	82
PH257-1045-1-1004	P257-1045-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.15	0.61	NA	NA	NA	NA	NA	NA	NA	82	82
PH257-1045-2-1005	P257-1045-2	2	5	4.3	15.3	17.20	UK	oval		2 M	6 P5	6 P5	0.20	0.65	NA	NA	0.18	0.022	NA	NA	yes	37	82
PH257-1045-2-1006	P257-1045-2	2	5	4.3	15.3	17.20	UK	oval		2 M	6 P6	6 P6	0.18	0.90	NA	NA	0.18	0.022	NA	NA	yes	37	82
PH257-1045-2-1007	P257-1045-2	2	5	4.3	15.3	17.20	UK	oval		2 M	6 P7	6 P7	0.13	0.95	NA	NA	0.18	0.022	NA	NA	yes	37	82
PH257-1045-2-1008	P257-1045-2	2	5	4.3	15.3	17.20	UK	oval		2 M	6 P8	6 P8	0.17	0.80	NA	NA	0.18	0.022	NA	NA	yes	37	82
PH257-1045-2-1009	P257-1045-2	2	5	4.3	15.3	17.20	UK	oval		2 M	6 P9	6 P9	0.19	0.41	NA	NA	0.18	0.022	NA	NA	yes	37	82
PH257-1045-2-1010	P257-1045-2	2	5	4.3	15.3	17.20	UK	oval		2 M	6 P10	6 P10	0.19	NA	NA	NA	0.18	0.022	NA	NA	yes	37	82
PH257-1046-1-1001	P257-1046-1	1	4	3.8	13.3	12.16	circle	oval	n	M	4 P1	4 P1	0.15	0.65	0.54	0.187	0.16	0.028	0.010	0.002	yes	37	83
PH257-1046-1-1002	P257-1046-1	1	4	3.8	13.3	12.16	circle	oval	n	M	4 P2	4 P2	0.15	0.68	0.54	0.187	0.16	0.028	0.010	0.002	yes	37	83
PH257-1046-1-1003	P257-1046-1	1	4	3.8	13.3	12.16	circle	oval	n	M	4 P3	4 P3	0.13	0.54	0.54	0.187	0.16	0.028	0.010	0.002	yes	37	83
PH257-1046-1-1004	P257-1046-1	1	4	3.8	13.3	12.16	circle	oval	n	M	4 P4	4 P4	0.20	0.27	0.54	0.187	0.16	0.028	0.010	0.002	yes	37	83
PH257-1047-1-1001	P257-1047-1	1	4.3	4.3	13.2	14.79	circle	oval	n	M	5?	P1	0.28	0.83	0.74	0.097	0.25	0.059	0.036	0.015	DIA	37	84
PH257-1047-1-1002	P257-1047-1	1	4.3	4.3	13.2	14.79	circle	oval	n	M	5?	P2	0.22	0.82	0.74	0.097	0.25	0.059	0.036	0.015	DIA	37	84
PH257-1047-1-1003	P257-1047-1	1	4.3	4.3	13.2	14.79	circle	oval	n	M	5?	P3	0.31	0.60	0.74	0.097	0.25	0.059	0.036	0.015	DIA	37	84
PH257-1047-1-1004	P257-1047-1	1	4.3	4.3	13.2	14.79	circle	oval	n	M	5?	P4	0.26	0.75	0.74	0.097	0.25	0.059	0.036	0.015	DIA	37	84
PH257-1047-1-1005	P257-1047-1	1	4.3	4.3	13.2	14.79	circle	oval	n	M	5?	P5	0.16	0.68	0.74	0.097	0.25	0.059	0.036	0.015	DIA	37	84
PH257-1048-1-1001	P257-1048-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.08	0.62	NA	NA	NA	NA	NA	NA	NA	85	85
PH257-1048-1-1002	P257-1048-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.15	0.29	NA	NA	NA	NA	NA	NA	NA	85	85
PH257-1048-1-1003	P257-1048-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.12	0.47	NA	NA	NA	NA	NA	NA	NA	85	85
PH257-1048-1-1004	P257-1048-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.10	0.55	NA	NA	NA	NA	NA	NA	NA	85	85
PH257-1049-1-1001	P257-1049-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P1	0.24	0.50	NA	NA	NA	NA	NA	NA	NA	86	86
PH257-1049-1-1002	P257-1049-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P2	0.22	0.50	NA	NA	NA	NA	NA	NA	NA	86	86
PH257-1049-1-1003	P257-1049-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P3	0.27	0.44	NA	NA	NA	NA	NA	NA	NA	86	86
PH257-1049-1-1004	P257-1049-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P4	0.16	NA	NA	NA	NA	NA	NA	NA	NA	86	86
PH257-1049-2-1005	P257-1049-2	2	5.3	4.5	18.1	19.08	oval	oval		2 MW	6 P5	6 P5	0.24	0.70	0.73	0.153	0.24	0.020	0.034	0.010	DIA	37	86
PH257-1049-2-1006	P257-1049-2	2	5.3	4.5	18.1	19.08	oval	oval		2 MW	6 P6	6 P6	0.27	0.65	0.73	0.153	0.24	0.020	0.034	0.010	DIA	37	86
PH257-1049-2-1007	P257-1049-2	2	5.3	4.5	18.1	19.08	oval	oval		2 MW	6 P7	6 P7	0.24	0.50	0.73	0.153	0.24	0.020	0.034	0.010	DIA	37	86
PH257-1049-2-1008	P257-1049-2	2	5.3	4.5	18.1	19.08	oval	oval		2 MW	6 P8	6 P8	0.21	0.74	0.73	0.153	0.24	0.020	0.034	0.010	DIA	37	86
PH257-1049-2-1009	P257-1049-2	2	5.3	4.5	18.1	19.08	oval	oval		2 MW	6 P9	6 P9	0.26	0.95	0.73	0.153	0.24	0.020	0.034	0.010	DIA	37	86
PH257-1049-2-1010	P257-1049-2	2	5.3	4.5	18.1	19.08	oval	oval		2 MW	6 P10	6 P10	0.23	0.82	0.73	0.153	0.24	0.020	0.034	0.010	DIA	37	86
PH257-1050-1-1001	P257-1050-1	1	4.3	4.2	11.6	14.45	circle	oval	n	MW	5 P1	5 P1	0.15	0.97	0.83	0.160	0.19	0.020	0.023	0.006	yes	37	87
PH257-1050-1-1002	P257-1050-1	1	4.3	4.2	11.6	14.45	circle	oval	n	MW	5 P2	5 P2	0.18	0.66	0.83	0.160	0.19	0.020	0.023	0.006	yes	37	87
PH257-1050-1-1003	P257-1050-1	1	4.3	4.2	11.6	14.45	circle	oval	n	MW	5 P3	5 P3	0.20	0.90	0.83	0.160	0.19	0.020	0.023	0.006	yes	37	87
PH257-1050-1-1004	P257-1050-1	1	4.3	4.2	11.6	14.45	circle	oval	n	MW	5 P4	5 P4	0.20	0.65	0.83	0.160	0.19	0.020	0.023	0.006	yes	37	87
PH257-1050-1-1005	P257-1050-1	1	4.3	4.2	11.6	14.45	circle	oval	n	MW	5 P5	5 P5	0.20	0.96	0.83	0.160	0.19	0.020	0.023	0.006	yes	37	87
PH257-1052-1-1001	P257-1052-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P1	0.18	0.75	NA	NA	NA	NA	NA	NA	NA	88	88

PostholeID	PitHouseID	Bld	L	W	RecFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUsed	PstRef	PstRef
PH257-1052-1-1002	P257-1052-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P2	0.30	0.90	NA	NA	NA	NA	NA	NA	NA	NA	88
		NA	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P3	0.22	0.70	NA	NA	NA	NA	NA	NA	88	
		NA	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P4	0.15	0.50	NA	NA	NA	NA	NA	NA	88	
		NA	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P3	0.22	0.70	NA	NA	NA	NA	NA	NA	88	
PH257-1052-2-1003	P257-1052-2	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P3	0.22	0.70	NA	NA	NA	NA	NA	NA	NA	NA	88
		NA	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P4	0.15	0.50	NA	NA	NA	NA	NA	NA	88	
		NA	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P5	0.18	0.90	NA	NA	NA	NA	NA	NA	88	
		NA	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P6	0.22	1.00	NA	NA	NA	NA	NA	NA	88	
PH257-1052-2-1005	P257-1052-2	oval	n	MW	5?	P1	0.30	0.90	0.82	0.087	0.23	0.055	0.036	0.019	yes	37	89						
		oval	n	MW	5?	P2	0.16	0.83	0.82	0.087	0.23	0.055	0.036	0.019	yes	37	89						
		oval	n	MW	5?	P3	0.22	0.70	0.82	0.087	0.23	0.055	0.036	0.019	yes	37	89						
		oval	n	MW	5?	P4	0.24	0.86	0.82	0.087	0.23	0.055	0.036	0.019	yes	37	89						
PH257-1054-1-1001	P257-1054-1	oval	n	M	4?	P1	0.19	0.73	0.61	0.115	0.21	0.025	0.021	0.005	DIA	37	90						
		oval	n	M	4?	P2	0.24	0.60	0.61	0.115	0.21	0.025	0.021	0.005	DIA	37	90						
		oval	n	M	4?	P3	0.20	0.50	0.61	0.115	0.21	0.025	0.021	0.005	DIA	37	90						
		oval	3	MW	5?	P1	0.13	0.71	0.71	0.026	0.16	0.022	0.014	0.004	yes	39	10						
PH259-1003-1-1002	P259-1003-1	oval	3	MW	5?	P2	0.17	0.68	0.71	0.026	0.16	0.022	0.014	0.004	yes	39	10						
		oval	3	MW	5?	P3	0.18	0.74	0.71	0.026	0.16	0.022	0.014	0.004	yes	39	10						
		oval	3	MW	5?	P4	0.17	0.69	0.71	0.026	0.16	0.022	0.014	0.004	yes	39	10						
		NA	NA	MW	NA	P2	0.33	0.79	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11	
PH259-1004-1-1005	P259-1004-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P5	0.27	0.89	NA	NA	NA	NA	NA	NA	NA	NA	11
		NA	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P11	0.26	0.70	NA	NA	NA	NA	NA	NA	NA	11
		NA	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P17	0.27	1.04	NA	NA	NA	NA	NA	NA	NA	11
		oval	y	MW		5	P15	0.21	0.87	0.75	0.110	0.25	0.025	0.038	0.007	yes	39	11					
PH259-1004-2-1019	P259-1004-2	oval	y	MW		5	P19	0.25	0.79	0.75	0.110	0.25	0.025	0.038	0.007	yes	39	11					
		oval	y	MW		5	P20	0.28	0.61	0.75	0.110	0.25	0.025	0.038	0.007	yes	39	11					
		oval	y	MW		5	P21	0.28	0.82	0.75	0.110	0.25	0.025	0.038	0.007	yes	39	11					
		oval	y	MW		5	P22	0.25	0.66	0.75	0.110	0.25	0.025	0.038	0.007	yes	39	11					
PH259-1004-3-1001	P259-1004-3	oval	y	MW		5	P1	0.00	NA	NA	NA	NA	0.09	0.195	NA	NA	yes	39	11				
		oval	y	MW		5	P3	0.44	0.96	NA	NA	0.09	0.195	NA	NA	yes	39	11					
		oval	y	MW		5	P7	0.00	NA	NA	NA	0.09	0.195	NA	NA	yes	39	11					
		oval	y	MW		5	P14	0.00	NA	NA	NA	0.09	0.195	NA	NA	yes	39	11					
PH259-1004-4-1001	P259-1004-4	oval	y	MW		5	P16	0.00	NA	NA	NA	NA	0.09	0.195	NA	NA	yes	39	11				
		oval	y	MW		6	P1	0.00	NA	NA	NA	0.07	0.178	NA	NA	yes	39	11					
		oval	y	MW		6	P3	0.44	0.96	NA	NA	0.07	0.178	NA	NA	yes	39	11					
		oval	y	MW		6	P6	0.00	NA	NA	NA	0.07	0.178	NA	NA	yes	39	11					
PH259-1004-4-1006	P259-1004-4	oval	y	MW		6	P9	0.00	NA	NA	NA	NA	0.07	0.178	NA	NA	yes	39	11				
		oval	y	MW		6	P14	0.00	NA	NA	NA	0.07	0.178	NA	NA	yes	39	11					
		oval	y	MW		6	P16	0.00	NA	NA	NA	0.07	0.178	NA	NA	yes	39	11					
		oval	y	MW		6	P16	0.00	NA	NA	NA	0.07	0.178	NA	NA	yes	39	11					

PotholeID	PthHousID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH259-1005-1-1001	P259-1005-1	1	4.2	3.4	9.12	11.42	rounded square	oval	n	MW		P1	0.13	0.76	0.70	0.072	0.16	0.027	0.015	0.004	yes	39	12
PH259-1005-1-1002	P259-1005-1	1	4.2	3.4	9.12	11.42	rounded square	oval	n	MW		P2	0.19	0.61	0.70	0.072	0.16	0.027	0.015	0.004	yes	39	12
PH259-1005-1-1003	P259-1005-1	1	4.2	3.4	9.12	11.42	rounded square	oval	n	MW		P3	0.16	0.68	0.70	0.072	0.16	0.027	0.015	0.004	yes	39	12
PH259-1005-1-1004	P259-1005-1	1	4.2	3.4	9.12	11.42	rounded square	oval	n	MW		P4	0.18	0.76	0.70	0.072	0.16	0.027	0.015	0.004	yes	39	12
PH259-1009-1-1012	P259-1009-1	1	3.9	4	14	12.48	circle	oval	uk	M		P12	0.25	0.77	0.70	0.070	0.19	0.047	0.022	0.013	yes	39	13
PH259-1009-1-1013	P259-1009-1	1	3.9	4	14	12.48	circle	oval	uk	M		P13	0.16	0.63	0.70	0.070	0.19	0.047	0.022	0.013	yes	39	13
PH259-1009-1-1014	P259-1009-1	1	3.9	4	14	12.48	circle	oval	uk	M		P14	0.17	0.71	0.70	0.070	0.19	0.047	0.022	0.013	yes	39	13
PH259-1011-1-1001	P259-1011-1	1	5.3	4.7	14.96	19.93	oval	oval	n	M		5 P1	0.20	0.77	0.80	0.156	0.18	0.026	0.021	0.003	yes	39	15
PH259-1011-1-1002	P259-1011-1	1	5.3	4.7	14.96	19.93	oval	oval	n	M		5 P2	0.19	0.68	0.80	0.156	0.18	0.026	0.021	0.003	yes	39	15
PH259-1011-1-1003	P259-1011-1	1	5.3	4.7	14.96	19.93	oval	oval	n	M		5 P3	0.14	1.03	0.80	0.156	0.18	0.026	0.021	0.003	yes	39	15
PH259-1011-1-1004	P259-1011-1	1	5.3	4.7	14.96	19.93	oval	oval	n	M		5 P4	0.20	0.73	0.80	0.156	0.18	0.026	0.021	0.003	yes	39	15
PH263-1001-1-1001	P263-1001-1	1	4.8	5 NA	19.20	irregular circle/rounded rectangle		oval	n	MW		5 P1	0.22	0.58	0.64	0.104	0.22	0.024	0.024	0.008	yes	43	4
PH263-1001-1-1002	P263-1001-1	1	4.8	5 NA	19.20	irregular circle/rounded rectangle		oval	n	MW		5 P2	0.19	0.62	0.64	0.104	0.22	0.024	0.024	0.008	yes	43	4
PH263-1001-1-1003	P263-1001-1	1	4.8	5 NA	19.20	irregular circle/rounded rectangle		oval	n	MW		5 P3	0.23	0.52	0.64	0.104	0.22	0.024	0.024	0.008	yes	43	4
PH263-1001-1-1004	P263-1001-1	1	4.8	5 NA	19.20	irregular circle/rounded rectangle		oval	n	MW		5 P4	0.25	0.78	0.64	0.104	0.22	0.024	0.024	0.008	yes	43	4
PH263-1001-1-1005	P263-1001-1	1	4.8	5 NA	19.20	irregular circle/rounded rectangle		oval	n	MW		5 P5	0.19	0.71	0.64	0.104	0.22	0.024	0.024	0.008	yes	43	4
PH263-1002-1-1001	P263-1002-1	1	4.3	4 NA	13.76	rounded square		oval	n	MW		4 P1	0.15	0.70	0.82	0.085	0.14	0.036	0.013	0.006	yes	43	5
PH263-1002-1-1002	P263-1002-1	1	4.3	4 NA	13.76	rounded square		oval	n	MW		4 P2	0.14	0.89	0.82	0.085	0.14	0.036	0.013	0.006	yes	43	5
PH263-1002-1-1003	P263-1002-1	1	4.3	4 NA	13.76	rounded square		oval	n	MW		4 P3	0.09	0.83	0.82	0.085	0.14	0.036	0.013	0.006	yes	43	5
PH263-1002-1-1004	P263-1002-1	1	4.3	4 NA	13.76	rounded square		oval	n	MW		4 P4	0.18	0.87	0.82	0.085	0.14	0.036	0.013	0.006	yes	43	5
PH264-1063-1-1001	P264-1063-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P1	0.17	NA	NA	NA	NA	NA	NA	NA	NA	23	23
PH264-1063-1-1002	P264-1063-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P2	0.13	NA	NA	NA	NA	NA	NA	NA	NA	23	23
PH264-1063-1-1003	P264-1063-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P3	0.14	NA	NA	NA	NA	NA	NA	NA	NA	23	23
PH264-1063-1-1004	P264-1063-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P4	0.15	NA	NA	NA	NA	NA	NA	NA	NA	23	23
PH265-1001-1-1001	P265-1001-1	1	4 NA	13	12.57	circle		circle	n	M		4 P1	0.14	NA	NA	NA	0.14	0.011	NA	NA	DIA	45	3
PH265-1001-1-1002	P265-1001-1	1	4 NA	13	12.57	circle		circle	n	M		4 P2	0.15	NA	NA	NA	0.14	0.011	NA	NA	DIA	45	3
PH265-1001-1-1003	P265-1001-1	1	4 NA	13	12.57	circle		circle	n	M		4 P3	0.14	NA	NA	NA	0.14	0.011	NA	NA	DIA	45	3
PH265-1001-1-1004	P265-1001-1	1	4 NA	13	12.57	circle		circle	n	M		4 P4	0.12	NA	NA	NA	0.14	0.011	NA	NA	DIA	45	3
PH265-1004-1-1001	P265-1004-1	1	3.8 NA	11	11.34	circle		circle	uk	M	4?	P1	0.26	0.35	0.42	0.081	0.19	0.053	0.013	0.006	yes	45	7
PH265-1004-1-1002	P265-1004-1	1	3.8 NA	11	11.34	circle		circle	uk	M	4?	P2	0.16	0.35	0.42	0.081	0.19	0.053	0.013	0.006	yes	45	7
PH265-1004-1-1003	P265-1004-1	1	3.8 NA	11	11.34	circle		circle	uk	M	4?	P3	0.20	0.48	0.42	0.081	0.19	0.053	0.013	0.006	yes	45	7
PH265-1004-1-1004	P265-1004-1	1	3.8 NA	11	11.34	circle		circle	uk	M	4?	P4	0.15	0.50	0.42	0.081	0.19	0.053	0.013	0.006	yes	45	7
PH266-1001-1-1001	P266-1001-1	1	3.15	3.4 NA		8.57	circle	oval	y	M		6 P1	0.11	0.55	0.55	0.140	0.14	0.020	0.008	0.003	yes	46	15
PH266-1001-1-1002	P266-1001-1	1	3.15	3.4 NA		8.57	circle	oval	y	M		6 P2	0.14	0.52	0.55	0.140	0.14	0.020	0.008	0.003	yes	46	15
PH266-1001-1-1003	P266-1001-1	1	3.15	3.4 NA		8.57	circle	oval	y	M		6 P3	0.16	0.65	0.55	0.140	0.14	0.020	0.008	0.003	yes	46	15
PH266-1001-1-1004	P266-1001-1	1	3.15	3.4 NA		8.57	circle	oval	y	M		6 P4	0.15	0.57	0.55	0.140	0.14	0.020	0.008	0.003	yes	46	15
PH266-1001-1-1005	P266-1001-1	1	3.15	3.4 NA		8.57	circle	oval	y	M		6 P5	0.13	0.29	0.55	0.140	0.14	0.020	0.008	0.003	yes	46	15
PH266-1001-1-1006	P266-1001-1	1	3.15	3.4 NA		8.57	circle	oval	y	M		6 P6	0.12	0.69	0.55	0.140	0.14	0.020	0.008	0.003	yes	46	15

PestholeID	PitHouseID	Bld	L	W	RecFlr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsSD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
PH266-1001-2-1001	P266-1001-2	2	4.58	4.44	NA	16.27	mirror	oval	y	M	circ	P1	0.21	0.65	0.67	0.169	0.16	0.029	0.013	0.006	yes	46	15
PH266-1001-2-1002	P266-1001-2	2	4.58	4.44	NA	16.27	mirror	oval	y	M	circ	P2	0.17	0.77	0.67	0.169	0.16	0.029	0.013	0.006	yes	46	15
PH266-1001-2-1003	P266-1001-2	2	4.58	4.44	NA	16.27	mirror	oval	y	M	circ	P3	0.18	0.45	0.67	0.169	0.16	0.029	0.013	0.006	yes	46	15
PH266-1001-2-1004	P266-1001-2	2	4.58	4.44	NA	16.27	mirror	oval	y	M	circ	P4	0.13	0.83	0.67	0.169	0.16	0.029	0.013	0.006	yes	46	15
PH266-1001-2-1005	P266-1001-2	2	4.58	4.44	NA	16.27	mirror	oval	y	M	circ	P5	0.17	0.83	0.67	0.169	0.16	0.029	0.013	0.006	yes	46	15
PH266-1001-2-1006	P266-1001-2	2	4.58	4.44	NA	16.27	mirror	oval	y	M	circ	P6	0.16	0.89	0.67	0.169	0.16	0.029	0.013	0.006	yes	46	15
PH266-1001-2-1007	P266-1001-2	2	4.58	4.44	NA	16.27	mirror	oval	y	M	circ	P7	0.13	0.49	0.67	0.169	0.16	0.029	0.013	0.006	yes	46	15
PH266-1001-2-1008	P266-1001-2	2	4.58	4.44	NA	16.27	mirror	oval	y	M	circ	P8	0.11	0.49	0.67	0.169	0.16	0.029	0.013	0.006	yes	46	15
PH266-1001-2-1009	P266-1001-2	2	4.58	4.44	NA	16.27	mirror	oval	y	M	circ	P9	0.16	0.59	0.67	0.169	0.16	0.029	0.013	0.006	yes	46	15
PH266-1004-1-1001	P266-1004-1	1	4.9	3.7	NA	14.50	irregular oval	oval	n	M		5 P1	0.14	0.68	0.66	0.029	0.14	0.016	0.010	0.002	yes	46	41
PH266-1004-1-1002	P266-1004-1	1	4.9	3.7	NA	14.50	irregular oval	oval	n	M		5 P2	0.14	0.70	0.66	0.029	0.14	0.016	0.010	0.002	yes	46	41
PH266-1004-1-1003	P266-1004-1	1	4.9	3.7	NA	14.50	irregular oval	oval	n	M		5 P3	0.15	0.65	0.66	0.029	0.14	0.016	0.010	0.002	yes	46	41
PH266-1004-1-1004	P266-1004-1	1	4.9	3.7	NA	14.50	irregular oval	oval	n	M		5 P4	0.12	0.63	0.66	0.029	0.14	0.016	0.010	0.002	yes	46	41
PH266-1004-1-1005	P266-1004-1	1	4.9	3.7	NA	14.50	irregular oval	oval	n	M		5 P5	0.16	0.64	0.66	0.029	0.14	0.016	0.010	0.002	yes	46	41
PH266-1005-1-1001	P266-1005-1	1	3.7	3.5	NA	10.36	irregular oval	oval	n	M	5?	P1	0.16	0.78	0.73	0.088	0.16	0.016	0.016	0.004	yes	46	49
PH266-1005-1-1002	P266-1005-1	1	3.7	3.5	NA	10.36	irregular oval	oval	n	M	5?	P2	0.15	0.60	0.73	0.088	0.16	0.016	0.016	0.004	yes	46	49
PH266-1005-1-1003	P266-1005-1	1	3.7	3.5	NA	10.36	irregular oval	oval	n	M	5?	P3	0.17	0.75	0.73	0.088	0.16	0.016	0.016	0.004	yes	46	49
PH266-1005-1-1004	P266-1005-1	1	3.7	3.5	NA	10.36	irregular oval	oval	n	M	5?	P4	0.18	0.79	0.73	0.088	0.16	0.016	0.016	0.004	yes	46	49
PH266-1007-1-1001	P266-1007-1	1	7.65	5.15	NA	31.52	oval	oval	n	M		9 P1	0.22	0.64	0.81	0.085	0.26	0.082	0.047	0.034	yes	46	60
PH266-1007-1-1002	P266-1007-1	1	7.65	5.15	NA	31.52	oval	oval	n	M		9 P2	0.29	0.79	0.81	0.085	0.26	0.082	0.047	0.034	yes	46	60
PH266-1007-1-1003	P266-1007-1	1	7.65	5.15	NA	31.52	oval	oval	n	M		9 P3	0.24	0.84	0.81	0.085	0.26	0.082	0.047	0.034	yes	46	60
PH266-1007-1-1004	P266-1007-1	1	7.65	5.15	NA	31.52	oval	oval	n	M		9 P4	0.21	0.87	0.81	0.085	0.26	0.082	0.047	0.034	yes	46	60
PH266-1007-1-1005	P266-1007-1	1	7.65	5.15	NA	31.52	oval	oval	n	M		9 P5	0.15	0.80	0.81	0.085	0.26	0.082	0.047	0.034	yes	46	60
PH266-1007-1-1006	P266-1007-1	1	7.65	5.15	NA	31.52	oval	oval	n	M		9 P6	0.17	0.75	0.81	0.085	0.26	0.082	0.047	0.034	yes	46	60
PH266-1007-1-1007	P266-1007-1	1	7.65	5.15	NA	31.52	oval	oval	n	M		9 P7	0.34	0.82	0.81	0.085	0.26	0.082	0.047	0.034	yes	46	60
PH266-1007-1-1008	P266-1007-1	1	7.65	5.15	NA	31.52	oval	oval	n	M		9 P8	0.41	0.95	0.81	0.085	0.26	0.082	0.047	0.034	yes	46	60
PH266-1007-1-1009	P266-1007-1	1	7.65	5.15	NA	31.52	oval	oval	n	M		9 P9	0.28	0.82	0.81	0.085	0.26	0.082	0.047	0.034	yes	46	60
PH266-1008-1-1001	P266-1008-1	1	3.6	3	NA	8.64	circle	oval	n	M		4 P1	0.15	0.60	0.63	0.028	0.15	0.013	0.011	0.002	yes	46	69
PH266-1008-1-1002	P266-1008-1	1	3.6	3	NA	8.64	circle	oval	n	M		4 P2	0.13	0.66	0.63	0.028	0.15	0.013	0.011	0.002	yes	46	69
PH266-1008-1-1003	P266-1008-1	1	3.6	3	NA	8.64	circle	oval	n	M		4 P3	0.16	0.65	0.63	0.028	0.15	0.013	0.011	0.002	yes	46	69
PH266-1008-1-1004	P266-1008-1	1	3.6	3	NA	8.64	circle	oval	n	M		4 P4	0.16	0.62	0.63	0.028	0.15	0.013	0.011	0.002	yes	46	69
PH266-1013-1-1001	P266-1013-1	1	4	3.2	NA	10.24	oval	oval	n	M		6 P1	0.19	0.66	0.65	0.034	0.17	0.021	0.015	0.005	yes	46	78
PH266-1013-1-1002	P266-1013-1	1	4	3.2	NA	10.24	oval	oval	n	M		6 P2	0.15	0.59	0.65	0.034	0.17	0.021	0.015	0.005	yes	46	78
PH266-1013-1-1003	P266-1013-1	1	4	3.2	NA	10.24	oval	oval	n	M		6 P3	0.20	0.69	0.65	0.034	0.17	0.021	0.015	0.005	yes	46	78
PH266-1013-1-1004	P266-1013-1	1	4	3.2	NA	10.24	oval	oval	n	M		6 P4	0.17	0.67	0.65	0.034	0.17	0.021	0.015	0.005	yes	46	78
PH266-1013-1-1005	P266-1013-1	1	4	3.2	NA	10.24	oval	oval	n	M		6 P5	0.16	0.64	0.65	0.034	0.17	0.021	0.015	0.005	yes	46	78
PH266-1013-1-1006	P266-1013-1	1	4	3.2	NA	10.24	oval	oval	n	M		6 P6	0.15	0.64	0.65	0.034	0.17	0.021	0.015	0.005	yes	46	78
PH266-1015-1-1001	P266-1015-1	1	4.4	4.05	NA	14.26	oval	oval	n	M		5 P1	0.11	0.48	0.56	0.096	0.13	0.031	0.009	0.005	yes	46	84

PostholeID	PitHouseID	Bld	L	W	RecFtr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepSD	MDia	DiaSD	MVd	VoSD	DUUsed	PstRef	PstRef
PH266-1015-1-1002	P266-1015-1	1	4.4	4.05 NA		14.26 oval		oval	n	M	5 P2	0.16	0.66	0.56	0.096	0.13	0.031	0.009	0.005	yes	46	84	
	P266-1015-1	1	4.4	4.05 NA		14.26 oval		oval	n	M	5 P3	0.10	0.44	0.56	0.096	0.13	0.031	0.009	0.005	yes	46	84	
	P266-1015-1	1	4.4	4.05 NA		14.26 oval		oval	n	M	5 P4	0.14	0.56	0.56	0.096	0.13	0.031	0.009	0.005	yes	46	84	
	P266-1015-1	1	4.4	4.05 NA		14.26 oval		oval	n	M	5 P5	0.17	0.64	0.56	0.096	0.13	0.031	0.009	0.005	yes	46	84	
	P266-1018-1	1	3.85	3.35 NA		10.32 oval		oval	n	M	5 P1	0.17	0.58	0.57	0.059	0.17	0.013	0.013	0.003	yes	46	98	
	P266-1018-1	1	3.85	3.35 NA		10.32 oval		oval	n	M	5 P2	0.15	0.53	0.57	0.059	0.17	0.013	0.013	0.003	yes	46	98	
	P266-1018-1	1	3.85	3.35 NA		10.32 oval		oval	n	M	5 P3	0.16	0.51	0.57	0.059	0.17	0.013	0.013	0.003	yes	46	98	
	P266-1018-1	1	3.85	3.35 NA		10.32 oval		oval	n	M	5 P4	0.18	0.55	0.57	0.059	0.17	0.013	0.013	0.003	yes	46	98	
	P266-1018-1	1	3.85	3.35 NA		10.32 oval		oval	n	M	5 P5	0.18	0.66	0.57	0.059	0.17	0.013	0.013	0.003	yes	46	98	
	P266-1026-1	1	5.85	4.75 NA		22.23 oval		oval	uk	M	6 P1	0.25	1.04	0.95	0.100	0.51	0.140	0.209	0.108	yes	46	111	
PH266-1026-1-1002	P266-1026-1	1	5.85	4.75 NA		22.23 oval		oval	uk	M	6 P2	0.52	0.86	0.95	0.100	0.51	0.140	0.209	0.108	yes	46	111	
	P266-1026-1	1	5.85	4.75 NA		22.23 oval		oval	uk	M	6 P3	0.57	0.94	0.95	0.100	0.51	0.140	0.209	0.108	yes	46	111	
	P266-1026-1	1	5.85	4.75 NA		22.23 oval		oval	uk	M	6 P4	0.67	1.10	0.95	0.100	0.51	0.140	0.209	0.108	yes	46	111	
	P266-1026-1	1	5.85	4.75 NA		22.23 oval		oval	uk	M	6 P5	0.52	0.85	0.95	0.100	0.51	0.140	0.209	0.108	yes	46	111	
	P266-1026-1	1	5.85	4.75 NA		22.23 oval		oval	uk	M	6 P6	0.55	0.91	0.95	0.100	0.51	0.140	0.209	0.108	yes	46	111	
	P266-1028-1	1	6.2	5.5 NA		27.28 oval		oval	n	M	9 P1	0.41	0.67	0.66	0.045	0.40	0.027	0.085	0.016	yes	46	124	
	P266-1028-1	1	6.2	5.5 NA		27.28 oval		oval	n	M	9 P2	0.40	0.66	0.66	0.045	0.40	0.027	0.085	0.016	yes	46	124	
	P266-1028-1	1	6.2	5.5 NA		27.28 oval		oval	n	M	9 P3	0.37	0.60	0.66	0.045	0.40	0.027	0.085	0.016	yes	46	124	
	P266-1028-1	1	6.2	5.5 NA		27.28 oval		oval	n	M	9 P4	0.41	0.68	0.66	0.045	0.40	0.027	0.085	0.016	yes	46	124	
	P266-1028-1	1	6.2	5.5 NA		27.28 oval		oval	n	M	9 P5	0.42	0.69	0.66	0.045	0.40	0.027	0.085	0.016	yes	46	124	
PH266-1028-1-1006	P266-1028-1	1	6.2	5.5 NA		27.28 oval		oval	n	M	9 P6	0.39	0.64	0.66	0.045	0.40	0.027	0.085	0.016	yes	46	124	
	P266-1028-1	1	6.2	5.5 NA		27.28 oval		oval	n	M	9 P7	0.35	0.58	0.66	0.045	0.40	0.027	0.085	0.016	yes	46	124	
	P266-1028-1	1	6.2	5.5 NA		27.28 oval		oval	n	M	9 P8	0.43	0.71	0.66	0.045	0.40	0.027	0.085	0.016	yes	46	124	
	P266-1028-1	1	6.2	5.5 NA		27.28 oval		oval	n	M	9 P9	0.43	0.70	0.66	0.045	0.40	0.027	0.085	0.016	yes	46	124	
	P266-1029-1	1	5.25	4.8 NA		20.16 irregular oval		oval	n	M	4 P1	0.46	0.76	0.70	0.063	0.42	0.038	0.098	0.025	yes	46	131	
	P266-1029-1	1	5.25	4.8 NA		20.16 irregular oval		oval	n	M	4 P2	0.43	0.72	0.70	0.063	0.42	0.038	0.098	0.025	yes	46	131	
	P266-1029-1	1	5.25	4.8 NA		20.16 irregular oval		oval	n	M	4 P3	0.37	0.61	0.70	0.063	0.42	0.038	0.098	0.025	yes	46	131	
	P266-1029-1	1	5.25	4.8 NA		20.16 irregular oval		oval	n	M	4 P4	0.42	0.70	0.70	0.063	0.42	0.038	0.098	0.025	yes	46	131	
	P267-1001-1	1	4 NA	NA		12.57 circle		circle	n	M	4 P1	0.26	0.49	0.56	0.074	0.27	0.032	0.033	0.010	DIA	47	6	
	P267-1001-1	1	4 NA	NA		12.57 circle		circle	n	M	4 P2	0.24	0.52	0.56	0.074	0.27	0.032	0.033	0.010	DIA	47	6	
PH267-1001-1-1003	P267-1001-1	1	4 NA	NA		12.57 circle		circle	n	M	4 P3	0.28	0.66	0.56	0.074	0.27	0.032	0.033	0.010	DIA	47	6	
	P267-1001-1	1	4 NA	NA		12.57 circle		circle	n	M	4 P4	0.31	0.55	0.56	0.074	0.27	0.032	0.033	0.010	DIA	47	6	
	P268-1003-2	2	4.72	4.5 NA		16.99 circle		oval	uk	M	6 P1	0.51	0.81	0.78	0.071	0.26	0.148	0.052	0.059	yes	48	10	
	P268-1003-2	2	4.72	4.5 NA		16.99 circle		oval	uk	M	6 P2	0.23	0.73	0.78	0.071	0.26	0.148	0.052	0.059	yes	48	10	
	P268-1003-2	2	4.72	4.5 NA		16.99 circle		oval	uk	M	6 P3	0.12	0.84	0.78	0.071	0.26	0.148	0.052	0.059	yes	48	10	
	P268-1003-2	2	4.72	4.5 NA		16.99 circle		oval	uk	M	6 P4	0.12	0.86	0.78	0.071	0.26	0.148	0.052	0.059	yes	48	10	
	P268-1003-2	2	4.72	4.5 NA		16.99 circle		oval	uk	M	6 P5	0.29	0.76	0.78	0.071	0.26	0.148	0.052	0.059	yes	48	10	
	P268-1003-2	2	4.72	4.5 NA		16.99 circle		oval	uk	M	6 P6	0.30	0.68	0.78	0.071	0.26	0.148	0.052	0.059	yes	48	10	

PotholeID	PitHoleSID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
PH269-1008-1-1001	P269-1008-1	1	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	4	P1	0.27	0.44	0.51	0.082	0.25	0.028	0.024	0.002	yes	49	1
PH269-1008-1-1002	P269-1008-1	1	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	4	P2	0.20	0.63	0.51	0.082	0.25	0.028	0.024	0.002	yes	49	1
PH269-1008-1-1004	P269-1008-1	1	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	4	P4	0.26	0.50	0.51	0.082	0.25	0.028	0.024	0.002	yes	49	1
PH269-1008-1-1007	P269-1008-1	1	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	4	P7	0.26	0.48	0.51	0.082	0.25	0.028	0.024	0.002	yes	49	1
PH269-1008-2-1001	P269-1008-2	2	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P1	0.27	0.44	0.53	0.066	0.24	0.051	0.026	0.012	yes	49	1
PH269-1008-2-1003	P269-1008-2	2	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P3	0.21	0.53	0.53	0.066	0.24	0.051	0.026	0.012	yes	49	1
PH269-1008-2-1004	P269-1008-2	2	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P4	0.26	0.50	0.53	0.066	0.24	0.051	0.026	0.012	yes	49	1
PH269-1008-2-1005	P269-1008-2	2	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P5	0.17	0.59	0.53	0.066	0.24	0.051	0.026	0.012	yes	49	1
PH269-1008-2-1008	P269-1008-2	2	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P8	0.31	0.60	0.53	0.066	0.24	0.051	0.026	0.012	yes	49	1
PH269-1008-3-1009	P269-1008-3	3	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P9	0.27	0.54	0.61	0.088	0.23	0.067	0.026	0.013	yes	49	1
PH269-1008-3-1010	P269-1008-3	3	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P10	0.23	0.61	0.61	0.088	0.23	0.067	0.026	0.013	yes	49	1
PH269-1008-3-1011	P269-1008-3	3	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P11	0.29	0.65	0.61	0.088	0.23	0.067	0.026	0.013	yes	49	1
PH269-1008-3-1012	P269-1008-3	3	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P12	0.16	0.58	0.61	0.088	0.23	0.067	0.026	0.013	yes	49	1
PH269-1008-3-1013	P269-1008-3	3	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P13	0.12	0.79	0.61	0.088	0.23	0.067	0.026	0.013	yes	49	1
PH269-1008-3-1014	P269-1008-3	3	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P14	0.30	0.57	0.61	0.088	0.23	0.067	0.026	0.013	yes	49	1
PH269-1008-3-1015	P269-1008-3	3	4.2	4.05	10.55	13.61	irregular circle	oval	3	MW	5	P15	0.22	0.54	0.61	0.088	0.23	0.067	0.026	0.013	yes	49	1
PH269-1013-1-1002	P269-1013-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.22	0.39	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-1-1004	P269-1013-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.22	0.33	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-1-1006	P269-1013-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P6	0.26	0.55	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-1-1007	P269-1013-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P7	0.31	0.46	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-1-1008	P269-1013-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P8	0.20	0.42	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-2-1001	P269-1013-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.23	0.34	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-2-1007	P269-1013-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P7	0.31	0.46	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-2-1009	P269-1013-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P9	0.19	0.58	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-2-1010	P269-1013-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P10	0.20	0.35	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-2-1017	P269-1013-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P17	0.13	0.20	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-2-1020	P269-1013-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P20	0.14	0.54	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-2-1021	P269-1013-2	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P21	0.26	0.44	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-3-1011	P269-1013-3	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P11	0.12	0.26	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-3-1012	P269-1013-3	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P12	0.19	0.49	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-3-1014	P269-1013-3	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P14	0.31	0.55	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-3-1015	P269-1013-3	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P15	0.24	0.55	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1013-3-1016	P269-1013-3	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P16	0.19	0.45	NA	NA	NA	NA	NA	NA	NA	3	3
PH269-1014-1-1004	P269-1014-1	1	5.7	4	14.09	18.24	oval?	oval	2	MW	5	P4	0.17	0.71	0.70	0.019	0.18	0.033	0.019	0.007	DIA	49	4
PH269-1014-1-1006	P269-1014-1	1	5.7	4	14.09	18.24	oval?	oval	2	MW	5	P6	0.17	0.71	0.70	0.019	0.18	0.033	0.019	0.007	DIA	49	4
PH269-1014-1-1007	P269-1014-1	1	5.7	4	14.09	18.24	oval?	oval	2	MW	5	P7	0.23	0.69	0.70	0.019	0.18	0.033	0.019	0.007	DIA	49	4
PH269-1014-1-1008	P269-1014-1	1	5.7	4	14.09	18.24	oval?	oval	2	MW	5	P8	0.15	0.67	0.70	0.019	0.18	0.033	0.019	0.007	DIA	49	4
PH269-1014-2-1001	P269-1014-2	2	5.7	4	14.09	18.24	oval?	oval	2	MW	6	P1	0.14	0.80	0.77	0.124	0.20	0.053	0.026	0.017	DIA	49	4

PostholeID	PitHouseID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1014-2-1002	P269-1014-2	2	5.7	4	14.09	18.24	oval?	oval	2	MW	6	P2	0.26	0.78	0.77	0.124	0.20	0.053	0.026	0.017	DIA	49	4
PH269-1014-2-1003	P269-1014-2	2	5.7	4	14.09	18.24	oval?	oval	2	MW	6	P3	0.19	0.58	0.77	0.124	0.20	0.053	0.026	0.017	DIA	49	4
PH269-1014-2-1004	P269-1014-2	2	5.7	4	14.09	18.24	oval?	oval	2	MW	6	P4	0.17	0.71	0.77	0.124	0.20	0.053	0.026	0.017	DIA	49	4
PH269-1014-2-1005	P269-1014-2	2	5.7	4	14.09	18.24	oval?	oval	2	MW	6	P5	0.27	0.96	0.77	0.124	0.20	0.053	0.026	0.017	DIA	49	4
PH269-1014-2-1009	P269-1014-2	2	5.7	4	14.09	18.24	oval?	oval	2	MW	6	P9	0.15	0.77	0.77	0.124	0.20	0.053	0.026	0.017	DIA	49	4
PH269-1015-1-1001	P269-1015-1	1	4.2	2.5	10.89	8.40	circle?	oval	n	MW	4	P1	0.29	0.71	0.68	0.043	0.23	0.063	0.029	0.016	yes	49	6
PH269-1015-1-1002	P269-1015-1	1	4.2	2.5	10.89	8.40	circle?	oval	n	MW	4	P2	0.23	0.63	0.68	0.043	0.23	0.063	0.029	0.016	yes	49	6
PH269-1015-1-1003	P269-1015-1	1	4.2	2.5	10.89	8.40	circle?	oval	n	MW	4	P3	0.16	0.70	0.68	0.043	0.23	0.063	0.029	0.016	yes	49	6
PH269-1017-1-1001	P269-1017-1	1	NA	NA	NA	NA	circle?	oval	2	MW	5	P1	0.24	0.78	0.66	0.089	0.20	0.080	0.022	0.014	yes	49	9
PH269-1017-1-1002	P269-1017-1	1	NA	NA	NA	NA	circle?	oval	2	MW	5	P2	0.11	0.66	0.66	0.089	0.20	0.080	0.022	0.014	yes	49	9
PH269-1017-1-1003	P269-1017-1	1	NA	NA	NA	NA	circle?	oval	2	MW	5	P3	0.29	0.53	0.66	0.089	0.20	0.080	0.022	0.014	yes	49	9
PH269-1017-1-1004	P269-1017-1	1	NA	NA	NA	NA	circle?	oval	2	MW	5	P4	0.11	0.66	0.66	0.089	0.20	0.080	0.022	0.014	yes	49	9
PH269-1017-1-1005	P269-1017-1	1	NA	NA	NA	NA	circle?	oval	2	MW	5	P5	0.22	0.68	0.66	0.089	0.20	0.080	0.022	0.014	yes	49	9
PH269-1017-2-1006	P269-1017-2	2	5.4	NA	19.72	NA	circle?	oval	2	MW	5	P6	0.21	0.74	0.66	0.098	0.15	0.045	0.014	0.009	yes	49	9
PH269-1017-2-1007	P269-1017-2	2	5.4	NA	19.72	NA	circle?	oval	2	MW	5	P7	0.09	0.54	0.66	0.098	0.15	0.045	0.014	0.009	yes	49	9
PH269-1017-2-1008	P269-1017-2	2	5.4	NA	19.72	NA	circle?	oval	2	MW	5	P8	0.16	0.69	0.66	0.098	0.15	0.045	0.014	0.009	yes	49	9
PH269-1017-2-1009	P269-1017-2	2	5.4	NA	19.72	NA	circle?	oval	2	MW	5	P9	0.18	0.75	0.66	0.098	0.15	0.045	0.014	0.009	yes	49	9
PH269-1017-2-1010	P269-1017-2	2	5.4	NA	19.72	NA	circle?	oval	2	MW	5	P10	0.14	0.56	0.66	0.098	0.15	0.045	0.014	0.009	yes	49	9
PH269-1020-1-1001	P269-1020-1	1	4.4	4.25	11.61	14.96	circle/rounded square	oval	MW	4	P1	0.16	0.58	0.61	0.036	0.23	0.049	0.025	0.010	yes	49	20	
PH269-1020-1-1002	P269-1020-1	1	4.4	4.25	11.61	14.96	circle/rounded square	oval	MW	4	P2	0.26	0.58	0.61	0.036	0.23	0.049	0.025	0.010	yes	49	20	
PH269-1020-1-1003	P269-1020-1	1	4.4	4.25	11.61	14.96	circle/rounded square	oval	MW	4	P3	0.26	0.63	0.61	0.036	0.23	0.049	0.025	0.010	yes	49	20	
PH269-1020-1-1004	P269-1020-1	1	4.4	4.25	11.61	14.96	circle/rounded square	oval	MW	4	P4	0.23	0.65	0.61	0.036	0.23	0.049	0.025	0.010	yes	49	20	
PH269-1025-1-1001	P269-1025-1	1	5.8	5	23.05	23.20	pentagon?	oval	n	MW	5	P1	0.27	0.89	0.64	0.141	0.22	0.035	0.026	0.014	yes	49	10
PH269-1025-1-1002	P269-1025-1	1	5.8	5	23.05	23.20	pentagon?	oval	n	MW	5	P2	0.24	0.56	0.64	0.141	0.22	0.035	0.026	0.014	yes	49	10
PH269-1025-1-1003	P269-1025-1	1	5.8	5	23.05	23.20	pentagon?	oval	n	MW	5	P3	0.20	0.61	0.64	0.141	0.22	0.035	0.026	0.014	yes	49	10
PH269-1025-1-1004	P269-1025-1	1	5.8	5	23.05	23.20	pentagon?	oval	n	MW	5	P4	0.18	0.58	0.64	0.141	0.22	0.035	0.026	0.014	yes	49	10
PH269-1025-1-1005	P269-1025-1	1	5.8	5	23.05	23.20	pentagon?	oval	n	MW	5	P5	0.20	0.57	0.64	0.141	0.22	0.035	0.026	0.014	yes	49	10
PH269-1027-1-1001	P269-1027-1	1	4.8	4.6	17.25	17.66	circle?	oval	n?	M	5	P1	0.23	0.78	0.66	0.168	0.24	0.043	0.031	0.012	yes	49	11
PH269-1027-1-1002	P269-1027-1	1	4.8	4.6	17.25	17.66	circle?	oval	n?	M	5	P2	0.26	0.70	0.66	0.168	0.24	0.043	0.031	0.012	yes	49	11
PH269-1027-1-1003	P269-1027-1	1	4.8	4.6	17.25	17.66	circle?	oval	n?	M	5	P3	0.22	0.81	0.66	0.168	0.24	0.043	0.031	0.012	yes	49	11
PH269-1027-1-1004	P269-1027-1	1	4.8	4.6	17.25	17.66	circle?	oval	n?	M	5	P4	0.29	0.63	0.66	0.168	0.24	0.043	0.031	0.012	yes	49	11
PH269-1027-1-1005	P269-1027-1	1	4.8	4.6	17.25	17.66	circle?	oval	n?	M	5	P5	0.17	0.39	0.66	0.168	0.24	0.043	0.031	0.012	yes	49	11
PH269-1029-2-1004	P269-1029-2	2	6	4.5	17.15	21.60	circle?	oval	2	M	6	P4	0.24	0.54	0.60	0.058	0.24	0.027	0.027	0.008	yes	49	52
PH269-1029-2-1005	P269-1029-2	2	6	4.5	17.15	21.60	circle?	oval	2	M	6	P5	0.27	0.65	0.60	0.058	0.24	0.027	0.027	0.008	yes	49	52
PH269-1029-2-1006	P269-1029-2	2	6	4.5	17.15	21.60	circle?	oval	2	M	6	P6	0.23	0.64	0.60	0.058	0.24	0.027	0.027	0.008	yes	49	52
PH269-1029-2-1008	P269-1029-2	2	6	4.5	17.15	21.60	circle?	oval	2	M	6	P8	0.21	0.55	0.60	0.058	0.24	0.027	0.027	0.008	yes	49	52
PH269-1030-1-1001	P269-1030-1	1	3.5	3.5	10.4	9.80	rounded square	oval	n	M	4	P1	0.13	0.40	0.63	0.418	0.18	0.060	0.014	0.007	yes	49	12
PH269-1030-1-1002	P269-1030-1	1	3.5	3.5	10.4	9.80	rounded square	oval	n	M	4	P2	0.27	0.20	0.63	0.418	0.18	0.060	0.014	0.007	yes	49	12

PstholeID	PitHouseID	Bld	L	W	RefFlr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1030-1-1003	P269-1030-1	1	3.5	3.5	10.4	9.80	rounded square	oval	n	M	4	P3	0.18	0.78	0.63	0.418	0.18	0.060	0.014	0.007	yes	49	12
PH269-1030-1-1004	P269-1030-1	1	3.5	3.5	10.4	9.80	rounded square	oval	n	M	4	P4	0.14	1.14	0.63	0.418	0.18	0.060	0.014	0.007	yes	49	12
PH269-1036-1-1001	P269-1036-1	1	3.9	3.65	11.38	11.39	rounded square	oval	2	M	5	P1	0.14	0.53	0.47	0.231	0.14	0.025	0.008	0.006	yes	49	56
PH269-1036-1-1002	P269-1036-1	1	3.9	3.65	11.38	11.39	rounded square	oval	2	M	5	P2	0.12	0.33	0.47	0.231	0.14	0.025	0.008	0.006	yes	49	56
PH269-1036-1-1003	P269-1036-1	1	3.9	3.65	11.38	11.39	rounded square	oval	2	M	5	P3	0.16	0.85	0.47	0.231	0.14	0.025	0.008	0.006	yes	49	56
PH269-1036-1-1004	P269-1036-1	1	3.9	3.65	11.38	11.39	rounded square	oval	2	M	5	P4	0.16	0.30	0.47	0.231	0.14	0.025	0.008	0.006	yes	49	56
PH269-1036-1-1005	P269-1036-1	1	3.9	3.65	11.38	11.39	rounded square	oval	2	M	5	P5	0.10	0.34	0.47	0.231	0.14	0.025	0.008	0.006	yes	49	56
PH269-1036-2-1004	P269-1036-2	2	3.9	3.65	11.38	11.39	rounded square	oval	2	M	6	P4	0.16	0.30	0.34	0.205	0.13	0.025	0.004	0.002	yes	49	56
PH269-1036-2-1005	P269-1036-2	2	3.9	3.65	11.38	11.39	rounded square	oval	2	M	6	P5	0.10	0.34	0.34	0.205	0.13	0.025	0.004	0.002	yes	49	56
PH269-1036-2-1006	P269-1036-2	2	3.9	3.65	11.38	11.39	rounded square	oval	2	M	6	P6	0.14	0.19	0.34	0.205	0.13	0.025	0.004	0.002	yes	49	56
PH269-1036-2-1007	P269-1036-2	2	3.9	3.65	11.38	11.39	rounded square	oval	2	M	6	P7	0.10	0.74	0.34	0.205	0.13	0.025	0.004	0.002	yes	49	56
PH269-1036-2-1008	P269-1036-2	2	3.9	3.65	11.38	11.39	rounded square	oval	2	M	6	P8	0.16	0.31	0.34	0.205	0.13	0.025	0.004	0.002	yes	49	56
PH269-1036-2-1009	P269-1036-2	2	3.9	3.65	11.38	11.39	rounded square	oval	2	M	6	P9	0.13	0.18	0.34	0.205	0.13	0.025	0.004	0.002	yes	49	56
PH269-1039-1-1001	P269-1039-1	1	5.3	5	21.61	21.20	circle	oval	2	MW	5	P1	0.24	0.64	0.70	0.084	0.25	0.018	0.034	0.005	yes	49	13
PH269-1039-1-1002	P269-1039-1	1	5.3	5	21.61	21.20	circle	oval	2	MW	5	P2	0.25	0.66	0.70	0.084	0.25	0.018	0.034	0.005	yes	49	13
PH269-1039-1-1003	P269-1039-1	1	5.3	5	21.61	21.20	circle	oval	2	MW	5	P3	0.25	0.80	0.70	0.084	0.25	0.018	0.034	0.005	yes	49	13
PH269-1039-1-1004	P269-1039-1	1	5.3	5	21.61	21.20	circle	oval	2	MW	5	P4	0.23	0.78	0.70	0.084	0.25	0.018	0.034	0.005	yes	49	13
PH269-1039-1-1005	P269-1039-1	1	5.3	5	21.61	21.20	circle	oval	2	MW	5	P5	0.28	0.61	0.70	0.084	0.25	0.018	0.034	0.005	yes	49	13
PH269-1039-2-1001	P269-1039-2	2	5.3	5	21.61	21.20	circle	oval	2	MW	5	P1	0.24	0.64	0.58	0.121	0.22	0.044	0.022	0.009	DIA	49	13
PH269-1039-2-1002	P269-1039-2	2	5.3	5	21.61	21.20	circle	oval	2	MW	5	P2	0.25	0.40	0.58	0.121	0.22	0.044	0.022	0.009	DIA	49	13
PH269-1039-2-1003	P269-1039-2	2	5.3	5	21.61	21.20	circle	oval	2	MW	5	P3	0.25	0.65	0.58	0.121	0.22	0.044	0.022	0.009	DIA	49	13
PH269-1039-2-1007	P269-1039-2	2	5.3	5	21.61	21.20	circle	oval	2	MW	5	P7	0.18	0.52	0.58	0.121	0.22	0.044	0.022	0.009	DIA	49	13
PH269-1039-2-1008	P269-1039-2	2	5.3	5	21.61	21.20	circle	oval	2	MW	5	P8	0.16	0.70	0.58	0.121	0.22	0.044	0.022	0.009	DIA	49	13
PH269-1043-1-1001	P269-1043-1	1	3.35	3.3	7.89	8.84	circle	oval	n	MW	4	P1	0.13	0.62	0.62	0.066	0.13	0.008	0.008	0.000	yes	49	71
PH269-1043-1-1002	P269-1043-1	1	3.35	3.3	7.89	8.84	circle	oval	n	MW	4	P2	0.14	0.55	0.62	0.066	0.13	0.008	0.008	0.000	yes	49	71
PH269-1043-1-1003	P269-1043-1	1	3.35	3.3	7.89	8.84	circle	oval	n	MW	4	P3	0.12	0.71	0.62	0.066	0.13	0.008	0.008	0.000	yes	49	71
PH269-1043-1-1004	P269-1043-1	1	3.35	3.3	7.89	8.84	circle	oval	n	MW	4	P4	0.13	0.61	0.62	0.066	0.13	0.008	0.008	0.000	yes	49	71
PH269-1046-1-1001	P269-1046-1	1	4.25	3.8	11.64	12.92	oval/egg	oval	n	M	7	P1	0.17	0.63	0.45	0.161	0.12	0.032	0.006	0.005	yes	49	74
PH269-1046-1-1002	P269-1046-1	1	4.25	3.8	11.64	12.92	oval/egg	oval	n	M	7	P2	0.14	0.57	0.45	0.161	0.12	0.032	0.006	0.005	yes	49	74
PH269-1046-1-1003	P269-1046-1	1	4.25	3.8	11.64	12.92	oval/egg	oval	n	M	7	P3	0.09	0.27	0.45	0.161	0.12	0.032	0.006	0.005	yes	49	74
PH269-1046-1-1004	P269-1046-1	1	4.25	3.8	11.64	12.92	oval/egg	oval	n	M	7	P4	0.09	0.21	0.45	0.161	0.12	0.032	0.006	0.005	yes	49	74
PH269-1046-1-1005	P269-1046-1	1	4.25	3.8	11.64	12.92	oval/egg	oval	n	M	7	P5	0.13	0.51	0.45	0.161	0.12	0.032	0.006	0.005	yes	49	74
PH269-1046-1-1006	P269-1046-1	1	4.25	3.8	11.64	12.92	oval/egg	oval	n	M	7	P6	0.09	0.57	0.45	0.161	0.12	0.032	0.006	0.005	yes	49	74
PH269-1046-1-1007	P269-1046-1	1	4.25	3.8	11.64	12.92	oval/egg	oval	n	M	7	P7	0.11	0.41	0.45	0.161	0.12	0.032	0.006	0.005	yes	49	74
PH269-1048-1-1001	P269-1048-1	1	4	4	10.77	12.80	oval	oval	3	MW	4	P1	0.19	0.62	0.46	0.168	0.16	0.080	0.013	0.009	DIA	49	28
PH269-1048-1-1002	P269-1048-1	1	4	4	10.77	12.80	oval	oval	3	MW	4	P2	0.25	0.46	0.46	0.168	0.16	0.080	0.013	0.009	DIA	49	28
PH269-1048-1-1003	P269-1048-1	1	4	4	10.77	12.80	oval	oval	3	MW	4	P3	0.06	0.23	0.46	0.168	0.16	0.080	0.013	0.009	DIA	49	28
PH269-1048-1-1004	P269-1048-1	1	4	4	10.77	12.80	oval	oval	3	MW	4	P4	0.16	0.54	0.46	0.168	0.16	0.080	0.013	0.009	DIA	49	28

PostholeID	PitHoleID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1049-1-1001	P269-1049-1	1	5.9	5.8	25.05	27.38	pentagon	oval	n	MW	5 P1		0.27	0.80	0.78	0.064	0.22	0.075	0.031	0.017	yes	49	30
PH269-1049-1-1002	P269-1049-1	1	5.9	5.8	25.05	27.38	pentagon	oval	n	MW	5 P2		0.10	0.83	0.78	0.064	0.22	0.075	0.031	0.017	yes	49	30
PH269-1049-1-1003	P269-1049-1	1	5.9	5.8	25.05	27.38	pentagon	oval	n	MW	5 P3		0.29	0.72	0.78	0.064	0.22	0.075	0.031	0.017	yes	49	30
PH269-1049-1-1004	P269-1049-1	1	5.9	5.8	25.05	27.38	pentagon	oval	n	MW	5 P4		0.23	0.71	0.78	0.064	0.22	0.075	0.031	0.017	yes	49	30
PH269-1049-1-1005	P269-1049-1	1	5.9	5.8	25.05	27.38	pentagon	oval	n	MW	5 P5		0.20	0.85	0.78	0.064	0.22	0.075	0.031	0.017	yes	49	30
PH269-1050-1-1001	P269-1050-1	1	3.6	3.3	8.28	9.50	circle	oval	n	MW	4 P1		0.18	0.65	0.69	0.047	0.18	0.003	0.017	0.001	yes	49	75
PH269-1050-1-1002	P269-1050-1	1	3.6	3.3	8.28	9.50	circle	oval	n	MW	4 P2		0.17	0.73	0.69	0.047	0.18	0.003	0.017	0.001	yes	49	75
PH269-1050-1-1003	P269-1050-1	1	3.6	3.3	8.28	9.50	circle	oval	n	MW	4 P3		0.18	0.64	0.69	0.047	0.18	0.003	0.017	0.001	yes	49	75
PH269-1050-1-1004	P269-1050-1	1	3.6	3.3	8.28	9.50	circle	oval	n	MW	4 P4		0.18	0.72	0.69	0.047	0.18	0.003	0.017	0.001	yes	49	75
PH269-1051-2-1001	P269-1051-2	2	4.5	4	13.7	14.40	oval/rounded pentagon	oval		2 MW	6 P1		0.14	0.19	0.59	0.224	0.18	0.062	0.017	0.012	yes	49	32
PH269-1051-2-1002	P269-1051-2	2	4.5	4	13.7	14.40	oval/rounded pentagon	oval		2 MW	6 P2		0.14	0.74	0.59	0.224	0.18	0.062	0.017	0.012	yes	49	32
PH269-1051-2-1003	P269-1051-2	2	4.5	4	13.7	14.40	oval/rounded pentagon	oval		2 MW	6 P3		0.19	0.68	0.59	0.224	0.18	0.062	0.017	0.012	yes	49	32
PH269-1051-2-1004	P269-1051-2	2	4.5	4	13.7	14.40	oval/rounded pentagon	oval		2 MW	6 P4		0.29	0.55	0.59	0.224	0.18	0.062	0.017	0.012	yes	49	32
PH269-1051-2-1005	P269-1051-2	2	4.5	4	13.7	14.40	oval/rounded pentagon	oval		2 MW	6 P5		0.13	0.83	0.59	0.224	0.18	0.062	0.017	0.012	yes	49	32
PH269-1051-2-1006	P269-1051-2	2	4.5	4	13.7	14.40	oval/rounded pentagon	oval		2 MW	6 P6		0.20	0.57	0.59	0.224	0.18	0.062	0.017	0.012	yes	49	32
PH269-1056-1-1001	P269-1056-1	1	4.55	4.05	12.86	14.74	oval	oval		2 MW	4 P1		0.20	0.67	0.70	0.068	0.22	0.025	0.028	0.008	yes	49	76
PH269-1056-1-1002	P269-1056-1	1	4.55	4.05	12.86	14.74	oval	oval		2 MW	4 P2		0.25	0.79	0.70	0.068	0.22	0.025	0.028	0.008	yes	49	76
PH269-1056-1-1003	P269-1056-1	1	4.55	4.05	12.86	14.74	oval	oval		2 MW	4 P3		0.20	0.69	0.70	0.068	0.22	0.025	0.028	0.008	yes	49	76
PH269-1056-1-1004	P269-1056-1	1	4.55	4.05	12.86	14.74	oval	oval		2 MW	4 P4		0.24	0.63	0.70	0.068	0.22	0.025	0.028	0.008	yes	49	76
PH269-1056-2-1005	P269-1056-2	2	4.55	4.05	12.86	14.74	oval	oval		2 MW	4 P5		0.22	0.70	0.69	0.062	0.22	0.064	0.026	0.013	yes	49	76
PH269-1056-2-1006	P269-1056-2	2	4.55	4.05	12.86	14.74	oval	oval		2 MW	4 P6		0.20	0.74	0.69	0.062	0.22	0.064	0.026	0.013	yes	49	76
PH269-1056-2-1007	P269-1056-2	2	4.55	4.05	12.86	14.74	oval	oval		2 MW	4 P7		0.30	0.60	0.69	0.062	0.22	0.064	0.026	0.013	yes	49	76
PH269-1056-2-1008	P269-1056-2	2	4.55	4.05	12.86	14.74	oval	oval		2 MW	4 P8		0.14	0.72	0.69	0.062	0.22	0.064	0.026	0.013	yes	49	76
PH269-1057-1-1001	P269-1057-1	1	6.45	6.1	29.04	31.48	rounded square	oval	n	M	7 P1		0.26	0.71	0.77	0.081	0.33	0.043	0.067	0.022	yes	49	33
PH269-1057-1-1003	P269-1057-1	1	6.45	6.1	29.04	31.48	rounded square	oval	n	M	7 P3		0.33	0.78	0.77	0.081	0.33	0.043	0.067	0.022	yes	49	33
PH269-1057-1-1004	P269-1057-1	1	6.45	6.1	29.04	31.48	rounded square	oval	n	M	7 P4		0.40	0.81	0.77	0.081	0.33	0.043	0.067	0.022	yes	49	33
PH269-1057-1-1005	P269-1057-1	1	6.45	6.1	29.04	31.48	rounded square	oval	n	M	7 P5		0.33	0.65	0.77	0.081	0.33	0.043	0.067	0.022	yes	49	33
PH269-1057-1-1006	P269-1057-1	1	6.45	6.1	29.04	31.48	rounded square	oval	n	M	7 P6		0.34	0.85	0.77	0.081	0.33	0.043	0.067	0.022	yes	49	33
PH269-1057-1-1007	P269-1057-1	1	6.45	6.1	29.04	31.48	rounded square	oval	n	M	7 P7		0.35	0.86	0.77	0.081	0.33	0.043	0.067	0.022	yes	49	33
PH269-1057-1-1008	P269-1057-1	1	6.45	6.1	29.04	31.48	rounded square	oval	n	M	7 P8		0.30	0.70	0.77	0.081	0.33	0.043	0.067	0.022	yes	49	33
PH269-1062-1-1001	P269-1062-1	1	6	5.5	23.99	26.40	irregular oval	oval		2 MW	6 P1		0.24	0.92	0.94	0.040	0.21	0.040	0.034	0.012	yes	49	82
PH269-1062-1-1002	P269-1062-1	1	6	5.5	23.99	26.40	irregular oval	oval		2 MW	6 P2		0.26	0.92	0.94	0.040	0.21	0.040	0.034	0.012	yes	49	82
PH269-1062-1-1003	P269-1062-1	1	6	5.5	23.99	26.40	irregular oval	oval		2 MW	6 P3		0.20	1.01	0.94	0.040	0.21	0.040	0.034	0.012	yes	49	82
PH269-1062-1-1004	P269-1062-1	1	6	5.5	23.99	26.40	irregular oval	oval		2 MW	6 P4		0.15	0.90	0.94	0.040	0.21	0.040	0.034	0.012	yes	49	82
PH269-1062-1-1005	P269-1062-1	1	6	5.5	23.99	26.40	irregular oval	oval		2 MW	6 P5		0.19	0.97	0.94	0.040	0.21	0.040	0.034	0.012	yes	49	82
PH269-1062-1-1006	P269-1062-1	1	6	5.5	23.99	26.40	irregular oval	oval		2 MW	6 P6		0.23	0.94	0.94	0.040	0.21	0.040	0.034	0.012	yes	49	82
PH269-1062-2-1006	P269-1062-2	2	6	5.5	23.99	26.40	irregular oval	oval		2 MW	6 P6		0.23	0.94	0.85	0.078	0.24	0.087	0.044	0.033	yes	49	82
PH269-1062-2-1007	P269-1062-2	2	6	5.5	23.99	26.40	irregular oval	oval		2 MW	6 P7		0.22	0.79	0.85	0.078	0.24	0.087	0.044	0.033	yes	49	82

PostholeID	PitHoleID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1062-2-1008	P269-1062-2	2	6	5.5	23.99	26.40	irregular oval	oval	2 MW	6 P8	6 P8	0.19	0.78	0.85	0.078	0.24	0.087	0.044	0.033	yes	49	82	
PH269-1062-2-1009	P269-1062-2	2	6	5.5	23.99	26.40	irregular oval	oval	2 MW	6 P9	6 P9	0.37	0.96	0.85	0.078	0.24	0.087	0.044	0.033	yes	49	82	
PH269-1062-2-1010	P269-1062-2	2	6	5.5	23.99	26.40	irregular oval	oval	2 MW	6 P10	6 P10	0.13	0.83	0.85	0.078	0.24	0.087	0.044	0.033	yes	49	82	
PH269-1062-2-1011	P269-1062-2	2	6	5.5	23.99	26.40	irregular oval	oval	2 MW	6 P11	6 P11	0.31	0.81	0.85	0.078	0.24	0.087	0.044	0.033	yes	49	82	
PH269-1065-1-1001	P269-1065-1	1	2.95	2.95	6.16	6.96	square	oval	n	M	4 P1	0.07	0.54	0.51	0.061	0.12	0.064	0.007	0.008	yes	49	39	
PH269-1065-1-1002	P269-1065-1	1	2.95	2.95	6.16	6.96	square	oval	n	M	4 P2	0.07	0.42	0.51	0.061	0.12	0.064	0.007	0.008	yes	49	39	
PH269-1065-1-1003	P269-1065-1	1	2.95	2.95	6.16	6.96	square	oval	n	M	4 P3	0.13	0.53	0.51	0.061	0.12	0.064	0.007	0.008	yes	49	39	
PH269-1065-1-1004	P269-1065-1	1	2.95	2.95	6.16	6.96	square	oval	n	M	4 P4	0.20	0.55	0.51	0.061	0.12	0.064	0.007	0.008	yes	49	39	
PH269-1066-1-1001	P269-1066-1	1	2.3	2	NA	3.68	rounded pentagon	oval	3 uk	4 P1	0.33	0.63	0.45	0.151	0.39	0.065	0.051	0.005	yes	49	40		
PH269-1066-1-1002	P269-1066-1	1	2.3	2	NA	3.68	rounded pentagon	oval	3 uk	4 P2	0.34	0.51	0.45	0.151	0.39	0.065	0.051	0.005	yes	49	40		
PH269-1066-1-1003	P269-1066-1	1	2.3	2	NA	3.68	rounded pentagon	oval	3 uk	4 P3	0.46	0.29	0.45	0.151	0.39	0.065	0.051	0.005	yes	49	40		
PH269-1066-1-1004	P269-1066-1	1	2.3	2	NA	3.68	rounded pentagon	oval	3 uk	4 P4	0.44	0.37	0.45	0.151	0.39	0.065	0.051	0.005	yes	49	40		
PH269-1066-2-1005	P269-1066-2	2	8.2	6.3	42.7	41.33	pentagon	oval	3 MW	8 P5	0.28	0.56	0.78	0.142	0.24	0.087	0.041	0.024	yes	49	40		
PH269-1066-2-1006	P269-1066-2	2	8.2	6.3	42.7	41.33	pentagon	oval	3 MW	8 P6	0.21	0.80	0.78	0.142	0.24	0.087	0.041	0.024	yes	49	40		
PH269-1066-2-1007	P269-1066-2	2	8.2	6.3	42.7	41.33	pentagon	oval	3 MW	8 P7	0.28	0.96	0.78	0.142	0.24	0.087	0.041	0.024	yes	49	40		
PH269-1066-2-1008	P269-1066-2	2	8.2	6.3	42.7	41.33	pentagon	oval	3 MW	8 P8	0.35	0.70	0.78	0.142	0.24	0.087	0.041	0.024	yes	49	40		
PH269-1066-2-1009	P269-1066-2	2	8.2	6.3	42.7	41.33	pentagon	oval	3 MW	8 P9	0.28	0.85	0.78	0.142	0.24	0.087	0.041	0.024	yes	49	40		
PH269-1066-2-1010	P269-1066-2	2	8.2	6.3	42.7	41.33	pentagon	oval	3 MW	8 P10	0.32	0.84	0.78	0.142	0.24	0.087	0.041	0.024	yes	49	40		
PH269-1066-2-1011	P269-1066-2	2	8.2	6.3	42.7	41.33	pentagon	oval	3 MW	8 P11	0.14	0.92	0.78	0.142	0.24	0.087	0.041	0.024	yes	49	40		
PH269-1066-2-1012	P269-1066-2	2	8.2	6.3	42.7	41.33	pentagon	oval	3 MW	8 P12	0.10	0.62	0.78	0.142	0.24	0.087	0.041	0.024	yes	49	40		
PH269-1066-3-1006	P269-1066-3	3	8.6	6.5	47.01	44.72	rounded pentagon	oval	3 MW	9 P6	0.21	0.80	0.80	0.167	0.24	0.052	0.038	0.019	yes	49	40		
PH269-1066-3-1007	P269-1066-3	3	8.6	6.5	47.01	44.72	rounded pentagon	oval	3 MW	9 P7	0.28	0.96	0.80	0.167	0.24	0.052	0.038	0.019	yes	49	40		
PH269-1066-3-1009	P269-1066-3	3	8.6	6.5	47.01	44.72	rounded pentagon	oval	3 MW	9 P9	0.28	0.85	0.80	0.167	0.24	0.052	0.038	0.019	yes	49	40		
PH269-1066-3-1010	P269-1066-3	3	8.6	6.5	47.01	44.72	rounded pentagon	oval	3 MW	9 P10	0.32	0.84	0.80	0.167	0.24	0.052	0.038	0.019	yes	49	40		
PH269-1066-3-1013	P269-1066-3	3	8.6	6.5	47.01	44.72	rounded pentagon	oval	3 MW	9 P13	0.27	0.78	0.80	0.167	0.24	0.052	0.038	0.019	yes	49	40		
PH269-1066-3-1014	P269-1066-3	3	8.6	6.5	47.01	44.72	rounded pentagon	oval	3 MW	9 P14	0.15	1.02	0.80	0.167	0.24	0.052	0.038	0.019	yes	49	40		
PH269-1066-3-1015	P269-1066-3	3	8.6	6.5	47.01	44.72	rounded pentagon	oval	3 MW	9 P15	0.19	0.43	0.80	0.167	0.24	0.052	0.038	0.019	yes	49	40		
PH269-1066-3-1016	P269-1066-3	3	8.6	6.5	47.01	44.72	rounded pentagon	oval	3 MW	9 P16	0.24	0.74	0.80	0.167	0.24	0.052	0.038	0.019	yes	49	40		
PH269-1066-3-1017	P269-1066-3	3	8.6	6.5	47.01	44.72	rounded pentagon	oval	3 MW	9 P17	0.22	0.74	0.80	0.167	0.24	0.052	0.038	0.019	yes	49	40		
PH269-1071-1-1001	P269-1071-1	1	5.1	4.9	NA	19.99	rounded square	oval	4 MW	43926 P1	0.23	0.69	0.65	0.088	0.33	0.093	0.055	0.024	yes	49	86		
PH269-1071-1-1002	P269-1071-1	1	5.1	4.9	NA	19.99	rounded square	oval	4 MW	43926 P2	0.34	0.72	0.65	0.088	0.33	0.093	0.055	0.024	yes	49	86		
PH269-1071-1-1003	P269-1071-1	1	5.1	4.9	NA	19.99	rounded square	oval	4 MW	43926 P3	0.27	0.72	0.65	0.088	0.33	0.093	0.055	0.024	yes	49	86		
PH269-1071-1-1004	P269-1071-1	1	5.1	4.9	NA	19.99	rounded square	oval	4 MW	43926 P4	0.31	0.63	0.65	0.088	0.33	0.093	0.055	0.024	yes	49	86		
PH269-1071-1-1005	P269-1071-1	1	5.1	4.9	NA	19.99	rounded square	oval	4 MW	43926 P5	0.48	0.51	0.65	0.088	0.33	0.093	0.055	0.024	yes	49	86		
PH269-1071-2-1001	P269-1071-2	2	5.7	4.9	17.41	22.34	rounded square	oval	4 MW	43926 P1	0.23	0.69	0.63	0.107	0.26	0.048	0.034	0.016	yes	49	86		
PH269-1071-2-1006	P269-1071-2	2	5.7	4.9	17.41	22.34	rounded square	oval	4 MW	43926 P6	0.20	0.54	0.63	0.107	0.26	0.048	0.034	0.016	yes	49	86		
PH269-1071-2-1007	P269-1071-2	2	5.7	4.9	17.41	22.34	rounded square	oval	4 MW	43926 P7	0.28	0.76	0.63	0.107	0.26	0.048	0.034	0.016	yes	49	86		
PH269-1071-2-1008	P269-1071-2	2	5.7	4.9	17.41	22.34	rounded square	oval	4 MW	43926 P8	0.23	0.50	0.63	0.107	0.26	0.048	0.034	0.016	yes	49	86		

PostholeID	PitHouseID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef	
PH269-1071-2-1009	P269-1071-2	2	5.7	4.9	17.41	22.34	rounded square	oval	4 MW	43926	P9	0.33	0.64	0.63	0.64	0.107	0.26	0.048	0.034	0.016	yes	49	86	
PH269-1071-3-1011	P269-1071-3	3	5.7	5.5	20.01	25.08	hexagon/heptagon	oval	4 MW	43957	P11	0.29	0.54	0.64	0.64	0.112	0.27	0.057	0.039	0.023	yes	49	86	
PH269-1071-3-1012	P269-1071-3	3	5.7	5.5	20.01	25.08	hexagon/heptagon	oval	4 MW	43957	P12	0.37	0.78	0.64	0.64	0.112	0.27	0.057	0.039	0.023	yes	49	86	
PH269-1071-3-1013	P269-1071-3	3	5.7	5.5	20.01	25.08	hexagon/heptagon	oval	4 MW	43957	P13	0.25	0.67	0.64	0.64	0.112	0.27	0.057	0.039	0.023	yes	49	86	
PH269-1071-3-1014	P269-1071-3	3	5.7	5.5	20.01	25.08	hexagon/heptagon	oval	4 MW	43957	P14	0.22	0.75	0.64	0.64	0.112	0.27	0.057	0.039	0.023	yes	49	86	
PH269-1071-3-1015	P269-1071-3	3	5.7	5.5	20.01	25.08	hexagon/heptagon	oval	4 MW	43957	P15	0.25	0.62	0.64	0.64	0.112	0.27	0.057	0.039	0.023	yes	49	86	
PH269-1071-3-1016	P269-1071-3	3	5.7	5.5	20.01	25.08	hexagon/heptagon	oval	4 MW	43957	P16	0.22	0.50	0.64	0.64	0.112	0.27	0.057	0.039	0.023	yes	49	86	
PH269-1071-4-1017	P269-1071-4	4	7.1	6.6	31.89	37.49	octagon	oval	4 MW	8	P17	0.33	0.40	0.54	0.54	0.167	0.26	0.057	0.032	0.018	yes	49	86	
PH269-1071-4-1018	P269-1071-4	4	7.1	6.6	31.89	37.49	octagon	oval	4 MW	8	P18	0.24	0.67	0.54	0.54	0.167	0.26	0.057	0.032	0.018	yes	49	86	
PH269-1071-4-1019	P269-1071-4	4	7.1	6.6	31.89	37.49	octagon	oval	4 MW	8	P19	0.27	0.61	0.54	0.54	0.167	0.26	0.057	0.032	0.018	yes	49	86	
PH269-1071-4-1020	P269-1071-4	4	7.1	6.6	31.89	37.49	octagon	oval	4 MW	8	P20	0.20	0.58	0.54	0.54	0.167	0.26	0.057	0.032	0.018	yes	49	86	
PH269-1071-4-1021	P269-1071-4	4	7.1	6.6	31.89	37.49	octagon	oval	4 MW	8	P21	0.31	0.70	0.54	0.54	0.167	0.26	0.057	0.032	0.018	yes	49	86	
PH269-1071-4-1022	P269-1071-4	4	7.1	6.6	31.89	37.49	octagon	oval	4 MW	8	P22	0.26	0.41	0.54	0.54	0.167	0.26	0.057	0.032	0.018	yes	49	86	
PH269-1071-4-1023	P269-1071-4	4	7.1	6.6	31.89	37.49	octagon	oval	4 MW	8	P23	0.34	0.70	0.54	0.54	0.167	0.26	0.057	0.032	0.018	yes	49	86	
PH269-1071-4-1024	P269-1071-4	4	7.1	6.6	31.89	37.49	octagon	oval	4 MW	8	P24	0.17	0.25	0.54	0.54	0.167	0.26	0.057	0.032	0.018	yes	49	86	
PH269-1074-2-1002	P269-1074-2	2	NA	NA	NA	NA	oval?	oval	3 MW	uk	P2	0.23	0.48	0.62	0.62	0.096	0.22	0.023	0.024	0.007	DIA	49	63	
PH269-1074-2-1003	P269-1074-2	2	NA	NA	NA	NA	oval?	oval	3 MW	uk	P3	0.25	0.70	0.62	0.62	0.096	0.22	0.023	0.024	0.007	DIA	49	63	
PH269-1074-2-1004	P269-1074-2	2	NA	NA	NA	NA	oval?	oval	3 MW	uk	P4	0.23	0.68	0.62	0.62	0.096	0.22	0.023	0.024	0.007	DIA	49	63	
PH269-1074-2-1006	P269-1074-2	2	NA	NA	NA	NA	oval?	oval	3 MW	uk	P6	0.19	0.57	0.62	0.62	0.096	0.22	0.023	0.024	0.007	DIA	49	63	
PH269-1074-2-1007	P269-1074-2	2	NA	NA	NA	NA	oval?	oval	3 MW	uk	P7	0.20	0.69	0.62	0.62	0.096	0.22	0.023	0.024	0.007	DIA	49	63	
PH269-1074-3-1001	P269-1074-3	3	NA	NA	NA	NA	oval?	oval	3 MW	uk	P1	0.37	0.46	0.63	0.63	0.139	0.31	0.067	0.047	0.013	DIA	49	63	
PH269-1074-3-1008	P269-1074-3	3	NA	NA	NA	NA	oval?	oval	3 MW	uk	P8	0.38	0.45	0.63	0.63	0.139	0.31	0.067	0.047	0.013	DIA	49	63	
PH269-1074-3-1009	P269-1074-3	3	NA	NA	NA	NA	oval?	oval	3 MW	uk	P9	0.35	0.67	0.63	0.63	0.139	0.31	0.067	0.047	0.013	DIA	49	63	
PH269-1074-3-1010	P269-1074-3	3	NA	NA	NA	NA	oval?	oval	3 MW	uk	P10	0.29	0.78	0.63	0.63	0.139	0.31	0.067	0.047	0.013	DIA	49	63	
PH269-1074-3-1011	P269-1074-3	3	NA	NA	NA	NA	oval?	oval	3 MW	uk	P11	0.28	0.68	0.63	0.63	0.139	0.31	0.067	0.047	0.013	DIA	49	63	
PH269-1074-3-1012	P269-1074-3	3	NA	NA	NA	NA	oval?	oval	3 MW	uk	P12	0.20	0.72	0.63	0.63	0.139	0.31	0.067	0.047	0.013	DIA	49	63	
PH269-1075-1-1001	P269-1075-1	1	6	5.55	22.37	26.64	pentagon	oval	n	MW	5	P1	0.34	0.85	0.64	0.64	0.184	0.34	0.030	0.058	0.017	yes	49	64
PH269-1075-1-1002	P269-1075-1	1	6	5.55	22.37	26.64	pentagon	oval	n	MW	5	P2	0.38	0.39	0.64	0.64	0.184	0.34	0.030	0.058	0.017	yes	49	64
PH269-1075-1-1003	P269-1075-1	1	6	5.55	22.37	26.64	pentagon	oval	n	MW	5	P3	0.34	0.75	0.64	0.64	0.184	0.34	0.030	0.058	0.017	yes	49	64
PH269-1075-1-1004	P269-1075-1	1	6	5.55	22.37	26.64	pentagon	oval	n	MW	5	P4	0.30	0.52	0.64	0.64	0.184	0.34	0.030	0.058	0.017	yes	49	64
PH269-1075-1-1005	P269-1075-1	1	6	5.55	22.37	26.64	pentagon	oval	n	MW	5	P5	0.35	0.69	0.64	0.64	0.184	0.34	0.030	0.058	0.017	yes	49	64
PH269-1076-1-1001	P269-1076-1	1	4.4	4.3	13.67	15.14	irregular circle/pentagon	oval	n	M	5	P1	0.21	0.80	0.64	0.64	0.164	0.18	0.050	0.017	0.009	yes	49	89
PH269-1076-1-1002	P269-1076-1	1	4.4	4.3	13.67	15.14	irregular circle/pentagon	oval	n	M	5	P2	0.14	0.84	0.64	0.64	0.164	0.18	0.050	0.017	0.009	yes	49	89
PH269-1076-1-1003	P269-1076-1	1	4.4	4.3	13.67	15.14	irregular circle/pentagon	oval	n	M	5	P3	0.14	0.55	0.64	0.64	0.164	0.18	0.050	0.017	0.009	yes	49	89
PH269-1076-1-1005	P269-1076-1	1	4.4	4.3	13.67	15.14	irregular circle/pentagon	oval	n	M	5	P5	0.15	0.50	0.64	0.64	0.164	0.18	0.050	0.017	0.009	yes	49	89
PH269-1076-1-1006	P269-1076-1	1	4.4	4.3	13.67	15.14	irregular circle/pentagon	oval	n	M	5	P6	0.25	0.52	0.64	0.64	0.164	0.18	0.050	0.017	0.009	yes	49	89
PH269-1077-2-1001	P269-1077-2	2	5	4.8	17.27	19.20	rounded square	oval	2 MW	4	P1	0.14	0.80	0.68	0.68	0.152	0.14	0.013	0.010	0.003	yes	49	90	
PH269-1077-2-1002	P269-1077-2	2	5	4.8	17.27	19.20	rounded square	oval	2 MW	4	P2	0.12	0.70	0.68	0.68	0.152	0.14	0.013	0.010	0.003	yes	49	90	

PostholeID	PitHouseID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1077-2-1003	P269-1077-2	2	5	4.8	17.27	19.20	rounded square	oval	2 MW	4 P3	4 P3	0.14	0.46	0.68	0.152	0.14	0.013	0.010	0.003	yes	49	90	
PH269-1077-2-1004	P269-1077-2	2	5	4.8	17.27	19.20	rounded square	oval	2 MW	4 P4	4 P4	0.15	0.76	0.68	0.152	0.14	0.013	0.010	0.003	yes	49	90	
PH269-1081-1-1001	P269-1081-1	1	5.8	5.6	20.04	25.98	pentagon	oval	2 MW	5 P1	5 P1	0.26	0.34	0.42	0.203	0.22	0.090	0.018	0.014	DIA	49	42	
PH269-1081-1-1002	P269-1081-1	1	5.8	5.6	20.04	25.98	pentagon	oval	2 MW	5 P2	5 P2	0.26	0.78	0.42	0.203	0.22	0.090	0.018	0.014	DIA	49	42	
PH269-1081-1-1003	P269-1081-1	1	5.8	5.6	20.04	25.98	pentagon	oval	2 MW	5 P3	5 P3	0.26	0.30	0.42	0.203	0.22	0.090	0.018	0.014	DIA	49	42	
PH269-1081-1-1004	P269-1081-1	1	5.8	5.6	20.04	25.98	pentagon	oval	2 MW	5 P4	5 P4	0.06	0.40	0.42	0.203	0.22	0.090	0.018	0.014	DIA	49	42	
PH269-1081-1-1005	P269-1081-1	1	5.8	5.6	20.04	25.98	pentagon	oval	2 MW	5 P5	5 P5	0.27	0.30	0.42	0.203	0.22	0.090	0.018	0.014	DIA	49	42	
PH269-1081-2-1001	P269-1081-2	2	5.8	5.6	21.08	25.98	pentagon	oval	2 MW	5 P1	5 P1	0.26	0.34	0.52	0.306	0.23	0.094	0.022	0.019	DIA	49	42	
PH269-1081-2-1002	P269-1081-2	2	5.8	5.6	21.08	25.98	pentagon	oval	2 MW	5 P2	5 P2	0.26	0.78	0.52	0.306	0.23	0.094	0.022	0.019	DIA	49	42	
PH269-1081-2-1006	P269-1081-2	2	5.8	5.6	21.08	25.98	pentagon	oval	2 MW	5 P6	5 P6	0.33	0.50	0.52	0.306	0.23	0.094	0.022	0.019	DIA	49	42	
PH269-1081-2-1007	P269-1081-2	2	5.8	5.6	21.08	25.98	pentagon	oval	2 MW	5 P7	5 P7	0.20	0.13	0.52	0.306	0.23	0.094	0.022	0.019	DIA	49	42	
PH269-1081-2-1008	P269-1081-2	2	5.8	5.6	21.08	25.98	pentagon	oval	2 MW	5 P8	5 P8	0.08	0.87	0.52	0.306	0.23	0.094	0.022	0.019	DIA	49	42	
PH269-1087-1-1003	P269-1087-1	1	NA	NA	NA	NA	rectangle	oval	3 uk	4 P3	4 P3	0.23	0.63	0.71	0.095	0.20	0.036	0.021	0.005	yes	49	96	
PH269-1087-1-1004	P269-1087-1	1	NA	NA	NA	NA	rectangle	oval	3 uk	4 P4	4 P4	0.23	0.62	0.71	0.095	0.20	0.036	0.021	0.005	yes	49	96	
PH269-1087-1-1005	P269-1087-1	1	NA	NA	NA	NA	rectangle	oval	3 uk	4 P5	4 P5	0.17	0.81	0.71	0.095	0.20	0.036	0.021	0.005	yes	49	96	
PH269-1087-1-1006	P269-1087-1	1	NA	NA	NA	NA	rectangle	oval	3 uk	4 P6	4 P6	0.16	0.76	0.71	0.095	0.20	0.036	0.021	0.005	yes	49	96	
PH269-1087-2-1001	P269-1087-2	2	6.5	5.5	NA	28.60	rounded square	oval	3 MW	4 P1	4 P1	0.25	0.71	0.65	0.133	0.21	0.072	0.025	0.017	yes	49	96	
PH269-1087-2-1002	P269-1087-2	2	6.5	5.5	NA	28.60	rounded square	oval	3 MW	4 P2	4 P2	0.29	0.68	0.65	0.133	0.21	0.072	0.025	0.017	yes	49	96	
PH269-1087-2-1003	P269-1087-2	2	6.5	5.5	NA	28.60	rounded square	oval	3 MW	4 P3	4 P3	0.14	0.46	0.65	0.133	0.21	0.072	0.025	0.017	yes	49	96	
PH269-1087-2-1004	P269-1087-2	2	6.5	5.5	NA	28.60	rounded square	oval	3 MW	4 P4	4 P4	0.15	0.76	0.65	0.133	0.21	0.072	0.025	0.017	yes	49	96	
PH269-1087-3-1007	P269-1087-3	3	6.6	6.5	27.4	34.32	rounded pentagon	oval	3 MW	5 P7	5 P7	0.40	0.42	0.58	0.131	0.27	0.093	0.033	0.017	yes	49	96	
PH269-1087-3-1008	P269-1087-3	3	6.6	6.5	27.4	34.32	rounded pentagon	oval	3 MW	5 P8	5 P8	0.28	0.61	0.58	0.131	0.27	0.093	0.033	0.017	yes	49	96	
PH269-1087-3-1009	P269-1087-3	3	6.6	6.5	27.4	34.32	rounded pentagon	oval	3 MW	5 P9	5 P9	0.29	0.68	0.58	0.131	0.27	0.093	0.033	0.017	yes	49	96	
PH269-1087-3-1011	P269-1087-3	3	6.6	6.5	27.4	34.32	rounded pentagon	oval	3 MW	5 P11	5 P11	0.16	0.47	0.58	0.131	0.27	0.093	0.033	0.017	yes	49	96	
PH269-1087-3-1012	P269-1087-3	3	6.6	6.5	27.4	34.32	rounded pentagon	oval	3 MW	5 P12	5 P12	0.20	0.72	0.58	0.131	0.27	0.093	0.033	0.017	yes	49	96	
PH269-1088-1-1001	P269-1088-1	1	6.95	6	31.59	33.36	rounded rectangle?	oval	2 MW	4 P1	4 P1	0.35	0.50	0.53	0.114	0.35	0.051	0.054	0.024	DIA	49	44	
PH269-1088-1-1003	P269-1088-1	1	6.95	6	31.59	33.36	rounded rectangle?	oval	2 MW	4 P3	4 P3	0.39	0.57	0.53	0.114	0.35	0.051	0.054	0.024	DIA	49	44	
PH269-1088-1-1009	P269-1088-1	1	6.95	6	31.59	33.36	rounded rectangle?	oval	2 MW	4 P9	4 P9	0.28	0.38	0.53	0.114	0.35	0.051	0.054	0.024	DIA	49	44	
PH269-1088-1-1010	P269-1088-1	1	6.95	6	31.59	33.36	rounded rectangle?	oval	2 MW	4 P10	4 P10	0.39	0.65	0.53	0.114	0.35	0.051	0.054	0.024	DIA	49	44	
PH269-1088-2-1002	P269-1088-2	2	9	6	42.82	43.20	pentagon?	oval	2 M	8 P2	8 P2	0.28	0.73	0.55	0.146	0.31	0.048	0.042	0.019	DIA	49	44	
PH269-1088-2-1004	P269-1088-2	2	9	6	42.82	43.20	pentagon?	oval	2 M	8 P4	8 P4	0.28	0.54	0.55	0.146	0.31	0.048	0.042	0.019	DIA	49	44	
PH269-1088-2-1006	P269-1088-2	2	9	6	42.82	43.20	pentagon?	oval	2 M	8 P6	8 P6	0.36	0.52	0.55	0.146	0.31	0.048	0.042	0.019	DIA	49	44	
PH269-1088-2-1007	P269-1088-2	2	9	6	42.82	43.20	pentagon?	oval	2 M	8 P7	8 P7	0.27	0.66	0.55	0.146	0.31	0.048	0.042	0.019	DIA	49	44	
PH269-1088-2-1008	P269-1088-2	2	9	6	42.82	43.20	pentagon?	oval	2 M	8 P8	8 P8	0.28	0.34	0.55	0.146	0.31	0.048	0.042	0.019	DIA	49	44	
PH269-1088-2-1009	P269-1088-2	2	9	6	42.82	43.20	pentagon?	oval	2 M	8 P9	8 P9	0.28	0.38	0.55	0.146	0.31	0.048	0.042	0.019	DIA	49	44	
PH269-1088-2-1010	P269-1088-2	2	9	6	42.82	43.20	pentagon?	oval	2 M	8 P10	8 P10	0.39	0.65	0.55	0.146	0.31	0.048	0.042	0.019	DIA	49	44	
PH269-1091-1-1001	P269-1091-1	1	6.6	5.75	29.5	30.36	rounded rectangle	oval	n	MW	6 P1	6 P1	0.25	0.70	0.63	0.148	0.26	0.063	0.035	0.018	DIA	49	66
PH269-1091-1-1002	P269-1091-1	1	6.6	5.75	29.5	30.36	rounded rectangle	oval	n	MW	6 P2	6 P2	0.30	0.65	0.63	0.148	0.26	0.063	0.035	0.018	DIA	49	66

PstHoleID	PitHouseID	Bld L	W	ReefLr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1091-1-1003	P269-1091-1	1	6.6	5.75	29.5	30.36 rounded rectangle	oval	n	MW	6 P3	6 P3	0.17	0.81	0.63	0.148	0.26	0.063	0.035	0.018 DIA		49	66
PH269-1091-1-1004	P269-1091-1	1	6.6	5.75	29.5	30.36 rounded rectangle	oval	n	MW	6 P4	6 P4	0.22	0.39	0.63	0.148	0.26	0.063	0.035	0.018 DIA		49	66
PH269-1091-1-1005	P269-1091-1	1	6.6	5.75	29.5	30.36 rounded rectangle	oval	n	MW	6 P5	6 P5	0.29	0.53	0.63	0.148	0.26	0.063	0.035	0.018 DIA		49	66
PH269-1091-1-1006	P269-1091-1	1	6.6	5.75	29.5	30.36 rounded rectangle	oval	n	MW	6 P6	6 P6	0.34	0.69	0.63	0.148	0.26	0.063	0.035	0.018 DIA		49	66
PH269-1092-1-1001	P269-1092-1	1	5	4.9	19.34	19.60 pentagon?	oval		2 MW	4 P1	4 P1	0.14	0.33	0.54	0.229	0.16	0.051	0.014	0.012 yes		49	101
PH269-1092-1-1002	P269-1092-1	1	5	4.9	19.34	19.60 pentagon?	oval		2 MW	4 P2	4 P2	0.20	0.77	0.54	0.229	0.16	0.051	0.014	0.012 yes		49	101
PH269-1092-1-1003	P269-1092-1	1	5	4.9	19.34	19.60 pentagon?	oval		2 MW	4 P3	4 P3	0.10	0.35	0.54	0.229	0.16	0.051	0.014	0.012 yes		49	101
PH269-1092-1-1004	P269-1092-1	1	5	4.9	19.34	19.60 pentagon?	oval		2 MW	4 P4	4 P4	0.21	0.70	0.54	0.229	0.16	0.051	0.014	0.012 yes		49	101
PH269-1092-2-1001	P269-1092-2	2	5	4.9	19.34	19.60 pentagon?	oval		2 MW	6 P1	6 P1	0.14	0.33	0.50	0.264	0.18	0.043	0.013	0.009 yes		49	101
PH269-1092-2-1002	P269-1092-2	2	5	4.9	19.34	19.60 pentagon?	oval		2 MW	6 P2	6 P2	0.20	0.77	0.50	0.264	0.18	0.043	0.013	0.009 yes		49	101
PH269-1092-2-1004	P269-1092-2	2	5	4.9	19.34	19.60 pentagon?	oval		2 MW	6 P4	6 P4	0.21	0.70	0.50	0.264	0.18	0.043	0.013	0.009 yes		49	101
PH269-1092-2-1005	P269-1092-2	2	5	4.9	19.34	19.60 pentagon?	oval		2 MW	6 P5	6 P5	0.25	0.22	0.50	0.264	0.18	0.043	0.013	0.009 yes		49	101
PH269-1092-2-1006	P269-1092-2	2	5	4.9	19.34	19.60 pentagon?	oval		2 MW	6 P6	6 P6	0.16	0.25	0.50	0.264	0.18	0.043	0.013	0.009 yes		49	101
PH269-1092-2-1007	P269-1092-2	2	5	4.9	19.34	19.60 pentagon?	oval		2 MW	6 P7	6 P7	0.14	0.76	0.50	0.264	0.18	0.043	0.013	0.009 yes		49	101
PH269-1093-1-1001	P269-1093-1	1	4.8	4.3	14.03	16.51 circle	oval		2 MW	4 P1	4 P1	0.26	0.76	0.82	0.071	0.18	0.049	0.022	0.011 yes		49	102
PH269-1093-1-1002	P269-1093-1	1	4.8	4.3	14.03	16.51 circle	oval		2 MW	4 P2	4 P2	0.15	0.76	0.82	0.071	0.18	0.049	0.022	0.011 yes		49	102
PH269-1093-1-1003	P269-1093-1	1	4.8	4.3	14.03	16.51 circle	oval		2 MW	4 P3	4 P3	0.16	0.90	0.82	0.071	0.18	0.049	0.022	0.011 yes		49	102
PH269-1093-1-1004	P269-1093-1	1	4.8	4.3	14.03	16.51 circle	oval		2 MW	4 P4	4 P4	0.17	0.86	0.82	0.071	0.18	0.049	0.022	0.011 yes		49	102
PH269-1093-2-1006	P269-1093-2	2	4.8	4.3	14.03	16.51 circle	oval		2 MW	4 P6	4 P6	0.14	0.86	0.73	0.139	0.21	0.056	0.027	0.012 yes		49	102
PH269-1093-2-1007	P269-1093-2	2	4.8	4.3	14.03	16.51 circle	oval		2 MW	4 P7	4 P7	0.22	0.83	0.73	0.139	0.21	0.056	0.027	0.012 yes		49	102
PH269-1093-2-1008	P269-1093-2	2	4.8	4.3	14.03	16.51 circle	oval		2 MW	4 P8	4 P8	0.28	0.68	0.73	0.139	0.21	0.056	0.027	0.012 yes		49	102
PH269-1093-2-1009	P269-1093-2	2	4.8	4.3	14.03	16.51 circle	oval		2 MW	4 P9	4 P9	0.21	0.56	0.73	0.139	0.21	0.056	0.027	0.012 yes		49	102
PH269-1094-1-1001	P269-1094-1	1	5.7	5.2	18.86	23.71 rounded square	oval		3 MW	4 P1	4 P1	0.22	0.48	0.55	0.174	0.29	0.062	0.040	0.026 yes		49	104
PH269-1094-1-1002	P269-1094-1	1	5.7	5.2	18.86	23.71 rounded square	oval		3 MW	4 P2	4 P2	0.36	0.75	0.55	0.174	0.29	0.062	0.040	0.026 yes		49	104
PH269-1094-1-1003	P269-1094-1	1	5.7	5.2	18.86	23.71 rounded square	oval		3 MW	4 P3	4 P3	0.27	0.63	0.55	0.174	0.29	0.062	0.040	0.026 yes		49	104
PH269-1094-1-1004	P269-1094-1	1	5.7	5.2	18.86	23.71 rounded square	oval		3 MW	4 P4	4 P4	0.32	0.35	0.55	0.174	0.29	0.062	0.040	0.026 yes		49	104
PH269-1094-2-1002	P269-1094-2	2	5.9	5.7	21.1	26.90 rounded square	oval		3 MW	43926 P2	43926 P2	0.36	0.75	0.63	0.086	0.30	0.044	0.047	0.021 yes		49	104
PH269-1094-2-1003	P269-1094-2	2	5.9	5.7	21.1	26.90 rounded square	oval		3 MW	43926 P3	43926 P3	0.27	0.63	0.63	0.086	0.30	0.044	0.047	0.021 yes		49	104
PH269-1094-2-1005	P269-1094-2	2	5.9	5.7	21.1	26.90 rounded square	oval		3 MW	43926 P5	43926 P5	0.27	0.59	0.63	0.086	0.30	0.044	0.047	0.021 yes		49	104
PH269-1094-2-1007	P269-1094-2	2	5.9	5.7	21.1	26.90 rounded square	oval		3 MW	43926 P7	43926 P7	0.30	0.55	0.63	0.086	0.30	0.044	0.047	0.021 yes		49	104
PH269-1094-3-1009	P269-1094-3	3	6	5.8	22.37	27.84 pentagon	oval		3 MW	6 P9	6 P9	0.29	0.69	0.76	0.095	0.28	0.019	0.046	0.010 yes		49	104
PH269-1094-3-1010	P269-1094-3	3	6	5.8	22.37	27.84 pentagon	oval		3 MW	6 P10	6 P10	0.26	0.65	0.76	0.095	0.28	0.019	0.046	0.010 yes		49	104
PH269-1094-3-1011	P269-1094-3	3	6	5.8	22.37	27.84 pentagon	oval		3 MW	6 P11	6 P11	0.31	0.88	0.76	0.095	0.28	0.019	0.046	0.010 yes		49	104
PH269-1094-3-1012	P269-1094-3	3	6	5.8	22.37	27.84 pentagon	oval		3 MW	6 P12	6 P12	0.29	0.68	0.76	0.095	0.28	0.019	0.046	0.010 yes		49	104
PH269-1094-3-1013	P269-1094-3	3	6	5.8	22.37	27.84 pentagon	oval		3 MW	6 P13	6 P13	0.26	0.82	0.76	0.095	0.28	0.019	0.046	0.010 yes		49	104
PH269-1094-3-1014	P269-1094-3	3	6	5.8	22.37	27.84 pentagon	oval		3 MW	6 P14	6 P14	0.26	0.82	0.76	0.095	0.28	0.019	0.046	0.010 yes		49	104
PH269-1095-1-1001	P269-1095-1	1	5.1	5.1	16.01	20.81 pentagon	oval	n	MW	6 P1	6 P1	0.18	0.73	0.79	0.070	0.17	0.024	0.019	0.006 yes		49	106
PH269-1095-1-1002	P269-1095-1	1	5.1	5.1	16.01	20.81 pentagon	oval	n	MW	6 P2	6 P2	0.14	0.71	0.79	0.070	0.17	0.024	0.019	0.006 yes		49	106

PostholeID	PthHoleSID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dep	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1095-1-1003	P269-1095-1	1	5.1	5.1	16.01	20.81	pentagon	oval	n	MW	6 P3	0.20	0.78	0.79	0.070	0.17	0.024	0.019	0.006	yes	49	106	
PH269-1095-1-1004	P269-1095-1	1	5.1	5.1	16.01	20.81	pentagon	oval	n	MW	6 P4	0.19	0.80	0.79	0.070	0.17	0.024	0.019	0.006	yes	49	106	
PH269-1095-1-1005	P269-1095-1	1	5.1	5.1	16.01	20.81	pentagon	oval	n	MW	6 P5	0.15	0.79	0.79	0.070	0.17	0.024	0.019	0.006	yes	49	106	
PH269-1095-1-1006	P269-1095-1	1	5.1	5.1	16.01	20.81	pentagon	oval	n	MW	6 P6	0.18	0.91	0.79	0.070	0.17	0.024	0.019	0.006	yes	49	106	
PH269-1096-1-1001	P269-1096-1	1	5	4.4	15.97	17.60	rounded rectangle	oval	2 MW		4 P1	0.31	0.76	0.72	0.057	0.34	0.020	0.064	0.010	yes	49	108	
PH269-1096-1-1002	P269-1096-1	1	5	4.4	15.97	17.60	rounded rectangle	oval	2 MW		4 P2	0.34	0.69	0.72	0.057	0.34	0.020	0.064	0.010	yes	49	108	
PH269-1096-1-1003	P269-1096-1	1	5	4.4	15.97	17.60	rounded rectangle	oval	2 MW		4 P3	0.36	0.78	0.72	0.057	0.34	0.020	0.064	0.010	yes	49	108	
PH269-1096-1-1004	P269-1096-1	1	5	4.4	15.97	17.60	rounded rectangle	oval	2 MW		4 P4	0.34	0.66	0.72	0.057	0.34	0.020	0.064	0.010	yes	49	108	
PH269-1096-2-1002	P269-1096-2	2	5.9	5.7	24.52	26.90	rounded square	oval	2 M		6 P2	0.34	0.69	0.67	0.071	0.29	0.055	0.047	0.021	yes	49	108	
PH269-1096-2-1003	P269-1096-2	2	5.9	5.7	24.52	26.90	rounded square	oval	2 M		6 P3	0.36	0.78	0.67	0.071	0.29	0.055	0.047	0.021	yes	49	108	
PH269-1096-2-1005	P269-1096-2	2	5.9	5.7	24.52	26.90	rounded square	oval	2 M		6 P5	0.22	0.66	0.67	0.071	0.29	0.055	0.047	0.021	yes	49	108	
PH269-1096-2-1006	P269-1096-2	2	5.9	5.7	24.52	26.90	rounded square	oval	2 M		6 P6	0.25	0.59	0.67	0.071	0.29	0.055	0.047	0.021	yes	49	108	
PH269-1096-2-1007	P269-1096-2	2	5.9	5.7	24.52	26.90	rounded square	oval	2 M		6 P7	0.26	0.71	0.67	0.071	0.29	0.055	0.047	0.021	yes	49	108	
PH269-1096-2-1008	P269-1096-2	2	5.9	5.7	24.52	26.90	rounded square	oval	2 M		6 P8	0.32	0.60	0.67	0.071	0.29	0.055	0.047	0.021	yes	49	108	
PH269-1097-1-1001	P269-1097-1	1	6.6	6.5	29.23	34.32	rounded pentagon	oval	n	MW	5 P1	0.26	0.85	0.83	0.079	0.37	0.066	0.093	0.033	yes	49	111	
PH269-1097-1-1002	P269-1097-1	1	6.6	6.5	29.23	34.32	rounded pentagon	oval	n	MW	5 P2	0.41	0.95	0.83	0.079	0.37	0.066	0.093	0.033	yes	49	111	
PH269-1097-1-1003	P269-1097-1	1	6.6	6.5	29.23	34.32	rounded pentagon	oval	n	MW	5 P3	0.43	0.83	0.83	0.079	0.37	0.066	0.093	0.033	yes	49	111	
PH269-1097-1-1004	P269-1097-1	1	6.6	6.5	29.23	34.32	rounded pentagon	oval	n	MW	5 P4	0.37	0.81	0.83	0.079	0.37	0.066	0.093	0.033	yes	49	111	
PH269-1097-1-1005	P269-1097-1	1	6.6	6.5	29.23	34.32	rounded pentagon	oval	n	MW	5 P5	0.39	0.73	0.83	0.079	0.37	0.066	0.093	0.033	yes	49	111	
PH269-1099-1-1001	P269-1099-1	1	3	2.9	6.92	6.96	circle?	oval	n	M	4 P1	0.21	0.66	0.57	0.094	0.20	0.011	0.018	0.004	yes	49	110	
PH269-1099-1-1002	P269-1099-1	1	3	2.9	6.92	6.96	circle?	oval	n	M	4 P2	0.19	0.64	0.57	0.094	0.20	0.011	0.018	0.004	yes	49	110	
PH269-1099-1-1003	P269-1099-1	1	3	2.9	6.92	6.96	circle?	oval	n	M	4 P3	0.20	0.47	0.57	0.094	0.20	0.011	0.018	0.004	yes	49	110	
PH269-1099-1-1004	P269-1099-1	1	3	2.9	6.92	6.96	circle?	oval	n	M	4 P4	0.19	0.51	0.57	0.094	0.20	0.011	0.018	0.004	yes	49	110	
PH269-1100-1-1001	P269-1100-1	1	NA	NA	NA	NA	pentagon	oval	n	M	5 P1	0.22	0.50	0.55	0.200	0.24	0.048	0.026	0.015	DIA	49	48	
PH269-1100-1-1002	P269-1100-1	1	NA	NA	NA	NA	pentagon	oval	n	M	5 P2	0.19	0.30	0.55	0.200	0.24	0.048	0.026	0.015	DIA	49	48	
PH269-1100-1-1003	P269-1100-1	1	NA	NA	NA	NA	pentagon	oval	n	M	5 P3	0.30	0.70	0.55	0.200	0.24	0.048	0.026	0.015	DIA	49	48	
PH269-1100-1-1004	P269-1100-1	1	NA	NA	NA	NA	pentagon	oval	n	M	5 P4	0.20	0.80	0.55	0.200	0.24	0.048	0.026	0.015	DIA	49	48	
PH269-1100-1-1005	P269-1100-1	1	NA	NA	NA	NA	pentagon	oval	n	M	5 P5	0.28	0.45	0.55	0.200	0.24	0.048	0.026	0.015	DIA	49	48	
PH269-1117-2-1001	P269-1117-2	2	6.3	5.7	24.71	28.73	oval	oval	2 MW		43989 P1	0.26	0.81	0.78	0.097	0.27	0.087	0.049	0.030	yes	49	68	
PH269-1117-2-1002	P269-1117-2	2	6.3	5.7	24.71	28.73	oval	oval	2 MW		43989 P2	0.38	0.89	0.78	0.097	0.27	0.087	0.049	0.030	yes	49	68	
PH269-1117-2-1003	P269-1117-2	2	6.3	5.7	24.71	28.73	oval	oval	2 MW		43989 P3	0.16	0.65	0.78	0.097	0.27	0.087	0.049	0.030	yes	49	68	
PH269-1117-2-1004	P269-1117-2	2	6.3	5.7	24.71	28.73	oval	oval	2 MW		43989 P4	0.13	0.90	0.78	0.097	0.27	0.087	0.049	0.030	yes	49	68	
PH269-1117-2-1005	P269-1117-2	2	6.3	5.7	24.71	28.73	oval	oval	2 MW		43989 P5	0.34	0.80	0.78	0.097	0.27	0.087	0.049	0.030	yes	49	68	
PH269-1117-2-1006	P269-1117-2	2	6.3	5.7	24.71	28.73	oval	oval	2 MW		43989 P6	0.31	0.71	0.78	0.097	0.27	0.087	0.049	0.030	yes	49	68	
PH269-1117-2-1007	P269-1117-2	2	6.3	5.7	24.71	28.73	oval	oval	2 MW		43989 P7	0.31	0.84	0.78	0.097	0.27	0.087	0.049	0.030	yes	49	68	
PH269-1117-2-1008	P269-1117-2	2	6.3	5.7	24.71	28.73	oval	oval	2 MW		43989 P8	0.28	0.67	0.78	0.097	0.27	0.087	0.049	0.030	yes	49	68	
PH269-1119-1-1001	P269-1119-1	1	NA	NA	40.55	NA	rectangle/hexagon?	oval	n	MW	44021 P1	0.22	0.59	0.62	0.228	0.21	0.043	0.020	0.006	DIA	49	122	
PH269-1119-1-1002	P269-1119-1	1	NA	NA	40.55	NA	rectangle/hexagon?	oval	n	MW	44021 P2	0.25	0.22	0.62	0.228	0.21	0.043	0.020	0.006	DIA	49	122	

PestholeID	PitHoleSID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1119-1-1003	P269-1119-1	1	NA	NA	40.55	NA	rectangle/hexagon?	oval	n	MW	44021	P3	0.13	0.90	0.62	0.228	0.21	0.043	0.020	0.006	DIA	49	122
PH269-1119-1-1004	P269-1119-1	1	NA	NA	40.55	NA	rectangle/hexagon?	oval	n	MW	44021	P4	0.20	0.75	0.62	0.228	0.21	0.043	0.020	0.006	DIA	49	122
PH269-1119-1-1005	P269-1119-1	1	NA	NA	40.55	NA	rectangle/hexagon?	oval	n	MW	44021	P5	0.20	0.80	0.62	0.228	0.21	0.043	0.020	0.006	DIA	49	122
PH269-1119-1-1006	P269-1119-1	1	NA	NA	40.55	NA	rectangle/hexagon?	oval	n	MW	44021	P6	0.25	0.47	0.62	0.228	0.21	0.043	0.020	0.006	DIA	49	122
PH269-1119-1-1007	P269-1119-1	1	NA	NA	40.55	NA	rectangle/hexagon?	oval	n	MW	44021	P7	0.20	0.60	0.62	0.228	0.21	0.043	0.020	0.006	DIA	49	122
PH269-1122-1-1001	P269-1122-1	1	6.55	5.9	29.26	30.92	rounded rectangle	oval	n	M	7	P1	0.31	0.67	0.69	0.064	0.35	0.042	0.067	0.019	yes	49	69
PH269-1122-1-1002	P269-1122-1	1	6.55	5.9	29.26	30.92	rounded rectangle	oval	n	M	7	P2	0.40	0.78	0.69	0.064	0.35	0.042	0.067	0.019	yes	49	69
PH269-1122-1-1003	P269-1122-1	1	6.55	5.9	29.26	30.92	rounded rectangle	oval	n	M	7	P3	0.32	0.65	0.69	0.064	0.35	0.042	0.067	0.019	yes	49	69
PH269-1122-1-1004	P269-1122-1	1	6.55	5.9	29.26	30.92	rounded rectangle	oval	n	M	7	P4	0.35	0.79	0.69	0.064	0.35	0.042	0.067	0.019	yes	49	69
PH269-1122-1-1005	P269-1122-1	1	6.55	5.9	29.26	30.92	rounded rectangle	oval	n	M	7	P5	0.38	0.66	0.69	0.064	0.35	0.042	0.067	0.019	yes	49	69
PH269-1122-1-1006	P269-1122-1	1	6.55	5.9	29.26	30.92	rounded rectangle	oval	n	M	7	P6	0.38	0.63	0.69	0.064	0.35	0.042	0.067	0.019	yes	49	69
PH269-1122-1-1007	P269-1122-1	1	6.55	5.9	29.26	30.92	rounded rectangle	oval	n	M	7	P7	0.29	0.67	0.69	0.064	0.35	0.042	0.067	0.019	yes	49	69
PH269-1123-1-1001	P269-1123-1	1	4.2	4.2	13.61	14.11	circle	oval	n	M	4	P1	0.08	0.36	0.47	0.187	0.15	0.063	0.009	0.008	yes	49	125
PH269-1123-1-1002	P269-1123-1	1	4.2	4.2	13.61	14.11	circle	oval	n	M	4	P2	0.11	0.61	0.47	0.187	0.15	0.063	0.009	0.008	yes	49	125
PH269-1123-1-1003	P269-1123-1	1	4.2	4.2	13.61	14.11	circle	oval	n	M	4	P3	0.20	0.64	0.47	0.187	0.15	0.063	0.009	0.008	yes	49	125
PH269-1123-1-1004	P269-1123-1	1	4.2	4.2	13.61	14.11	circle	oval	n	M	4	P4	0.20	0.26	0.47	0.187	0.15	0.063	0.009	0.008	yes	49	125
PH269-1125-1-1001	P269-1125-1	1	5.5	5	22.9	22.00	pentagon	oval	2	M	6?	P1	0.32	0.54	0.54	0.138	0.27	0.057	0.030	0.009	DIA	49	47
PH269-1125-1-1003	P269-1125-1	1	5.5	5	22.9	22.00	pentagon	oval	2	M	6?	P3	0.29	0.46	0.54	0.138	0.27	0.057	0.030	0.009	DIA	49	47
PH269-1125-1-1005	P269-1125-1	1	5.5	5	22.9	22.00	pentagon	oval	2	M	6?	P5	0.31	0.38	0.54	0.138	0.27	0.057	0.030	0.009	DIA	49	47
PH269-1125-1-1007	P269-1125-1	1	5.5	5	22.9	22.00	pentagon	oval	2	M	6?	P7	0.25	0.56	0.54	0.138	0.27	0.057	0.030	0.009	DIA	49	47
PH269-1125-1-1010	P269-1125-1	1	5.5	5	22.9	22.00	pentagon	oval	2	M	6?	P10	0.19	0.75	0.54	0.138	0.27	0.057	0.030	0.009	DIA	49	47
PH269-1125-2-1002	P269-1125-2	2	5.5	5	22.9	22.00	pentagon	oval	2	M	6?	P2	0.22	0.57	0.41	0.139	0.23	0.053	0.019	0.012	DIA	49	47
PH269-1125-2-1004	P269-1125-2	2	5.5	5	22.9	22.00	pentagon	oval	2	M	6?	P4	0.30	0.54	0.41	0.139	0.23	0.053	0.019	0.012	DIA	49	47
PH269-1125-2-1006	P269-1125-2	2	5.5	5	22.9	22.00	pentagon	oval	2	M	6?	P6	0.19	0.27	0.41	0.139	0.23	0.053	0.019	0.012	DIA	49	47
PH269-1125-2-1008	P269-1125-2	2	5.5	5	22.9	22.00	pentagon	oval	2	M	6?	P8	0.28	0.31	0.41	0.139	0.23	0.053	0.019	0.012	DIA	49	47
PH269-1125-2-1011	P269-1125-2	2	5.5	5	22.9	22.00	pentagon	oval	2	M	6?	P11	0.18	0.34	0.41	0.139	0.23	0.053	0.019	0.012	DIA	49	47
PH269-1127-1-1001	P269-1127-1	1	NA	NA	17.33	NA	circle?	oval	n	M	4	P1	0.15	0.56	0.63	0.062	0.19	0.042	0.018	0.009	yes	49	100
PH269-1127-1-1002	P269-1127-1	1	NA	NA	17.33	NA	circle?	oval	n	M	4	P2	0.24	0.67	0.63	0.062	0.19	0.042	0.018	0.009	yes	49	100
PH269-1127-1-1003	P269-1127-1	1	NA	NA	17.33	NA	circle?	oval	n	M	4	P3	0.16	0.69	0.63	0.062	0.19	0.042	0.018	0.009	yes	49	100
PH269-1127-1-1004	P269-1127-1	1	NA	NA	17.33	NA	circle?	oval	n	M	4	P4	0.20	0.60	0.63	0.062	0.19	0.042	0.018	0.009	yes	49	100
PH269-1133-1-1001	P269-1133-1	1	NA	NA	NA	NA	pentagon?	oval	n	M	5	P1	0.25	0.33	0.42	0.201	0.26	0.065	0.024	0.019	DIA	49	49
PH269-1133-1-1002	P269-1133-1	1	NA	NA	NA	NA	pentagon?	oval	n	M	5	P2	0.23	0.34	0.42	0.201	0.26	0.065	0.024	0.019	DIA	49	49
PH269-1133-1-1003	P269-1133-1	1	NA	NA	NA	NA	pentagon?	oval	n	M	5	P3	0.36	0.57	0.42	0.201	0.26	0.065	0.024	0.019	DIA	49	49
PH269-1133-1-1004	P269-1133-1	1	NA	NA	NA	NA	pentagon?	oval	n	M	5	P4	0.28	0.18	0.42	0.201	0.26	0.065	0.024	0.019	DIA	49	49
PH269-1133-1-1005	P269-1133-1	1	NA	NA	NA	NA	pentagon?	oval	n	M	5	P5	0.19	0.68	0.42	0.201	0.26	0.065	0.024	0.019	DIA	49	49
PH269-1146-1-1002	P269-1146-1	1	4.2	3.9	12.1	13.10	rounded square/trapezoid?	oval	2	M	4	P2	0.22	0.61	0.62	0.119	0.23	0.070	0.025	0.010	yes	49	129
PH269-1146-1-1003	P269-1146-1	1	4.2	3.9	12.1	13.10	rounded square/trapezoid?	oval	2	M	4	P3	0.31	0.47	0.62	0.119	0.23	0.070	0.025	0.010	yes	49	129
PH269-1146-1-1004	P269-1146-1	1	4.2	3.9	12.1	13.10	rounded square/trapezoid?	oval	2	M	4	P4	0.25	0.64	0.62	0.119	0.23	0.070	0.025	0.010	yes	49	129

PstholeID	PitHoleID	Bld	L	W	ReefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1146-1-1005	P269-1146-1	1	4.2	3.9	12.1	13.10	rounded square/trapezoid?	oval	n	2 M	4 P5	4 P5	0.14	0.76	0.62	0.119	0.23	0.070	0.025	0.010	yes	49	129
PH269-1146-2-1006	P269-1146-2	2	5.4	5.4	21.6	23.33	pentagon?	oval	n	2 M	6 P6	6 P6	0.12	0.74	0.69	0.189	0.26	0.082	0.041	0.034	yes	49	129
PH269-1146-2-1007	P269-1146-2	2	5.4	5.4	21.6	23.33	pentagon?	oval	n	2 M	6 P7	6 P7	0.25	0.52	0.69	0.189	0.26	0.082	0.041	0.034	yes	49	129
PH269-1146-2-1008	P269-1146-2	2	5.4	5.4	21.6	23.33	pentagon?	oval	n	2 M	6 P8	6 P8	0.36	1.04	0.69	0.189	0.26	0.082	0.041	0.034	yes	49	129
PH269-1146-2-1009	P269-1146-2	2	5.4	5.4	21.6	23.33	pentagon?	oval	n	2 M	6 P9	6 P9	0.25	0.69	0.69	0.189	0.26	0.082	0.041	0.034	yes	49	129
PH269-1146-2-1010	P269-1146-2	2	5.4	5.4	21.6	23.33	pentagon?	oval	n	2 M	6 P10	6 P10	0.32	0.59	0.69	0.189	0.26	0.082	0.041	0.034	yes	49	129
PH269-1146-2-1011	P269-1146-2	2	5.4	5.4	21.6	23.33	pentagon?	oval	n	2 M	6 P11	6 P11	0.25	0.57	0.69	0.189	0.26	0.082	0.041	0.034	yes	49	129
PH269-1148-1-1001	P269-1148-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P1	0.34	0.28	NA	NA	NA	NA	NA	NA	NA	NA	124
PH269-1148-1-1002	P269-1148-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P2	0.30	0.50	NA	NA	NA	NA	NA	NA	NA	NA	124
PH269-1148-1-1003	P269-1148-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P3	0.39	0.40	NA	NA	NA	NA	NA	NA	NA	NA	124
PH269-1148-1-1004	P269-1148-1	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P4	0.26	0.23	NA	NA	NA	NA	NA	NA	NA	NA	124
PH269-1148-2-1001	P269-1148-2	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P1	0.34	0.28	NA	NA	NA	NA	NA	NA	NA	NA	124
PH269-1148-2-1002	P269-1148-2	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P2	0.30	0.50	NA	NA	NA	NA	NA	NA	NA	NA	124
PH269-1148-2-1003	P269-1148-2	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P3	0.39	0.40	NA	NA	NA	NA	NA	NA	NA	NA	124
PH269-1148-2-1004	P269-1148-2	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P4	0.26	0.23	NA	NA	NA	NA	NA	NA	NA	NA	124
PH269-1149-1-1001	P269-1149-1	1	3.3	3.3	9.16	8.71	rounded square?	oval	n	M	4 P1	4 P1	0.17	0.47	0.40	0.062	0.12	0.047	0.005	0.004	yes	49	140
PH269-1149-1-1002	P269-1149-1	1	3.3	3.3	9.16	8.71	rounded square?	oval	n	M	4 P2	4 P2	0.10	0.41	0.40	0.062	0.12	0.047	0.005	0.004	yes	49	140
PH269-1149-1-1003	P269-1149-1	1	3.3	3.3	9.16	8.71	rounded square?	oval	n	M	4 P3	4 P3	0.14	0.32	0.40	0.062	0.12	0.047	0.005	0.004	yes	49	140
PH269-1149-1-1004	P269-1149-1	1	3.3	3.3	9.16	8.71	rounded square?	oval	n	M	4 P4	4 P4	0.07	0.40	0.40	0.062	0.12	0.047	0.005	0.004	yes	49	140
PH269-1152-1-1001	P269-1152-1	1	4.1	4	13.82	13.12	rounded square?	oval	n	2 M	4 P1	4 P1	0.32	0.61	0.70	0.078	0.28	0.108	0.048	0.033	yes	49	14
PH269-1152-1-1002	P269-1152-1	1	4.1	4	13.82	13.12	rounded square?	oval	n	2 M	4 P2	4 P2	0.13	0.73	0.70	0.078	0.28	0.108	0.048	0.033	yes	49	14
PH269-1152-1-1003	P269-1152-1	1	4.1	4	13.82	13.12	rounded square?	oval	n	2 M	4 P3	4 P3	0.38	0.79	0.70	0.078	0.28	0.108	0.048	0.033	yes	49	14
PH269-1152-1-1004	P269-1152-1	1	4.1	4	13.82	13.12	rounded square?	oval	n	2 M	4 P4	4 P4	0.29	0.67	0.70	0.078	0.28	0.108	0.048	0.033	yes	49	14
PH269-1152-2-1001	P269-1152-2	2	4.1	4	13.82	13.12	rounded square?	oval	n	2 M	4 P1	4 P1	0.32	0.61	0.68	0.063	0.24	0.099	0.033	0.021	yes	49	14
PH269-1152-2-1002	P269-1152-2	2	4.1	4	13.82	13.12	rounded square?	oval	n	2 M	4 P2	4 P2	0.13	0.73	0.68	0.063	0.24	0.099	0.033	0.021	yes	49	14
PH269-1152-2-1006	P269-1152-2	2	4.1	4	13.82	13.12	rounded square?	oval	n	2 M	4 P6	4 P6	0.27	0.72	0.68	0.063	0.24	0.099	0.033	0.021	yes	49	14
PH269-1153-1-1001	P269-1153-1	1	NA	NA	NA	NA	circle/rectangle?	oval	n	uk	4 P1	4 P1	0.19	0.41	0.41	0.145	0.17	0.030	0.009	0.003	DIA	49	128
PH269-1153-1-1002	P269-1153-1	1	NA	NA	NA	NA	circle/rectangle?	oval	n	uk	4 P2	4 P2	0.17	0.47	0.41	0.145	0.17	0.030	0.009	0.003	DIA	49	128
PH269-1153-1-1003	P269-1153-1	1	NA	NA	NA	NA	circle/rectangle?	oval	n	uk	4 P3	4 P3	0.13	0.55	0.41	0.145	0.17	0.030	0.009	0.003	DIA	49	128
PH269-1153-1-1004	P269-1153-1	1	NA	NA	NA	NA	circle/rectangle?	oval	n	uk	4 P4	4 P4	0.19	0.21	0.41	0.145	0.17	0.030	0.009	0.003	DIA	49	128
PH269-1161-2-1001	P269-1161-2	2	NA	NA	NA	NA	oval	oval	n	2 MW	4 P1	4 P1	0.27	0.73	0.67	0.206	0.21	0.052	0.024	0.012	DIA	49	142
PH269-1161-2-1002	P269-1161-2	2	NA	NA	NA	NA	oval	oval	n	2 MW	4 P2	4 P2	0.18	0.83	0.67	0.206	0.21	0.052	0.024	0.012	DIA	49	142
PH269-1161-2-1003	P269-1161-2	2	NA	NA	NA	NA	oval	oval	n	2 MW	4 P3	4 P3	0.15	0.76	0.67	0.206	0.21	0.052	0.024	0.012	DIA	49	142
PH269-1161-2-1004	P269-1161-2	2	NA	NA	NA	NA	oval	oval	n	2 MW	4 P4	4 P4	0.24	0.37	0.67	0.206	0.21	0.052	0.024	0.012	DIA	49	142
PH269-1163-1-1001	P269-1163-1	1	3.4	NA	7.99	NA	rounded square?	oval	n	MW	4 P1	4 P1	0.16	0.91	0.79	0.134	0.16	0.005	0.015	0.003	DIA	49	144
PH269-1163-1-1002	P269-1163-1	1	3.4	NA	7.99	NA	rounded square?	oval	n	MW	4 P2	4 P2	0.16	0.83	0.79	0.134	0.16	0.005	0.015	0.003	DIA	49	144
PH269-1163-1-1003	P269-1163-1	1	3.4	NA	7.99	NA	rounded square?	oval	n	MW	4 P3	4 P3	0.15	0.83	0.79	0.134	0.16	0.005	0.015	0.003	DIA	49	144
PH269-1163-1-1004	P269-1163-1	1	3.4	NA	7.99	NA	rounded square?	oval	n	MW	4 P4	4 P4	0.16	0.60	0.79	0.134	0.16	0.005	0.015	0.003	DIA	49	144

PotholeID	PitHoleID	Bld	L	W	RecFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DapSD	MDia	DiaSD	MVol	VolSD	DUUsed	PitRef	PstRef
PH269-1164-3-1006	P269-1164-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P6	0.21	0.94	NA	NA	NA	NA	NA	NA	NA	NA	145
PH269-1164-3-1007	P269-1164-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P7	0.22	0.80	NA	NA	NA	NA	NA	NA	NA	NA	145
PH269-1164-3-1008	P269-1164-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P8	0.19	0.57	NA	NA	NA	NA	NA	NA	NA	NA	145
PH269-1164-3-1009	P269-1164-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P9	0.25	0.81	NA	NA	NA	NA	NA	NA	NA	NA	145
PH269-1164-3-1010	P269-1164-3	NA	NA	NA	NA	NA	NA	NA	NA	MW	NA	P10	0.17	0.70	NA	NA	NA	NA	NA	NA	NA	NA	145
PH269-1166-1-1001	P269-1166-1	1	NA	NA	NA	NA	oval?	oval	n	M		5 P1	0.31	0.70	0.52	0.180	0.22	0.090	0.026	0.020	DIA	49	148
PH269-1166-1-1002	P269-1166-1	1	NA	NA	NA	NA	oval?	oval	n	M		5 P2	0.29	0.63	0.52	0.180	0.22	0.090	0.026	0.020	DIA	49	148
PH269-1166-1-1003	P269-1166-1	1	NA	NA	NA	NA	oval?	oval	n	M		5 P3	0.17	0.58	0.52	0.180	0.22	0.090	0.026	0.020	DIA	49	148
PH269-1166-1-1004	P269-1166-1	1	NA	NA	NA	NA	oval?	oval	n	M		5 P4	0.26	0.43	0.52	0.180	0.22	0.090	0.026	0.020	DIA	49	148
PH269-1166-1-1005	P269-1166-1	1	NA	NA	NA	NA	oval?	oval	n	M		5 P5	0.09	0.25	0.52	0.180	0.22	0.090	0.026	0.020	DIA	49	148
PH269-1167-1-1001	P269-1167-1	1	NA	NA	NA	NA	circle?	oval	n	M		4 P1	0.11	0.75	0.70	0.080	0.13	0.081	0.013	0.016	yes	49	149
PH269-1167-1-1002	P269-1167-1	1	NA	NA	NA	NA	circle?	oval	n	M		4 P2	0.07	0.73	0.70	0.080	0.13	0.081	0.013	0.016	yes	49	149
PH269-1167-1-1003	P269-1167-1	1	NA	NA	NA	NA	circle?	oval	n	M		4 P3	0.25	0.74	0.70	0.080	0.13	0.081	0.013	0.016	yes	49	149
PH269-1167-1-1004	P269-1167-1	1	NA	NA	NA	NA	circle?	oval	n	M		4 P4	0.10	0.58	0.70	0.080	0.13	0.081	0.013	0.016	yes	49	149
PH269-1170-1-1001	P269-1170-1	1	5.3	5.1	21.47	21.62	circle	oval		2 MW		4 P1	0.21	0.62	0.50	0.103	0.24	0.031	0.022	0.004	yes	49	159
PH269-1170-1-1002	P269-1170-1	1	5.3	5.1	21.47	21.62	circle	oval		2 MW		4 P2	0.28	0.40	0.50	0.103	0.24	0.031	0.022	0.004	yes	49	159
PH269-1170-1-1003	P269-1170-1	1	5.3	5.1	21.47	21.62	circle	oval		2 MW		4 P3	0.22	0.43	0.50	0.103	0.24	0.031	0.022	0.004	yes	49	159
PH269-1170-1-1004	P269-1170-1	1	5.3	5.1	21.47	21.62	circle	oval		2 MW		4 P4	0.23	0.55	0.50	0.103	0.24	0.031	0.022	0.004	yes	49	159
PH269-1170-2-1001	P269-1170-2	2	5.3	5.1	21.47	21.62	circle	oval		2 MW		4 P1	0.21	0.62	0.57	0.126	0.19	0.033	0.018	0.008	yes	49	159
PH269-1170-2-1005	P269-1170-2	2	5.3	5.1	21.47	21.62	circle	oval		2 MW		4 P5	0.14	0.38	0.57	0.126	0.19	0.033	0.018	0.008	yes	49	159
PH269-1170-2-1006	P269-1170-2	2	5.3	5.1	21.47	21.62	circle	oval		2 MW		4 P6	0.22	0.62	0.57	0.126	0.19	0.033	0.018	0.008	yes	49	159
PH269-1170-2-1007	P269-1170-2	2	5.3	5.1	21.47	21.62	circle	oval		2 MW		4 P7	0.20	0.65	0.57	0.126	0.19	0.033	0.018	0.008	yes	49	159
PH269-1171-2-1001	P269-1171-2	2	NA	NA	NA	NA	circle	oval		2 M		5 P1	0.25	0.61	0.56	0.045	0.23	0.060	0.025	0.011	yes	49	175
PH269-1171-2-1003	P269-1171-2	2	NA	NA	NA	NA	circle	oval		2 M		5 P3	0.31	0.52	0.56	0.045	0.23	0.060	0.025	0.011	yes	49	175
PH269-1171-2-1004	P269-1171-2	2	NA	NA	NA	NA	circle	oval		2 M		5 P4	0.14	0.55	0.56	0.045	0.23	0.060	0.025	0.011	yes	49	175
PH269-1171-2-1006	P269-1171-2	2	NA	NA	NA	NA	circle	oval		2 M		5 P6	0.23	0.60	0.56	0.045	0.23	0.060	0.025	0.011	yes	49	175
PH269-1171-2-1008	P269-1171-2	2	NA	NA	NA	NA	circle	oval		2 M		5 P8	0.23	0.51	0.56	0.045	0.23	0.060	0.025	0.011	yes	49	175
PH269-1171-3-1009	P269-1171-3	3	6.2	NA	NA	NA	circle	oval		2 M		6 P9	0.29	0.88	0.83	0.071	0.30	0.046	0.060	0.019	yes	49	175
PH269-1171-3-1010	P269-1171-3	3	6.2	NA	NA	NA	circle	oval		2 M		6 P10	0.31	0.82	0.83	0.071	0.30	0.046	0.060	0.019	yes	49	175
PH269-1171-3-1011	P269-1171-3	3	6.2	NA	NA	NA	circle	oval		2 M		6 P11	0.38	0.81	0.83	0.071	0.30	0.046	0.060	0.019	yes	49	175
PH269-1171-3-1012	P269-1171-3	3	6.2	NA	NA	NA	circle	oval		2 M		6 P12	0.26	0.90	0.83	0.071	0.30	0.046	0.060	0.019	yes	49	175
PH269-1171-3-1013	P269-1171-3	3	6.2	NA	NA	NA	circle	oval		2 M		6 P13	0.28	0.72	0.83	0.071	0.30	0.046	0.060	0.019	yes	49	175
PH269-1172-1-1001	P269-1172-1	1	5.8	NA	NA	NA	pentagon	oval		2 MW		5 P1	0.19	0.64	0.51	0.140	0.23	0.033	0.021	0.005	yes	49	174
PH269-1172-1-1003	P269-1172-1	1	5.8	NA	NA	NA	pentagon	oval		2 MW		5 P3	0.25	0.36	0.51	0.140	0.23	0.033	0.021	0.005	yes	49	174
PH269-1172-1-1004	P269-1172-1	1	5.8	NA	NA	NA	pentagon	oval		2 MW		5 P4	0.25	0.52	0.51	0.140	0.23	0.033	0.021	0.005	yes	49	174
PH269-1172-2-1005	P269-1172-2	2	5.8	NA	NA	NA	rounded square/pentagon	oval		2 MW		5 P5	0.36	0.50	0.51	0.061	0.34	0.022	0.047	0.004	yes	49	174
PH269-1172-2-1006	P269-1172-2	2	5.8	NA	NA	NA	rounded square/pentagon	oval		2 MW		5 P6	0.35	0.46	0.51	0.061	0.34	0.022	0.047	0.004	yes	49	174
PH269-1172-2-1007	P269-1172-2	2	5.8	NA	NA	NA	rounded square/pentagon	oval		2 MW		5 P7	0.32	0.58	0.51	0.061	0.34	0.022	0.047	0.004	yes	49	174

PestholeID	PitHoleSID	Bld	L	W	RecFlr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	MDep	DepsSD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
PH269-1174-1-1001	P269-1174-1	1	NA	NA	NA	NA	square?	oval	n	MW	43927 P1		0.23	0.91	0.79	0.089	0.24	0.040	0.037	0.013 yes	49	161
PH269-1174-1-1002	P269-1174-1	1	NA	NA	NA	NA	square?	oval	n	MW	43927 P2		0.18	0.70	0.79	0.089	0.24	0.040	0.037	0.013 yes	49	161
PH269-1174-1-1003	P269-1174-1	1	NA	NA	NA	NA	square?	oval	n	MW	43927 P3		0.24	0.71	0.79	0.089	0.24	0.040	0.037	0.013 yes	49	161
PH269-1174-1-1004	P269-1174-1	1	NA	NA	NA	NA	square?	oval	n	MW	43927 P4		0.27	0.84	0.79	0.089	0.24	0.040	0.037	0.013 yes	49	161
PH269-1174-1-1005	P269-1174-1	1	NA	NA	NA	NA	square?	oval	n	MW	43927 P5		0.28	0.81	0.79	0.089	0.24	0.040	0.037	0.013 yes	49	161
PH269-1179-2-1001	P269-1179-2	2	4.6	4	13.78	14.72	circle	oval	2 M		43927 P1		0.16	0.55	0.61	0.448	0.23	0.079	0.033	0.042 DIA	49	179
PH269-1179-2-1002	P269-1179-2	2	4.6	4	13.78	14.72	circle	oval	2 M		43927 P2		0.22	0.19	0.61	0.448	0.23	0.079	0.033	0.042 DIA	49	179
PH269-1179-2-1003	P269-1179-2	2	4.6	4	13.78	14.72	circle	oval	2 M		43927 P3		0.31	1.08	0.61	0.448	0.23	0.079	0.033	0.042 DIA	49	179
PH269-1184-1-1001	P269-1184-1	1	3.95	3.6	8.8	11.38	pentagon	oval	n	MW	5 P1		0.08	0.45	0.63	0.181	0.12	0.046	0.009	0.009 yes	49	183
PH269-1184-1-1002	P269-1184-1	1	3.95	3.6	8.8	11.38	pentagon	oval	n	MW	5 P2		0.08	0.59	0.63	0.181	0.12	0.046	0.009	0.009 yes	49	183
PH269-1184-1-1003	P269-1184-1	1	3.95	3.6	8.8	11.38	pentagon	oval	n	MW	5 P3		0.17	0.88	0.63	0.181	0.12	0.046	0.009	0.009 yes	49	183
PH269-1184-1-1004	P269-1184-1	1	3.95	3.6	8.8	11.38	pentagon	oval	n	MW	5 P4		0.15	0.59	0.63	0.181	0.12	0.046	0.009	0.009 yes	49	183
PH269-1185-1-1001	P269-1185-1	1	6.3	NA	NA	NA	square?	oval	n	W	circ	P1	0.30	0.59	0.78	0.153	0.40	0.115	0.103	0.060 yes	49	169
PH269-1185-1-1002	P269-1185-1	1	6.3	NA	NA	NA	square?	oval	n	W	circ	P2	0.37	0.84	0.78	0.153	0.40	0.115	0.103	0.060 yes	49	169
PH269-1185-1-1003	P269-1185-1	1	6.3	NA	NA	NA	square?	oval	n	W	P3		0.36	0.95	0.78	0.153	0.40	0.115	0.103	0.060 yes	49	169
PH269-1185-1-1004	P269-1185-1	1	6.3	NA	NA	NA	square?	oval	n	W	circ	P4	0.56	0.74	0.78	0.153	0.40	0.115	0.103	0.060 yes	49	169
PH269-1191-2-1010	P269-1191-2	2	6	5.1	22.04	24.48	oval	oval	2 MW		7 P10		0.20	0.52	0.75	0.106	0.23	0.019	0.031	0.008 yes	49	155
PH269-1191-2-1011	P269-1191-2	2	6	5.1	22.04	24.48	oval	oval	2 MW		7 P11		0.21	0.71	0.75	0.106	0.23	0.019	0.031	0.008 yes	49	155
PH269-1191-2-1012	P269-1191-2	2	6	5.1	22.04	24.48	oval	oval	2 MW		7 P12		0.26	0.79	0.75	0.106	0.23	0.019	0.031	0.008 yes	49	155
PH269-1191-2-1013	P269-1191-2	2	6	5.1	22.04	24.48	oval	oval	2 MW		7 P13		0.23	0.83	0.75	0.106	0.23	0.019	0.031	0.008 yes	49	155
PH269-1191-2-1014	P269-1191-2	2	6	5.1	22.04	24.48	oval	oval	2 MW		7 P14		0.23	0.81	0.75	0.106	0.23	0.019	0.031	0.008 yes	49	155
PH269-1191-2-1015	P269-1191-2	2	6	5.1	22.04	24.48	oval	oval	2 MW		7 P15		0.23	0.77	0.75	0.106	0.23	0.019	0.031	0.008 yes	49	155
PH269-1191-2-1016	P269-1191-2	2	6	5.1	22.04	24.48	oval	oval	2 MW		7 P16		0.23	0.79	0.75	0.106	0.23	0.019	0.031	0.008 yes	49	155
PH269-1192-1-1001	P269-1192-1	1	NA	NA	NA	NA	circle?	oval	3 M		4 P1		0.16	0.56	0.58	0.045	0.20	0.039	0.020	0.009 yes	49	157
PH269-1192-1-1002	P269-1192-1	1	NA	NA	NA	NA	circle?	oval	3 M		4 P2		0.22	0.56	0.58	0.045	0.20	0.039	0.020	0.009 yes	49	157
PH269-1192-1-1003	P269-1192-1	1	NA	NA	NA	NA	circle?	oval	3 M		4 P3		0.25	0.65	0.58	0.045	0.20	0.039	0.020	0.009 yes	49	157
PH269-1192-1-1004	P269-1192-1	1	NA	NA	NA	NA	circle?	oval	3 M		4 P4		0.19	0.56	0.58	0.045	0.20	0.039	0.020	0.009 yes	49	157
PH269-1193-1-1001	P269-1193-1	1	5	4.4	16.22	17.60	oval	oval	2 MW		5 P1		0.22	0.78	0.71	0.128	0.23	0.023	0.030	0.005 yes	49	158
PH269-1193-1-1002	P269-1193-1	1	5	4.4	16.22	17.60	oval	oval	2 MW		5 P2		0.21	0.75	0.71	0.128	0.23	0.023	0.030	0.005 yes	49	158
PH269-1193-1-1003	P269-1193-1	1	5	4.4	16.22	17.60	oval	oval	2 MW		5 P3		0.25	0.78	0.71	0.128	0.23	0.023	0.030	0.005 yes	49	158
PH269-1193-1-1004	P269-1193-1	1	5	4.4	16.22	17.60	oval	oval	2 MW		5 P4		0.22	0.75	0.71	0.128	0.23	0.023	0.030	0.005 yes	49	158
PH269-1193-1-1006	P269-1193-1	1	5	4.4	16.22	17.60	oval	oval	2 MW		5 P6		0.27	0.48	0.71	0.128	0.23	0.023	0.030	0.005 yes	49	158
PH269-1195-2-1003	P269-1195-2	2	4.6	4.4	NA	16.19	oval	oval	2 MW		4 P3		0.18	0.79	0.84	0.096	0.19	0.039	0.026	0.012 yes	49	173
PH269-1195-2-1004	P269-1195-2	2	4.6	4.4	NA	16.19	oval	oval	2 MW		4 P4		0.23	0.98	0.84	0.096	0.19	0.039	0.026	0.012 yes	49	173
PH269-1195-2-1005	P269-1195-2	2	4.6	4.4	NA	16.19	oval	oval	2 MW		4 P5		0.22	0.77	0.84	0.096	0.19	0.039	0.026	0.012 yes	49	173
PH269-1195-2-1006	P269-1195-2	2	4.6	4.4	NA	16.19	oval	oval	2 MW		4 P6		0.14	0.82	0.84	0.096	0.19	0.039	0.026	0.012 yes	49	173
PH269-1197-1-1001	P269-1197-1	1	NA	NA	NA	NA	circle	oval	2 MW		5 P1		0.29	0.51	0.52	0.070	0.17	0.083	0.014	0.014 yes	49	192
PH269-1197-1-1002	P269-1197-1	1	NA	NA	NA	NA	circle	oval	2 MW		5 P2		0.13	0.44	0.52	0.070	0.17	0.083	0.014	0.014 yes	49	192

PstholeID	PthousID	Bld	L	W	ReefLr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1197-1-1003	P269-1197-1	1	NA	NA	NA	NA	circle	oval	2	MW	5	P3	0.11	0.51	0.52	0.070	0.17	0.083	0.014	0.014	yes	49	192
PH269-1197-1-1004	P269-1197-1	1	NA	NA	NA	NA	circle	oval	2	MW	5	P4	0.14	0.61	0.52	0.070	0.17	0.083	0.014	0.014	yes	49	192
PH269-1197-2-1005	P269-1197-2	2	5.4	4.3	16.99	18.58	circle	oval	2	MW	5	P5	0.27	0.63	0.53	0.112	0.28	0.052	0.032	0.010	yes	49	192
PH269-1197-2-1006	P269-1197-2	2	5.4	4.3	16.99	18.58	circle	oval	2	MW	5	P6	0.27	0.62	0.53	0.112	0.28	0.052	0.032	0.010	yes	49	192
PH269-1197-2-1007	P269-1197-2	2	5.4	4.3	16.99	18.58	circle	oval	2	MW	5	P7	0.35	0.41	0.53	0.112	0.28	0.052	0.032	0.010	yes	49	192
PH269-1197-2-1008	P269-1197-2	2	5.4	4.3	16.99	18.58	circle	oval	2	MW	5	P8	0.22	0.46	0.53	0.112	0.28	0.052	0.032	0.010	yes	49	192
PH269-1198-1-1001	P269-1198-1	1	4.3	4.2	13	14.45	circle	oval	n	MW	4	P1	0.29	0.59	0.62	0.021	0.24	0.031	0.029	0.007	yes	49	191
PH269-1198-1-1002	P269-1198-1	1	4.3	4.2	13	14.45	circle	oval	n	MW	4	P2	0.23	0.64	0.62	0.021	0.24	0.031	0.029	0.007	yes	49	191
PH269-1198-1-1003	P269-1198-1	1	4.3	4.2	13	14.45	circle	oval	n	MW	4	P3	0.22	0.61	0.62	0.021	0.24	0.031	0.029	0.007	yes	49	191
PH269-1198-1-1004	P269-1198-1	1	4.3	4.2	13	14.45	circle	oval	n	MW	4	P4	0.24	0.62	0.62	0.021	0.24	0.031	0.029	0.007	yes	49	191
PH269-1200-2-1001	P269-1200-2	2	6.5	5	25.21	26.00	rounded square/pentagon	oval	2	M	5	P1	0.25	0.76	0.90	0.212	0.29	0.045	0.059	0.020	yes	49	194
PH269-1200-2-1002	P269-1200-2	2	6.5	5	25.21	26.00	rounded square/pentagon	oval	2	M	5	P2	0.35	0.74	0.90	0.212	0.29	0.045	0.059	0.020	yes	49	194
PH269-1200-2-1003	P269-1200-2	2	6.5	5	25.21	26.00	rounded square/pentagon	oval	2	M	5	P3	0.29	1.20	0.90	0.212	0.29	0.045	0.059	0.020	yes	49	194
PH269-1200-2-1004	P269-1200-2	2	6.5	5	25.21	26.00	rounded square/pentagon	oval	2	M	5	P4	0.26	0.91	0.90	0.212	0.29	0.045	0.059	0.020	yes	49	194
PH269-1202-1-1001	P269-1202-1	1	5.6	5.5	25.39	24.64	pentagon/hexagon	oval	2	MW	43926	P1	0.23	0.77	0.71	0.179	0.28	0.039	0.043	0.011	yes	49	200
PH269-1202-1-1002	P269-1202-1	1	5.6	5.5	25.39	24.64	pentagon/hexagon	oval	2	MW	43926	P2	0.34	0.60	0.71	0.179	0.28	0.039	0.043	0.011	yes	49	200
PH269-1202-1-1003	P269-1202-1	1	5.6	5.5	25.39	24.64	pentagon/hexagon	oval	2	MW	43926	P3	0.27	0.50	0.71	0.179	0.28	0.039	0.043	0.011	yes	49	200
PH269-1202-1-1004	P269-1202-1	1	5.6	5.5	25.39	24.64	pentagon/hexagon	oval	2	MW	43926	P4	0.30	0.69	0.71	0.179	0.28	0.039	0.043	0.011	yes	49	200
PH269-1202-1-1005	P269-1202-1	1	5.6	5.5	25.39	24.64	pentagon/hexagon	oval	2	MW	43926	P5	0.26	0.97	0.71	0.179	0.28	0.039	0.043	0.011	yes	49	200
PH269-1202-2-1006	P269-1202-2	2	5.6	5.5	26.5	24.64	pentagon/hexagon	oval	2	MW	43989	P6	0.31	0.64	0.69	0.085	0.27	0.084	0.044	0.026	yes	49	200
PH269-1202-2-1008	P269-1202-2	2	5.6	5.5	26.5	24.64	pentagon/hexagon	oval	2	MW	43989	P8	0.26	0.82	0.69	0.085	0.27	0.084	0.044	0.026	yes	49	200
PH269-1202-2-1010	P269-1202-2	2	5.6	5.5	26.5	24.64	pentagon/hexagon	oval	2	MW	43989	P10	0.28	0.74	0.69	0.085	0.27	0.084	0.044	0.026	yes	49	200
PH269-1202-2-1011	P269-1202-2	2	5.6	5.5	26.5	24.64	pentagon/hexagon	oval	2	MW	43989	P11	0.43	0.65	0.69	0.085	0.27	0.084	0.044	0.026	yes	49	200
PH269-1202-2-1012	P269-1202-2	2	5.6	5.5	26.5	24.64	pentagon/hexagon	oval	2	MW	43989	P12	0.27	0.74	0.69	0.085	0.27	0.084	0.044	0.026	yes	49	200
PH269-1202-2-1013	P269-1202-2	2	5.6	5.5	26.5	24.64	pentagon/hexagon	oval	2	MW	43989	P13	0.16	0.56	0.69	0.085	0.27	0.084	0.044	0.026	yes	49	200
PH269-1202-2-1014	P269-1202-2	2	5.6	5.5	26.5	24.64	pentagon/hexagon	oval	2	MW	43989	P14	0.21	0.69	0.69	0.085	0.27	0.084	0.044	0.026	yes	49	200
PH269-1204-1-1001	P269-1204-1	1	6.4	5.2	26.82	26.62	oval	oval	2	M	7	P1	0.26	0.72	0.72	0.057	0.26	0.062	0.039	0.015	yes	49	186
PH269-1204-1-1002	P269-1204-1	1	6.4	5.2	26.82	26.62	oval	oval	2	M	7	P2	0.14	0.79	0.72	0.057	0.26	0.062	0.039	0.015	yes	49	186
PH269-1204-1-1003	P269-1204-1	1	6.4	5.2	26.82	26.62	oval	oval	2	M	7	P3	0.30	0.79	0.72	0.057	0.26	0.062	0.039	0.015	yes	49	186
PH269-1204-1-1004	P269-1204-1	1	6.4	5.2	26.82	26.62	oval	oval	2	M	7	P4	0.31	0.66	0.72	0.057	0.26	0.062	0.039	0.015	yes	49	186
PH269-1204-1-1005	P269-1204-1	1	6.4	5.2	26.82	26.62	oval	oval	2	M	7	P5	0.29	0.67	0.72	0.057	0.26	0.062	0.039	0.015	yes	49	186
PH269-1204-1-1006	P269-1204-1	1	6.4	5.2	26.82	26.62	oval	oval	2	M	7	P6	0.24	0.70	0.72	0.057	0.26	0.062	0.039	0.015	yes	49	186
PH269-1204-2-1007	P269-1204-2	2	6.8	5.2	26.82	28.29	oval	oval	2	M	7	P7	0.32	0.67	0.72	0.083	0.33	0.047	0.062	0.017	yes	49	186
PH269-1204-2-1009	P269-1204-2	2	6.8	5.2	26.82	28.29	oval	oval	2	M	7	P9	0.26	0.73	0.72	0.083	0.33	0.047	0.062	0.017	yes	49	186
PH269-1204-2-1010	P269-1204-2	2	6.8	5.2	26.82	28.29	oval	oval	2	M	7	P10	0.39	0.67	0.72	0.083	0.33	0.047	0.062	0.017	yes	49	186
PH269-1204-2-1011	P269-1204-2	2	6.8	5.2	26.82	28.29	oval	oval	2	M	7	P11	0.40	0.70	0.72	0.083	0.33	0.047	0.062	0.017	yes	49	186
PH269-1204-2-1012	P269-1204-2	2	6.8	5.2	26.82	28.29	oval	oval	2	M	7	P12	0.32	0.64	0.72	0.083	0.33	0.047	0.062	0.017	yes	49	186
PH269-1204-2-1013	P269-1204-2	2	6.8	5.2	26.82	28.29	oval	oval	2	M	7	P13	0.32	0.74	0.72	0.083	0.33	0.047	0.062	0.017	yes	49	186

PestholeID	PitHoleSID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsSD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH269-1204-2-1014	P269-1204-2	2	6.8	5.2	26.82	28.29	oval	oval	2	M	7	P14	0.31	0.89	0.72	0.083	0.33	0.047	0.062	0.017	yes	49	186
PH269-1205-2-1009	P269-1205-2	2	5.6	5.2	19.33	23.30	rounded pentagon?	oval	2	MW	5	P9	0.34	0.80	0.70	0.100	0.31	0.028	0.052	0.013	yes	49	201
PH269-1205-2-1010	P269-1205-2	2	5.6	5.2	19.33	23.30	rounded pentagon?	oval	2	MW	5	P10	0.28	0.74	0.70	0.100	0.31	0.028	0.052	0.013	yes	49	201
PH269-1205-2-1011	P269-1205-2	2	5.6	5.2	19.33	23.30	rounded pentagon?	oval	2	MW	5	P11	0.32	0.69	0.70	0.100	0.31	0.028	0.052	0.013	yes	49	201
PH269-1205-2-1012	P269-1205-2	2	5.6	5.2	19.33	23.30	rounded pentagon?	oval	2	MW	5	P12	0.28	0.75	0.70	0.100	0.31	0.028	0.052	0.013	yes	49	201
PH269-1205-2-1013	P269-1205-2	2	5.6	5.2	19.33	23.30	rounded pentagon?	oval	2	MW	5	P13	0.31	0.54	0.70	0.100	0.31	0.028	0.052	0.013	yes	49	201
PH269-1210-1-1001	P269-1210-1	1	NA	NA	NA	NA	UK	oval	uk	MW	5	P1	0.18	0.50	0.49	0.025	0.18	0.032	0.013	0.005	no	49	196
PH269-1210-1-1002	P269-1210-1	1	NA	NA	NA	NA	UK	oval	uk	MW	5	P2	0.22	0.49	0.49	0.025	0.18	0.032	0.013	0.005	no	49	196
PH269-1210-1-1003	P269-1210-1	1	NA	NA	NA	NA	UK	oval	uk	MW	5	P3	0.19	0.52	0.49	0.025	0.18	0.032	0.013	0.005	no	49	196
PH269-1210-1-1004	P269-1210-1	1	NA	NA	NA	NA	UK	oval	uk	MW	5	P4	0.14	0.46	0.49	0.025	0.18	0.032	0.013	0.005	no	49	196
PH269-1212-1-1001	P269-1212-1	1	5.05	4.3	17.92	17.37	rounded square	oval	2	MW	4	P1	0.19	0.69	0.67	0.112	0.20	0.026	0.022	0.008	yes	49	188
PH269-1212-1-1002	P269-1212-1	1	5.05	4.3	17.92	17.37	rounded square	oval	2	MW	4	P2	0.17	0.51	0.67	0.112	0.20	0.026	0.022	0.008	yes	49	188
PH269-1212-1-1003	P269-1212-1	1	5.05	4.3	17.92	17.37	rounded square	oval	2	MW	4	P3	0.21	0.73	0.67	0.112	0.20	0.026	0.022	0.008	yes	49	188
PH269-1212-1-1005	P269-1212-1	1	5.05	4.3	17.92	17.37	rounded square	oval	2	MW	4	P5	0.23	0.76	0.67	0.112	0.20	0.026	0.022	0.008	yes	49	188
PH269-1212-2-1006	P269-1212-2	2	5.35	4.7	19.05	20.12	rounded square	oval	2	MW	4	P6	0.20	0.85	0.80	0.084	0.20	0.012	0.026	0.004	yes	49	188
PH269-1212-2-1007	P269-1212-2	2	5.35	4.7	19.05	20.12	rounded square	oval	2	MW	4	P7	0.22	0.75	0.80	0.084	0.20	0.012	0.026	0.004	yes	49	188
PH269-1212-2-1008	P269-1212-2	2	5.35	4.7	19.05	20.12	rounded square	oval	2	MW	4	P8	0.20	0.90	0.80	0.084	0.20	0.012	0.026	0.004	yes	49	188
PH269-1212-2-1009	P269-1212-2	2	5.35	4.7	19.05	20.12	rounded square	oval	2	MW	4	P9	0.19	0.72	0.80	0.084	0.20	0.012	0.026	0.004	yes	49	188
PH269-1214-1-1001	P269-1214-1	1	7	6.3	NA	35.28	rounded rectangle	oval	n	MW	4	P1	0.28	0.80	0.78	0.151	0.32	0.042	0.065	0.030	yes	49	210
PH269-1214-1-1002	P269-1214-1	1	7	6.3	NA	35.28	rounded rectangle	oval	n	MW	4	P2	0.30	0.67	0.78	0.151	0.32	0.042	0.065	0.030	yes	49	210
PH269-1214-1-1003	P269-1214-1	1	7	6.3	NA	35.28	rounded rectangle	oval	n	MW	4	P3	0.38	0.99	0.78	0.151	0.32	0.042	0.065	0.030	yes	49	210
PH269-1214-1-1004	P269-1214-1	1	7	6.3	NA	35.28	rounded rectangle	oval	n	MW	4	P4	0.32	0.67	0.78	0.151	0.32	0.042	0.065	0.030	yes	49	210
PH269-1219-1-1001	P269-1219-1	1	5.6	5.1	23	22.85	pentagon	oval	n	M	5	P1	0.25	0.80	0.83	0.101	0.24	0.026	0.039	0.006	yes	49	211
PH269-1219-1-1002	P269-1219-1	1	5.6	5.1	23	22.85	pentagon	oval	n	M	5	P2	0.27	0.71	0.83	0.101	0.24	0.026	0.039	0.006	yes	49	211
PH269-1219-1-1003	P269-1219-1	1	5.6	5.1	23	22.85	pentagon	oval	n	M	5	P3	0.27	0.82	0.83	0.101	0.24	0.026	0.039	0.006	yes	49	211
PH269-1219-1-1004	P269-1219-1	1	5.6	5.1	23	22.85	pentagon	oval	n	M	5	P4	0.21	0.84	0.83	0.101	0.24	0.026	0.039	0.006	yes	49	211
PH269-1219-1-1005	P269-1219-1	1	5.6	5.1	23	22.85	pentagon	oval	n	M	5	P5	0.22	0.99	0.83	0.101	0.24	0.026	0.039	0.006	yes	49	211
PH269-2007-1-1001	P269-2007-1	1	6	5.6	21.32	26.88	circle	oval	n	MW	5	P1	0.12	0.76	0.67	0.106	0.15	0.035	0.012	0.007	yes	49	218
PH269-2007-1-1002	P269-2007-1	1	6	5.6	21.32	26.88	circle	oval	n	MW	5	P2	0.19	0.80	0.67	0.106	0.15	0.035	0.012	0.007	yes	49	218
PH269-2007-1-1003	P269-2007-1	1	6	5.6	21.32	26.88	circle	oval	n	MW	5	P3	0.18	0.62	0.67	0.106	0.15	0.035	0.012	0.007	yes	49	218
PH269-2007-1-1004	P269-2007-1	1	6	5.6	21.32	26.88	circle	oval	n	MW	5	P4	0.12	0.64	0.67	0.106	0.15	0.035	0.012	0.007	yes	49	218
PH269-2007-1-1005	P269-2007-1	1	6	5.6	21.32	26.88	circle	oval	n	MW	5	P5	0.13	0.54	0.67	0.106	0.15	0.035	0.012	0.007	yes	49	218
PH271-1001-1-1001	P271-1001-1	1	2.95	NA	NA	6.83	irregular circle	circle	n	M	4	P1	0.16	0.97	0.93	0.060	0.16	0.022	0.019	0.006	yes	51	19
PH271-1001-1-1002	P271-1001-1	1	2.95	NA	NA	6.83	irregular circle	circle	n	M	4	P2	0.17	0.91	0.93	0.060	0.16	0.022	0.019	0.006	yes	51	19
PH271-1001-1-1003	P271-1001-1	1	2.95	NA	NA	6.83	irregular circle	circle	n	M	4	P3	0.18	0.98	0.93	0.060	0.16	0.022	0.019	0.006	yes	51	19
PH271-1001-1-1004	P271-1001-1	1	2.95	NA	NA	6.83	irregular circle	circle	n	M	4	P4	0.13	0.85	0.93	0.060	0.16	0.022	0.019	0.006	yes	51	19
PH272-1004-1-1001	P272-1004-1	1	5.6	5.52	NA	24.73	rounded square	oval	n	M	4	P1	0.26	0.52	0.65	0.113	0.36	0.090	0.071	0.035	DIA	52	44
PH272-1004-1-1002	P272-1004-1	1	5.6	5.52	NA	24.73	rounded square	oval	n	M	4	P2	0.48	0.61	0.65	0.113	0.36	0.090	0.071	0.035	DIA	52	44

PostholeID	PitHoleID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VoSD	DUUsed	PstRef	PstRef
PH272-1004-1-1003	P272-1004-1	1	5.6	5.52 NA	NA	24.73 rounded square	oval	n	M	4 P3	0.36	0.79	0.65	0.113	0.36	0.090	0.071	0.035 DIA	52	44			
		1	5.6	5.52 NA	NA	24.73 rounded square	oval	n	M	4 P4	0.35	0.67	0.65	0.113	0.36	0.090	0.071	0.035 DIA	52	44			
PH272-1008-1-1001	P272-1008-1	1	5.1	5 NA	NA	20.40 circle/pentagon	oval	n	M	5 P1	0.26	0.99	0.76	0.192	0.23	0.075	0.038	0.025 DIA	52	65			
		1	5.1	5 NA	NA	20.40 circle/pentagon	oval	n	M	5 P2	0.24	0.78	0.76	0.192	0.23	0.075	0.038	0.025 DIA	52	65			
PH272-1008-1-1002	P272-1008-1	1	5.1	5 NA	NA	20.40 circle/pentagon	oval	n	M	5 P3	0.13	0.46	0.76	0.192	0.23	0.075	0.038	0.025 DIA	52	65			
		1	5.1	5 NA	NA	20.40 circle/pentagon	oval	n	M	5 P4	0.21	0.73	0.76	0.192	0.23	0.075	0.038	0.025 DIA	52	65			
PH272-1008-1-1003	P272-1008-1	1	5.1	5 NA	NA	20.40 circle/pentagon	oval	n	M	5 P5	0.34	0.82	0.76	0.192	0.23	0.075	0.038	0.025 DIA	52	65			
		1	6.33	5.64 NA	NA	28.56 oval	oval	n	MW	6 P1	0.25	0.61	0.72	0.112	0.28	0.045	0.043	0.013 yes	52	72			
PH272-1009-1-1002	P272-1009-1	1	6.33	5.64 NA	NA	28.56 oval	oval	n	MW	6 P2	0.25	0.90	0.72	0.112	0.28	0.045	0.043	0.013 yes	52	72			
		1	6.33	5.64 NA	NA	28.56 oval	oval	n	MW	6 P3	0.24	0.73	0.72	0.112	0.28	0.045	0.043	0.013 yes	52	72			
PH272-1009-1-1003	P272-1009-1	1	6.33	5.64 NA	NA	28.56 oval	oval	n	MW	6 P4	0.33	0.59	0.72	0.112	0.28	0.045	0.043	0.013 yes	52	72			
		1	6.33	5.64 NA	NA	28.56 oval	oval	n	MW	6 P5	0.33	0.73	0.72	0.112	0.28	0.045	0.043	0.013 yes	52	72			
PH272-1012-2-1004	P272-1012-2	2	6.1	5.1 NA	NA	24.89 oval	oval	n	MW	6 P6	0.25	0.75	0.72	0.112	0.28	0.045	0.043	0.013 yes	52	72			
		2	6.1	5.1 NA	NA	24.89 oval	oval	n	MW	5 P1	0.24	0.98	0.91	0.064	0.29	0.031	0.059	0.014 yes	52	111			
PH272-1012-2-1001	P272-1012-2	2	6.1	5.1 NA	NA	24.89 oval	oval	n	MW	5 P2	0.30	0.85	0.91	0.064	0.29	0.031	0.059	0.014 yes	52	111			
		2	6.1	5.1 NA	NA	24.89 oval	oval	n	MW	5 P3	0.33	0.98	0.91	0.064	0.29	0.031	0.059	0.014 yes	52	111			
PH272-1012-2-1002	P272-1012-2	2	6.1	5.1 NA	NA	24.89 oval	oval	n	MW	5 P4	0.28	0.87	0.91	0.064	0.29	0.031	0.059	0.014 yes	52	111			
		2	6.1	5.1 NA	NA	24.89 oval	oval	n	MW	5 P5	0.29	0.87	0.91	0.064	0.29	0.031	0.059	0.014 yes	52	111			
PH272-1022-1-1005	P272-1022-1	1	3.9	3.83 NA	NA	11.95 circle	oval	n	M	4 P1	0.13	0.83	0.90	0.087	0.12	0.031	0.011	0.005 yes	52	224			
		1	3.9	3.83 NA	NA	11.95 circle	oval	n	M	4 P2	0.08	0.98	0.90	0.087	0.12	0.031	0.011	0.005 yes	52	224			
PH272-1022-1-1003	P272-1022-1	1	3.9	3.83 NA	NA	11.95 circle	oval	n	M	4 P3	0.14	0.81	0.90	0.087	0.12	0.031	0.011	0.005 yes	52	224			
		1	3.9	3.83 NA	NA	11.95 circle	oval	n	M	4 P4	0.15	0.96	0.90	0.087	0.12	0.031	0.011	0.005 yes	52	224			
PH272-1023-1-1001	P272-1023-1	1	4.28 NA	NA	NA	14.39 circle	circle	n	M	4 P1	0.13	0.80	0.73	0.096	0.16	0.037	0.015	0.005 yes	52	233			
		1	4.28 NA	NA	NA	14.39 circle	circle	n	M	4 P2	0.14	0.76	0.73	0.096	0.16	0.037	0.015	0.005 yes	52	233			
PH272-1023-1-1002	P272-1023-1	1	4.28 NA	NA	NA	14.39 circle	circle	n	M	4 P3	0.18	0.78	0.73	0.096	0.16	0.037	0.015	0.005 yes	52	233			
		1	4.28 NA	NA	NA	14.39 circle	circle	n	M	4 P4	0.21	0.59	0.73	0.096	0.16	0.037	0.015	0.005 yes	52	233			
PH272-1031-1-1004	P272-1031-1	1	5.62	5.27 NA	NA	23.69 oval	oval	uk	M	5 P1	0.22	0.76	0.75	0.061	0.24	0.021	0.034	0.005 yes	52	285			
		1	5.62	5.27 NA	NA	23.69 oval	oval	uk	M	5 P2	0.21	0.80	0.75	0.061	0.24	0.021	0.034	0.005 yes	52	285			
PH272-1031-1-1002	P272-1031-1	1	5.62	5.27 NA	NA	23.69 oval	oval	uk	M	5 P3	0.24	0.80	0.75	0.061	0.24	0.021	0.034	0.005 yes	52	285			
		1	5.62	5.27 NA	NA	23.69 oval	oval	uk	M	5 P4	0.26	0.76	0.75	0.061	0.24	0.021	0.034	0.005 yes	52	285			
PH272-1031-1-1004	P272-1031-1	1	5.62	5.27 NA	NA	23.69 oval	oval	uk	M	5 P5	0.25	0.65	0.75	0.061	0.24	0.021	0.034	0.005 yes	52	285			
		1	5.4 NA	NA	NA	NA	oval	n	M	5 P1	0.33	0.79	0.59	0.285	0.26	0.056	0.036	0.026 DIA	52	331			
PH272-1036-1-1001	P272-1036-1	1	5.4 NA	NA	NA	NA	oval	n	M	5 P2	0.23	0.11	0.59	0.285	0.26	0.056	0.036	0.026 DIA	52	331			
		1	5.4 NA	NA	NA	NA	oval	n	M	5 P3	0.19	0.61	0.59	0.285	0.26	0.056	0.036	0.026 DIA	52	331			
PH272-1036-1-1003	P272-1036-1	1	5.4 NA	NA	NA	NA	oval	n	M	5 P4	0.28	0.82	0.59	0.285	0.26	0.056	0.036	0.026 DIA	52	331			
		1	5.4 NA	NA	NA	NA	oval	n	M	5 P5	0.28	0.62	0.59	0.285	0.26	0.056	0.036	0.026 DIA	52	331			
PH272-1036-1-1005	P272-1036-1	1	5.4 NA	NA	NA	NA	oval	n	M	4 P1	0.18	0.84	0.89	0.035	0.18	0.003	0.036	0.026 DIA	52	353			
		1	4.12 NA	NA	NA	13.33 circle	circle	n	M	4 P2	0.18	0.90	0.89	0.035	0.18	0.003	0.022	0.000 yes	52	353			

PotholeID	PitHouseID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH272-1041-1-1003	P272-1041-1	1	4.12	NA	NA	13.33	circle	circle	n	M	4	P3	0.18	0.92	0.89	0.035	0.18	0.003	0.022	0.000	yes	52	353
PH272-1041-1-1004	P272-1041-1	1	4.12	NA	NA	13.33	circle	circle	n	M	4	P4	0.18	0.90	0.89	0.035	0.18	0.003	0.022	0.000	yes	52	353
PH272-1042-1-1001	P272-1042-1	1	4.85	4.33	NA	16.80	circle/square	oval	n	M	4	P1	0.24	0.92	0.81	0.087	0.19	0.038	0.025	0.012	yes	52	360
PH272-1042-1-1002	P272-1042-1	1	4.85	4.33	NA	16.80	circle/square	oval	n	M	4	P2	0.17	0.77	0.81	0.087	0.19	0.038	0.025	0.012	yes	52	360
PH272-1042-1-1003	P272-1042-1	1	4.85	4.33	NA	16.80	circle/square	oval	n	M	4	P3	0.20	0.72	0.81	0.087	0.19	0.038	0.025	0.012	yes	52	360
PH272-1042-1-1004	P272-1042-1	1	4.85	4.33	NA	16.80	circle/square	oval	n	M	4	P4	0.16	0.84	0.81	0.087	0.19	0.038	0.025	0.012	yes	52	360
PH272-1045-1-1001	P272-1045-1	1	5.3	5.17	NA	21.92	pentagon	oval	n	MW	5	P1	0.20	0.45	0.63	0.104	0.16	0.038	0.013	0.005	DIA	52	373
PH272-1045-1-1002	P272-1045-1	1	5.3	5.17	NA	21.92	pentagon	oval	n	MW	5	P2	0.16	0.71	0.63	0.104	0.16	0.038	0.013	0.005	DIA	52	373
PH272-1045-1-1003	P272-1045-1	1	5.3	5.17	NA	21.92	pentagon	oval	n	MW	5	P3	0.19	0.68	0.63	0.104	0.16	0.038	0.013	0.005	DIA	52	373
PH272-1045-1-1004	P272-1045-1	1	5.3	5.17	NA	21.92	pentagon	oval	n	MW	5	P4	0.15	0.67	0.63	0.104	0.16	0.038	0.013	0.005	DIA	52	373
PH272-1045-1-1005	P272-1045-1	1	5.3	5.17	NA	21.92	pentagon	oval	n	MW	5	P5	0.10	0.63	0.63	0.104	0.16	0.038	0.013	0.005	DIA	52	373
PH272-1046-1-1001	P272-1046-1	1	4	3.88	NA	12.42	circle	oval	n	M	4	P1	0.17	0.81	0.83	0.077	0.19	0.025	0.024	0.008	yes	52	376
PH272-1046-1-1002	P272-1046-1	1	4	3.88	NA	12.42	circle	oval	n	M	4	P2	0.22	0.88	0.83	0.077	0.19	0.025	0.024	0.008	yes	52	376
PH272-1046-1-1003	P272-1046-1	1	4	3.88	NA	12.42	circle	oval	n	M	4	P3	0.18	0.73	0.83	0.077	0.19	0.025	0.024	0.008	yes	52	376
PH272-1046-1-1004	P272-1046-1	1	4	3.88	NA	12.42	circle	oval	n	M	4	P4	0.18	0.90	0.83	0.077	0.19	0.025	0.024	0.008	yes	52	376
PH272-1047-1-1001	P272-1047-1	1	8.68	8.26	NA	57.36	bowd/rounded square	oval	n	M	8	P1	0.26	0.63	0.83	0.124	0.30	0.053	0.060	0.025	DIA	52	381
PH272-1047-1-1002	P272-1047-1	1	8.68	8.26	NA	57.36	bowd/rounded square	oval	n	M	8	P2	0.29	0.64	0.83	0.124	0.30	0.053	0.060	0.025	DIA	52	381
PH272-1047-1-1003	P272-1047-1	1	8.68	8.26	NA	57.36	bowd/rounded square	oval	n	M	8	P3	0.28	0.94	0.83	0.124	0.30	0.053	0.060	0.025	DIA	52	381
PH272-1047-1-1004	P272-1047-1	1	8.68	8.26	NA	57.36	bowd/rounded square	oval	n	M	8	P4	0.31	0.83	0.83	0.124	0.30	0.053	0.060	0.025	DIA	52	381
PH272-1047-1-1005	P272-1047-1	1	8.68	8.26	NA	57.36	bowd/rounded square	oval	n	M	8	P5	0.39	0.88	0.83	0.124	0.30	0.053	0.060	0.025	DIA	52	381
PH272-1047-1-1006	P272-1047-1	1	8.68	8.26	NA	57.36	bowd/rounded square	oval	n	M	8	P6	0.31	0.92	0.83	0.124	0.30	0.053	0.060	0.025	DIA	52	381
PH272-1047-1-1007	P272-1047-1	1	8.68	8.26	NA	57.36	bowd/rounded square	oval	n	M	8	P7	0.34	0.88	0.83	0.124	0.30	0.053	0.060	0.025	DIA	52	381
PH272-1047-1-1008	P272-1047-1	1	8.68	8.26	NA	57.36	bowd/rounded square	oval	n	M	8	P8	0.21	0.91	0.83	0.124	0.30	0.053	0.060	0.025	DIA	52	381
PH272-1048-1-1001	P272-1048-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.21	0.83	NA	NA	NA	NA	NA	NA	NA	400	
PH272-1048-1-1002	P272-1048-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.23	0.69	NA	NA	NA	NA	NA	NA	NA	400	
PH272-1048-1-1003	P272-1048-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P3	0.19	0.91	NA	NA	NA	NA	NA	NA	NA	400	
PH272-1048-1-1004	P272-1048-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.18	0.85	NA	NA	NA	NA	NA	NA	NA	400	
PH272-1050-1-1001	P272-1050-1	1	6	5.47	NA	26.26	oval	oval	n	M	6	P1	0.25	0.95	0.90	0.093	0.23	0.031	0.038	0.014	yes	52	406
PH272-1050-1-1002	P272-1050-1	1	6	5.47	NA	26.26	oval	oval	n	M	6	P2	0.21	0.86	0.90	0.093	0.23	0.031	0.038	0.014	yes	52	406
PH272-1050-1-1003	P272-1050-1	1	6	5.47	NA	26.26	oval	oval	n	M	6	P3	0.21	0.77	0.90	0.093	0.23	0.031	0.038	0.014	yes	52	406
PH272-1050-1-1004	P272-1050-1	1	6	5.47	NA	26.26	oval	oval	n	M	6	P4	0.21	0.83	0.90	0.093	0.23	0.031	0.038	0.014	yes	52	406
PH272-1050-1-1005	P272-1050-1	1	6	5.47	NA	26.26	oval	oval	n	M	6	P5	0.21	0.97	0.90	0.093	0.23	0.031	0.038	0.014	yes	52	406
PH272-1050-1-1006	P272-1050-1	1	6	5.47	NA	26.26	oval	oval	n	M	6	P6	0.28	1.01	0.90	0.093	0.23	0.031	0.038	0.014	yes	52	406
PH272-1051-1-1001	P272-1051-1	1	4	3.83	NA	12.26	circle	oval	n	M	4	P1	0.15	0.66	0.63	0.055	0.18	0.025	0.015	0.004	yes	52	421
PH272-1051-1-1002	P272-1051-1	1	4	3.83	NA	12.26	circle	oval	n	M	4	P2	0.18	0.68	0.63	0.055	0.18	0.025	0.015	0.004	yes	52	421
PH272-1051-1-1003	P272-1051-1	1	4	3.83	NA	12.26	circle	oval	n	M	4	P3	0.21	0.60	0.63	0.055	0.18	0.025	0.015	0.004	yes	52	421
PH272-1051-1-1004	P272-1051-1	1	4	3.83	NA	12.26	circle	oval	n	M	4	P4	0.17	0.56	0.63	0.055	0.18	0.025	0.015	0.004	yes	52	421
PH272-1059-1-1001	P272-1059-1	1	4	NA	NA	NA	oval	oval	n	M	4	P1	0.18	0.69	0.71	0.072	0.17	0.012	0.017	0.002	yes	52	471

PotholeID	PthHoleSID	Bld	L	W	RecFtr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVal	VoSD	DUUsed	PstRef	PstRef
PH272-1059-1-1002	P272-1059-1	1	4	NA	NA	NA	oval	oval	n	M	4 P2	0.16	0.69	0.71	0.072	0.17	0.072	0.017	0.002	yes	52	471	
PH272-1059-1-1003	P272-1059-1	1	4	NA	NA	NA	oval	oval	n	M	4 P3	0.18	0.64	0.71	0.072	0.17	0.072	0.017	0.002	yes	52	471	
PH272-1059-1-1004	P272-1059-1	1	4	NA	NA	NA	oval	oval	n	M	4 P4	0.17	0.81	0.71	0.072	0.17	0.072	0.017	0.002	yes	52	471	
PH272-1062-1-1001	P272-1062-1	1	3.93	NA	NA	12.13	circle	circle	n	M	4 P1	0.16	0.57	0.62	0.045	0.16	0.032	0.014	0.006	yes	52	485	
PH272-1062-1-1002	P272-1062-1	1	3.93	NA	NA	12.13	circle	circle	n	M	4 P2	0.12	0.60	0.62	0.045	0.16	0.032	0.014	0.006	yes	52	485	
PH272-1062-1-1003	P272-1062-1	1	3.93	NA	NA	12.13	circle	circle	n	M	4 P3	0.19	0.66	0.62	0.045	0.16	0.032	0.014	0.006	yes	52	485	
PH272-1062-1-1004	P272-1062-1	1	3.93	NA	NA	12.13	circle	circle	n	M	4 P4	0.19	0.66	0.62	0.045	0.16	0.032	0.014	0.006	yes	52	485	
PH272-1063-1-1001	P272-1063-1	1	4.31	3.72	NA	12.83	irregular oval	oval	n	M	4 P1	0.18	0.68	0.65	0.116	0.19	0.028	0.018	0.004	yes	52	489	
PH272-1063-1-1002	P272-1063-1	1	4.31	3.72	NA	12.83	irregular oval	oval	n	M	4 P2	0.21	0.50	0.65	0.116	0.19	0.028	0.018	0.004	yes	52	489	
PH272-1063-1-1003	P272-1063-1	1	4.31	3.72	NA	12.83	irregular oval	oval	n	M	4 P3	0.16	0.78	0.65	0.116	0.19	0.028	0.018	0.004	yes	52	489	
PH272-1063-1-1004	P272-1063-1	1	4.31	3.72	NA	12.83	irregular oval	oval	n	M	4 P4	0.22	0.65	0.65	0.116	0.19	0.028	0.018	0.004	yes	52	489	
PH272-1065-1-1001	P272-1065-1	1	6.32	6.1	NA	30.84	rounded square	oval	n	M	7 P1	0.21	0.41	0.60	0.180	0.28	0.044	0.039	0.020	yes	52	510	
PH272-1065-1-1002	P272-1065-1	1	6.32	6.1	NA	30.84	rounded square	oval	n	M	7 P2	0.29	0.68	0.60	0.180	0.28	0.044	0.039	0.020	yes	52	510	
PH272-1065-1-1003	P272-1065-1	1	6.32	6.1	NA	30.84	rounded square	oval	n	M	7 P3	0.30	0.40	0.60	0.180	0.28	0.044	0.039	0.020	yes	52	510	
PH272-1065-1-1004	P272-1065-1	1	6.32	6.1	NA	30.84	rounded square	oval	n	M	7 P4	0.21	0.42	0.60	0.180	0.28	0.044	0.039	0.020	yes	52	510	
PH272-1065-1-1005	P272-1065-1	1	6.32	6.1	NA	30.84	rounded square	oval	n	M	7 P5	0.32	0.78	0.60	0.180	0.28	0.044	0.039	0.020	yes	52	510	
PH272-1065-1-1006	P272-1065-1	1	6.32	6.1	NA	30.84	rounded square	oval	n	M	7 P6	0.29	0.72	0.60	0.180	0.28	0.044	0.039	0.020	yes	52	510	
PH272-1065-1-1007	P272-1065-1	1	6.32	6.1	NA	30.84	rounded square	oval	n	M	7 P7	0.30	0.78	0.60	0.180	0.28	0.044	0.039	0.020	yes	52	510	
PH272-1066-1-1001	P272-1066-1	1	4.82	4.4	NA	16.97	oval	oval	n	M	6 P1	0.13	0.77	0.51	0.240	0.16	0.045	0.010	0.004	yes	52	520	
PH272-1066-1-1002	P272-1066-1	1	4.82	4.4	NA	16.97	oval	oval	n	M	6 P2	0.13	0.75	0.51	0.240	0.16	0.045	0.010	0.004	yes	52	520	
PH272-1066-1-1003	P272-1066-1	1	4.82	4.4	NA	16.97	oval	oval	n	M	6 P3	0.21	0.23	0.51	0.240	0.16	0.045	0.010	0.004	yes	52	520	
PH272-1066-1-1004	P272-1066-1	1	4.82	4.4	NA	16.97	oval	oval	n	M	6 P4	0.11	0.30	0.51	0.240	0.16	0.045	0.010	0.004	yes	52	520	
PH272-1066-1-1005	P272-1066-1	1	4.82	4.4	NA	16.97	oval	oval	n	M	6 P5	0.16	0.64	0.51	0.240	0.16	0.045	0.010	0.004	yes	52	520	
PH272-1066-1-1006	P272-1066-1	1	4.82	4.4	NA	16.97	oval	oval	n	M	6 P6	0.22	0.36	0.51	0.240	0.16	0.045	0.010	0.004	yes	52	520	
PH272-1067-1-1001	P272-1067-1	1	5.85	5.75	NA	26.91	circle	oval	n	M	6 P1	0.29	0.86	0.92	0.088	0.28	0.063	0.062	0.025	yes	52	525	
PH272-1067-1-1002	P272-1067-1	1	5.85	5.75	NA	26.91	circle	oval	n	M	6 P2	0.30	1.00	0.92	0.088	0.28	0.063	0.062	0.025	yes	52	525	
PH272-1067-1-1003	P272-1067-1	1	5.85	5.75	NA	26.91	circle	oval	n	M	6 P3	0.31	0.84	0.92	0.088	0.28	0.063	0.062	0.025	yes	52	525	
PH272-1067-1-1004	P272-1067-1	1	5.85	5.75	NA	26.91	circle	oval	n	M	6 P4	0.16	0.81	0.92	0.088	0.28	0.063	0.062	0.025	yes	52	525	
PH272-1067-1-1005	P272-1067-1	1	5.85	5.75	NA	26.91	circle	oval	n	M	6 P5	0.33	1.00	0.92	0.088	0.28	0.063	0.062	0.025	yes	52	525	
PH272-1067-1-1006	P272-1067-1	1	5.85	5.75	NA	26.91	circle	oval	n	M	6 P6	0.32	0.98	0.92	0.088	0.28	0.063	0.062	0.025	yes	52	525	
PH272-1074-1-1001	P272-1074-1	1	5.15	5	NA	20.60	bowd square	oval	n	MW	5 P1	0.24	1.00	0.82	0.181	0.23	0.041	0.037	0.018	yes	52	569	
PH272-1074-1-1002	P272-1074-1	1	5.15	5	NA	20.60	bowd square	oval	n	MW	5 P2	0.18	0.59	0.82	0.181	0.23	0.041	0.037	0.018	yes	52	569	
PH272-1074-1-1003	P272-1074-1	1	5.15	5	NA	20.60	bowd square	oval	n	MW	5 P3	0.28	0.99	0.82	0.181	0.23	0.041	0.037	0.018	yes	52	569	
PH272-1074-1-1004	P272-1074-1	1	5.15	5	NA	20.60	bowd square	oval	n	MW	5 P4	0.20	0.69	0.82	0.181	0.23	0.041	0.037	0.018	yes	52	569	
PH272-1074-1-1005	P272-1074-1	1	5.15	5	NA	20.60	bowd square	oval	n	MW	5 P5	0.26	0.82	0.82	0.181	0.23	0.041	0.037	0.018	yes	52	569	
PH272-1083-1-1005	P272-1083-1	1	4.5	4.25	NA	15.30	rounded rectangle	oval	n	MW	5 P5	0.14	0.73	0.76	0.077	0.19	0.049	0.022	0.012	yes	53	17	
PH272-1083-1-1006	P272-1083-1	1	4.5	4.25	NA	15.30	rounded rectangle	oval	n	MW	5 P6	0.18	0.64	0.76	0.077	0.19	0.049	0.022	0.012	yes	53	17	
PH272-1083-1-1018	P272-1083-1	1	4.5	4.25	NA	15.30	rounded rectangle	oval	n	MW	5 P18	0.25	0.77	0.76	0.077	0.19	0.049	0.022	0.012	yes	53	17	

PotholeID	PthHoleSID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VolSD	DUUsed	PthRef	PstRef
PH272-1083-1-1029	P272-1083-1	1	4.5	4.25 NA		15.30 rounded rectangle	oval	n	MW	5	P29	5	0.22	0.83	0.76	0.077	0.19	0.049	0.022	0.012	yes	53	17
PH272-1083-1-1031	P272-1083-1	1	4.5	4.25 NA		15.30 rounded rectangle	oval	n	MW	5	P31	5	0.14	0.82	0.76	0.077	0.19	0.049	0.022	0.012	yes	53	17
PH272-1084-1-1001	P272-1084-1	1	4.1	3.66 NA		12.00 oval	oval	n	M	4	P1	4	0.22	0.87	0.83	0.038	0.19	0.042	0.025	0.011	yes	53	26
PH272-1084-1-1002	P272-1084-1	1	4.1	3.66 NA		12.00 oval	oval	n	M	4	P2	4	0.14	0.79	0.83	0.038	0.19	0.042	0.025	0.011	yes	53	26
PH272-1084-1-1003	P272-1084-1	1	4.1	3.66 NA		12.00 oval	oval	n	M	4	P3	4	0.16	0.82	0.83	0.038	0.19	0.042	0.025	0.011	yes	53	26
PH272-1084-1-1004	P272-1084-1	1	4.1	3.66 NA		12.00 oval	oval	n	M	4	P4	4	0.23	0.86	0.83	0.038	0.19	0.042	0.025	0.011	yes	53	26
PH272-1086-1-1001	P272-1086-1	1	4.3	4.26 NA		14.65 rounded square	oval	n	M	4	P1	4	0.17	0.74	0.75	0.144	0.15	0.023	0.014	0.005	DIA	52	620
PH272-1086-1-1002	P272-1086-1	1	4.3	4.26 NA		14.65 rounded square	oval	n	M	4	P2	4	0.12	0.55	0.75	0.144	0.15	0.023	0.014	0.005	DIA	52	620
PH272-1086-1-1003	P272-1086-1	1	4.3	4.26 NA		14.65 rounded square	oval	n	M	4	P3	4	0.15	0.89	0.75	0.144	0.15	0.023	0.014	0.005	DIA	52	620
PH272-1086-1-1004	P272-1086-1	1	4.3	4.26 NA		14.65 rounded square	oval	n	M	4	P4	4	0.17	0.80	0.75	0.144	0.15	0.023	0.014	0.005	DIA	52	620
PH272-1092-1-1001	P272-1092-1	1	3.77	3.05 NA		9.20 oval	oval	n	M	7	P1	7	0.05	0.59	0.41	0.156	0.09	0.036	0.002	0.001	yes	53	41
PH272-1092-1-1002	P272-1092-1	1	3.77	3.05 NA		9.20 oval	oval	n	M	7	P2	7	0.07	0.37	0.41	0.156	0.09	0.036	0.002	0.001	yes	53	41
PH272-1092-1-1003	P272-1092-1	1	3.77	3.05 NA		9.20 oval	oval	n	M	7	P3	7	0.13	0.35	0.41	0.156	0.09	0.036	0.002	0.001	yes	53	41
PH272-1092-1-1005	P272-1092-1	1	3.77	3.05 NA		9.20 oval	oval	n	M	7	P5	7	0.08	0.40	0.41	0.156	0.09	0.036	0.002	0.001	yes	53	41
PH272-1092-1-1006	P272-1092-1	1	3.77	3.05 NA		9.20 oval	oval	n	M	7	P6	7	0.06	0.63	0.41	0.156	0.09	0.036	0.002	0.001	yes	53	41
PH272-1092-1-1007	P272-1092-1	1	3.77	3.05 NA		9.20 oval	oval	n	M	7	P7	7	0.15	0.18	0.41	0.156	0.09	0.036	0.002	0.001	yes	53	41
PH272-1092-1-1008	P272-1092-1	1	3.77	3.05 NA		9.20 oval	oval	n	M	7	P8	7	0.09	0.33	0.41	0.156	0.09	0.036	0.002	0.001	yes	53	41
PH272-1095-1-1001	P272-1095-1	1	4.6	4.35 NA		16.01 pentagon	oval	n	M	6	P1	6	0.09	0.28	0.46	0.265	0.15	0.062	0.009	0.008	yes	53	56
PH272-1095-1-1002	P272-1095-1	1	4.6	4.35 NA		16.01 pentagon	oval	n	M	6	P2	6	0.15	0.57	0.46	0.265	0.15	0.062	0.009	0.008	yes	53	56
PH272-1095-1-1004	P272-1095-1	1	4.6	4.35 NA		16.01 pentagon	oval	n	M	6	P4	6	0.12	0.90	0.46	0.265	0.15	0.062	0.009	0.008	yes	53	56
PH272-1095-1-1005	P272-1095-1	1	4.6	4.35 NA		16.01 pentagon	oval	n	M	6	P5	6	0.20	0.13	0.46	0.265	0.15	0.062	0.009	0.008	yes	53	56
PH272-1095-1-1010	P272-1095-1	1	4.6	4.35 NA		16.01 pentagon	oval	n	M	6	P10	6	0.12	0.40	0.46	0.265	0.15	0.062	0.009	0.008	yes	53	56
PH272-1095-1-1011	P272-1095-1	1	4.6	4.35 NA		16.01 pentagon	oval	n	M	6	P11	6	0.25	0.49	0.46	0.265	0.15	0.062	0.009	0.008	yes	53	56
PH272-1096-1-1015	P272-1096-1	1	4.3	4 NA		13.76 rounded rectangle	oval	6	M	4	P15	4	0.07	0.62	0.53	0.137	0.08	0.021	0.003	0.001	yes	53	76
PH272-1096-1-1025	P272-1096-1	1	4.3	4 NA		13.76 rounded rectangle	oval	6	M	4	P25	4	0.10	0.62	0.53	0.137	0.08	0.021	0.003	0.001	yes	53	76
PH272-1096-1-1032	P272-1096-1	1	4.3	4 NA		13.76 rounded rectangle	oval	6	M	4	P32	4	0.07	0.55	0.53	0.137	0.08	0.021	0.003	0.001	yes	53	76
PH272-1096-1-1038	P272-1096-1	1	4.3	4 NA		13.76 rounded rectangle	oval	6	M	4	P38	4	0.11	0.33	0.53	0.137	0.08	0.021	0.003	0.001	yes	53	76
PH272-1096-3-1005	P272-1096-3	3	4.6	3.8 NA		13.98 rounded rectangle	oval	6	M	uk	P5	6	0.14	0.80	0.69	0.257	0.10	0.033	0.007	0.005	yes	53	75
PH272-1096-3-1011	P272-1096-3	3	4.6	3.8 NA		13.98 rounded rectangle	oval	6	M	uk	P11	6	0.07	0.40	0.69	0.257	0.10	0.033	0.007	0.005	yes	53	75
PH272-1096-3-1020	P272-1096-3	3	4.6	3.8 NA		13.98 rounded rectangle	oval	6	M	uk	P20	6	0.10	0.88	0.69	0.257	0.10	0.033	0.007	0.005	yes	53	75
PH272-1096-4-1010	P272-1096-4	4	4.5	4 NA		14.40 pentagon	oval	6	M	4	P10	4	0.08	0.54	0.36	0.143	0.12	0.093	0.006	0.008	yes	53	74
PH272-1096-4-1014	P272-1096-4	4	4.5	4 NA		14.40 pentagon	oval	6	M	4	P14	4	0.10	0.35	0.36	0.143	0.12	0.093	0.006	0.008	yes	53	74
PH272-1096-4-1023	P272-1096-4	4	4.5	4 NA		14.40 pentagon	oval	6	M	4	P23	4	0.26	0.34	0.36	0.143	0.12	0.093	0.006	0.008	yes	53	74
PH272-1096-4-1030	P272-1096-4	4	4.5	4 NA		14.40 pentagon	oval	6	M	4	P30	4	0.05	0.19	0.36	0.143	0.12	0.093	0.006	0.008	yes	53	74
PH272-1096-5-1006	P272-1096-5	5	4.45	4.4 NA		15.66 rounded rectangle	oval	6	M	4	P6	4	0.13	0.70	0.70	0.074	0.11	0.024	0.007	0.003	yes	53	73
PH272-1096-5-1008	P272-1096-5	5	4.45	4.4 NA		15.66 rounded rectangle	oval	6	M	4	P8	4	0.10	0.63	0.70	0.074	0.11	0.024	0.007	0.003	yes	53	73
PH272-1096-5-1012	P272-1096-5	5	4.45	4.4 NA		15.66 rounded rectangle	oval	6	M	4	P12	4	0.13	0.66	0.70	0.074	0.11	0.024	0.007	0.003	yes	53	73
PH272-1096-5-1043	P272-1096-5	5	4.45	4.4 NA		15.66 rounded rectangle	oval	6	M	4	P43	4	0.08	0.80	0.70	0.074	0.11	0.024	0.007	0.003	yes	53	73

PostholeID	PthHoleSID	Bld	L	W	RecFlr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsSD	MDia	DiaSD	MVd	VolSD	DUUsed	PstRef	PstRef
PH272-1096-6-1001	P272-1096-6	6	4.6	4.57	NA	16.82	rounded rectangle	oval	6 M	4 P1	0.09	0.73	0.71	0.056	0.12	0.030	0.009	0.004	yes	53	72		
	P272-1096-6	6	4.6	4.57	NA	16.82	rounded rectangle	oval	6 M	4 P2	0.16	0.67	0.71	0.056	0.12	0.030	0.009	0.004	yes	53	72		
	P272-1096-6	6	4.6	4.57	NA	16.82	rounded rectangle	oval	6 M	4 P3	0.13	0.66	0.71	0.056	0.12	0.030	0.009	0.004	yes	53	72		
	P272-1096-6	6	4.6	4.57	NA	16.82	rounded rectangle	oval	6 M	4 P4	0.11	0.78	0.71	0.056	0.12	0.030	0.009	0.004	yes	53	72		
PH272-1096-6-1004	P272-1096-6	6	4.6	4.57	NA	16.82	rounded rectangle	oval	6 M	4 P4	0.11	0.78	0.71	0.056	0.12	0.030	0.009	0.004	yes	53	72		
	P272-1098-1	1	5.65	NA	NA	25.07	circle	circle	n	5 P1	0.22	1.00	0.87	0.103	0.26	0.061	0.049	0.024	yes	53	93		
	P272-1098-1	1	5.65	NA	NA	25.07	circle	circle	n	5 P2	0.22	0.73	0.87	0.103	0.26	0.061	0.049	0.024	yes	53	93		
	P272-1098-1	1	5.65	NA	NA	25.07	circle	circle	n	5 P3	0.25	0.94	0.87	0.103	0.26	0.061	0.049	0.024	yes	53	93		
PH272-1098-1-1003	P272-1098-1	1	5.65	NA	NA	25.07	circle	circle	n	5 P4	0.37	0.85	0.87	0.103	0.26	0.061	0.049	0.024	yes	53	93		
	P272-1098-1	1	5.65	NA	NA	25.07	circle	circle	n	5 P5	0.27	0.84	0.87	0.103	0.26	0.061	0.049	0.024	yes	53	93		
	P272-1099-2	2	4.5	NA	NA	15.90	circle	circle	3 MW	4 P5	0.16	0.72	0.67	0.073	0.20	0.040	0.022	0.009	yes	53	108		
	P272-1099-2	2	4.5	NA	NA	15.90	circle	circle	3 MW	4 P7	0.24	0.74	0.67	0.073	0.20	0.040	0.022	0.009	yes	53	108		
PH272-1099-2-1007	P272-1099-2	2	4.5	NA	NA	15.90	circle	circle	3 MW	4 P7	0.24	0.74	0.67	0.073	0.20	0.040	0.022	0.009	yes	53	108		
	P272-1099-2	2	4.5	NA	NA	15.90	circle	circle	3 MW	4 P8	0.17	0.65	0.67	0.073	0.20	0.040	0.022	0.009	yes	53	108		
	P272-1099-2	2	4.5	NA	NA	15.90	circle	circle	3 MW	4 P13	0.23	0.58	0.67	0.073	0.20	0.040	0.022	0.009	yes	53	108		
	P272-1099-3	3	4.65	NA	NA	16.98	circle	circle	3 MW	4 P2	0.16	0.47	0.58	0.139	0.17	0.050	0.015	0.011	yes	53	107		
PH272-1099-3-1006	P272-1099-3	3	4.65	NA	NA	16.98	circle	circle	3 MW	4 P6	0.23	0.70	0.58	0.139	0.17	0.050	0.015	0.011	yes	53	107		
	P272-1099-3	3	4.65	NA	NA	16.98	circle	circle	3 MW	4 P6	0.23	0.70	0.58	0.139	0.17	0.050	0.015	0.011	yes	53	107		
	P272-1099-3	3	4.65	NA	NA	16.98	circle	circle	3 MW	4 P11	0.16	0.70	0.58	0.139	0.17	0.050	0.015	0.011	yes	53	107		
	P272-1099-3	3	4.65	NA	NA	16.98	circle	circle	3 MW	4 P14	0.11	0.45	0.58	0.139	0.17	0.050	0.015	0.011	yes	53	107		
PH272-1099-3-1014	P272-1099-3	3	4.65	NA	NA	16.98	circle	circle	3 MW	4 P14	0.11	0.45	0.58	0.139	0.17	0.050	0.015	0.011	yes	53	107		
	P272-1100-1	1	3.6	3.4	NA	9.79	circle	oval	n	4 P1	0.14	0.60	0.63	0.092	0.16	0.037	0.014	0.009	yes	53	123		
	P272-1100-1	1	3.6	3.4	NA	9.79	circle	oval	n	4 P2	0.22	0.73	0.63	0.092	0.16	0.037	0.014	0.009	yes	53	123		
	P272-1100-1	1	3.6	3.4	NA	9.79	circle	oval	n	4 P4	0.14	0.68	0.63	0.092	0.16	0.037	0.014	0.009	yes	53	123		
PH272-1100-1-1005	P272-1100-1	1	3.6	3.4	NA	9.79	circle	oval	n	4 P5	0.14	0.52	0.63	0.092	0.16	0.037	0.014	0.009	yes	53	123		
	P272-1106-1	1	4.43	3.9	NA	13.82	rounded rectangle	oval	3 MW	4 P6	0.22	0.29	0.43	0.118	0.13	0.068	0.006	0.004	yes	53	149		
	P272-1106-1	1	4.43	3.9	NA	13.82	rounded rectangle	oval	3 MW	4 P7	0.07	0.43	0.43	0.118	0.13	0.068	0.006	0.004	yes	53	149		
	P272-1106-1	1	4.43	3.9	NA	13.82	rounded rectangle	oval	3 MW	4 P8	0.13	0.43	0.43	0.118	0.13	0.068	0.006	0.004	yes	53	149		
PH272-1106-1-1008	P272-1106-1	1	4.43	3.9	NA	13.82	rounded rectangle	oval	3 MW	4 P22	0.08	0.58	0.43	0.118	0.13	0.068	0.006	0.004	yes	53	149		
	P272-1106-1	1	4.43	3.9	NA	13.82	rounded rectangle	oval	3 MW	4 P22	0.08	0.58	0.43	0.118	0.13	0.068	0.006	0.004	yes	53	149		
	P272-1106-2	2	4.15	4.05	NA	13.45	rounded rectangle	oval	3 MW	4 P5	0.16	0.55	0.37	0.216	0.16	0.012	0.007	0.004	yes	53	148		
	P272-1106-2	2	4.15	4.05	NA	13.45	rounded rectangle	oval	3 MW	4 P10	0.16	0.14	0.37	0.216	0.16	0.012	0.007	0.004	yes	53	148		
PH272-1106-2-1010	P272-1106-2	2	4.15	4.05	NA	13.45	rounded rectangle	oval	3 MW	4 P10	0.16	0.14	0.37	0.216	0.16	0.012	0.007	0.004	yes	53	148		
	P272-1106-2	2	4.15	4.05	NA	13.45	rounded rectangle	oval	3 MW	4 P15	0.16	0.22	0.37	0.216	0.16	0.012	0.007	0.004	yes	53	148		
	P272-1106-2	2	4.15	4.05	NA	13.45	rounded rectangle	oval	3 MW	4 P17	0.14	0.55	0.37	0.216	0.16	0.012	0.007	0.004	yes	53	148		
	P272-1106-3	3	5.35	4.87	NA	20.84	rounded rectangle	oval	3 MW	4 P1	0.27	0.79	0.76	0.139	0.19	0.054	0.023	0.015	yes	53	147		
PH272-1106-3-1001	P272-1106-3	3	5.35	4.87	NA	20.84	rounded rectangle	oval	3 MW	4 P1	0.27	0.79	0.76	0.139	0.19	0.054	0.023	0.015	yes	53	147		
	P272-1106-3	3	5.35	4.87	NA	20.84	rounded rectangle	oval	3 MW	4 P2	0.18	0.61	0.76	0.139	0.19	0.054	0.023	0.015	yes	53	147		
	P272-1106-3	3	5.35	4.87	NA	20.84	rounded rectangle	oval	3 MW	4 P3	0.16	0.94	0.76	0.139	0.19	0.054	0.023	0.015	yes	53	147		
	P272-1106-3	3	5.35	4.87	NA	20.84	rounded rectangle	oval	3 MW	4 P4	0.16	0.71	0.76	0.139	0.19	0.054	0.023	0.015	yes	53	147		
PH272-1106-3-1003	P272-1106-3	3	5.35	4.87	NA	20.84	rounded rectangle	oval	3 MW	4 P4	0.16	0.71	0.76	0.139	0.19	0.054	0.023	0.015	yes	53	147		
	P272-1107-1	1	4	NA	NA	12.57	circle	circle	n	uk	0.15	0.40	0.40	0.154	0.14	0.054	0.007	0.004	yes	53	160		
	P272-1107-1	1	4	NA	NA	12.57	circle	circle	n	uk	0.22	0.23	0.40	0.154	0.14	0.054	0.007	0.004	yes	53	160		
	P272-1107-1	1	4	NA	NA	12.57	circle	circle	n	uk	0.13	0.58	0.40	0.154	0.14	0.054	0.007	0.004	yes	53	160		
PH272-1107-1-1004	P272-1107-1	1	4	NA	NA	12.57	circle	circle	n	uk	0.07	0.27	0.40	0.154	0.14	0.054	0.007	0.004	yes	53	160		
	P272-1107-1	1	4	NA	NA	12.57	circle	circle	n	uk	0.16	0.53	0.40	0.154	0.14	0.054	0.007	0.004	yes	53	160		
	P272-1107-1	1	4	NA	NA	12.57	circle	circle	n	uk	0.16	0.53	0.40	0.154	0.14	0.054	0.007	0.004	yes	53	160		
	P272-1107-1	1	4	NA	NA	12.57	circle	circle	n	uk	0.16	0.53	0.40	0.154	0.14	0.054	0.007	0.004	yes	53	160		

PotholeID	PthHoleSID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VoSD	DUUsed	PstRef	PstRef
PH272-1108-1-001	P272-1108-1	1	4.5	NA	NA	15.90	circle	circle	n	MW	5 P1	5 P1	0.28	0.64	0.67	0.061	0.22	0.064	0.029	0.016	yes	53	161
PH272-1108-1-002	P272-1108-1	1	4.5	NA	NA	15.90	circle	circle	n	MW	5 P2	5 P2	0.28	0.76	0.67	0.061	0.22	0.064	0.029	0.016	yes	53	161
PH272-1108-1-003	P272-1108-1	1	4.5	NA	NA	15.90	circle	circle	n	MW	5 P3	5 P3	0.23	0.65	0.67	0.061	0.22	0.064	0.029	0.016	yes	53	161
PH272-1108-1-004	P272-1108-1	1	4.5	NA	NA	15.90	circle	circle	n	MW	5 P4	5 P4	0.19	0.69	0.67	0.061	0.22	0.064	0.029	0.016	yes	53	161
PH272-1108-1-006	P272-1108-1	1	4.5	NA	NA	15.90	circle	circle	n	MW	5 P6	5 P6	0.13	0.60	0.67	0.061	0.22	0.064	0.029	0.016	yes	53	161
PH272-1109-1-009	P272-1109-1	1	4.6	4.5	NA	16.56	rounded rectangle	oval	n	MW	4 P9	4 P9	0.17	0.46	0.45	0.037	0.19	0.018	0.013	0.003	yes	53	170
PH272-1109-1-020	P272-1109-1	1	4.6	4.5	NA	16.56	rounded rectangle	oval	n	MW	4 P20	4 P20	0.18	0.40	0.45	0.037	0.19	0.018	0.013	0.003	yes	53	170
PH272-1109-1-021	P272-1109-1	1	4.6	4.5	NA	16.56	rounded rectangle	oval	n	MW	4 P21	4 P21	0.19	0.49	0.45	0.037	0.19	0.018	0.013	0.003	yes	53	170
PH272-1109-1-046	P272-1109-1	1	4.6	4.5	NA	16.56	rounded rectangle	oval	n	MW	4 P46	4 P46	0.21	0.45	0.45	0.037	0.19	0.018	0.013	0.003	yes	53	170
PH272-1110-1-004	P272-1110-1	1	4.9	4.3	NA	16.86	rounded rectangle	oval		2 M	4 P4	4 P4	0.28	0.69	0.68	0.026	0.23	0.067	0.029	0.015	yes	53	172
PH272-1110-1-005	P272-1110-1	1	4.9	4.3	NA	16.86	rounded rectangle	oval		2 M	4 P5	4 P5	0.27	0.67	0.68	0.026	0.23	0.067	0.029	0.015	yes	53	172
PH272-1110-1-016	P272-1110-1	1	4.9	4.3	NA	16.86	rounded rectangle	oval		2 M	4 P16	4 P16	0.13	0.65	0.68	0.026	0.23	0.067	0.029	0.015	yes	53	172
PH272-1110-1-027	P272-1110-1	1	4.9	4.3	NA	16.86	rounded rectangle	oval		2 M	4 P27	4 P27	0.22	0.71	0.68	0.026	0.23	0.067	0.029	0.015	yes	53	172
PH272-1110-2-004	P272-1110-2	2	5.2	4.9	NA	20.38	rounded rectangle	oval		2 M	4 P4	4 P4	0.28	0.69	0.69	0.017	0.25	0.031	0.034	0.008	yes	53	172
PH272-1110-2-005	P272-1110-2	2	5.2	4.9	NA	20.38	rounded rectangle	oval		2 M	4 P5	4 P5	0.27	0.67	0.69	0.017	0.25	0.031	0.034	0.008	yes	53	172
PH272-1110-2-023	P272-1110-2	2	5.2	4.9	NA	20.38	rounded rectangle	oval		2 M	4 P23	4 P23	0.21	0.71	0.69	0.017	0.25	0.031	0.034	0.008	yes	53	172
PH272-1110-2-025	P272-1110-2	2	5.2	4.9	NA	20.38	rounded rectangle	oval		2 M	4 P25	4 P25	0.24	0.70	0.69	0.017	0.25	0.031	0.034	0.008	yes	53	172
PH272-1111-1-007	P272-1111-1	1	4.4	NA	NA	NA	rounded rectangle	oval	n	M	4 P7	4 P7	0.11	0.24	0.41	0.115	0.15	0.041	0.007	0.005	yes	53	173
PH272-1111-1-008	P272-1111-1	1	4.4	NA	NA	NA	rounded rectangle	oval	n	M	4 P8	4 P8	0.19	0.42	0.41	0.115	0.15	0.041	0.007	0.005	yes	53	173
PH272-1111-1-009	P272-1111-1	1	4.4	NA	NA	NA	rounded rectangle	oval	n	M	4 P9	4 P9	0.17	0.46	0.41	0.115	0.15	0.041	0.007	0.005	yes	53	173
PH272-1111-1-039	P272-1111-1	1	4.4	NA	NA	NA	rounded rectangle	oval	n	M	4 P39	4 P39	0.11	0.50	0.41	0.115	0.15	0.041	0.007	0.005	yes	53	173
PH272-1112-1-002	P272-1112-1	1	3.7	NA	NA	NA	circle	oval		2 MW	4 P2	4 P2	0.19	0.71	0.65	0.051	0.16	0.018	0.013	0.004	yes	53	178
PH272-1112-1-007	P272-1112-1	1	3.7	NA	NA	NA	circle	oval		2 MW	4 P7	4 P7	0.15	0.62	0.65	0.051	0.16	0.018	0.013	0.004	yes	53	178
PH272-1112-1-010	P272-1112-1	1	3.7	NA	NA	NA	circle	oval		2 MW	4 P10	4 P10	0.15	0.60	0.65	0.051	0.16	0.018	0.013	0.004	yes	53	178
PH272-1112-1-018	P272-1112-1	1	3.7	NA	NA	NA	circle	oval		2 MW	4 P18	4 P18	0.15	0.68	0.65	0.051	0.16	0.018	0.013	0.004	yes	53	178
PH272-1112-2-001	P272-1112-2	2	4.3	NA	NA	NA	circle	oval		2 M	4 P1	4 P1	0.14	0.68	0.68	0.050	0.21	0.082	0.025	0.018	yes	53	178
PH272-1112-2-003	P272-1112-2	2	4.3	NA	NA	NA	circle	oval		2 M	4 P3	4 P3	0.22	0.74	0.68	0.050	0.21	0.082	0.025	0.018	yes	53	178
PH272-1112-2-005	P272-1112-2	2	4.3	NA	NA	NA	circle	oval		2 M	4 P5	4 P5	0.16	0.66	0.68	0.050	0.21	0.082	0.025	0.018	yes	53	178
PH272-1112-2-017	P272-1112-2	2	4.3	NA	NA	NA	circle	oval		2 M	4 P17	4 P17	0.32	0.62	0.68	0.050	0.21	0.082	0.025	0.018	yes	53	178
PH272-1114-1-001	P272-1114-1	1	5.7	5.7	NA	25.99	rounded rectangle	oval		3 MW	4 P1	4 P1	0.16	0.63	0.72	0.075	0.19	0.024	0.020	0.006	yes	53	197
PH272-1114-1-002	P272-1114-1	1	5.7	5.7	NA	25.99	rounded rectangle	oval		3 MW	4 P2	4 P2	0.17	0.80	0.72	0.075	0.19	0.024	0.020	0.006	yes	53	197
PH272-1114-1-010	P272-1114-1	1	5.7	5.7	NA	25.99	rounded rectangle	oval		3 MW	4 P10	4 P10	0.20	0.68	0.72	0.075	0.19	0.024	0.020	0.006	yes	53	197
PH272-1114-1-021	P272-1114-1	1	5.7	5.7	NA	25.99	rounded rectangle	oval		3 MW	4 P21	4 P21	0.22	0.75	0.72	0.075	0.19	0.024	0.020	0.006	yes	53	197
PH272-1114-2-004	P272-1114-2	2	4.45	4.35	NA	15.49	rounded rectangle	oval		3 M	4 P4	4 P4	0.22	0.69	0.68	0.079	0.20	0.050	0.021	0.010	yes	53	198
PH272-1114-2-005	P272-1114-2	2	4.45	4.35	NA	15.49	rounded rectangle	oval		3 M	4 P5	4 P5	0.12	0.66	0.68	0.079	0.20	0.050	0.021	0.010	yes	53	198
PH272-1114-2-007	P272-1114-2	2	4.45	4.35	NA	15.49	rounded rectangle	oval		3 M	4 P7	4 P7	0.22	0.58	0.68	0.079	0.20	0.050	0.021	0.010	yes	53	198
PH272-1114-2-009	P272-1114-2	2	4.45	4.35	NA	15.49	rounded rectangle	oval		3 M	4 P9	4 P9	0.22	0.77	0.68	0.079	0.20	0.050	0.021	0.010	yes	53	198
PH272-1114-3-006	P272-1114-3	3	4.5	4.42	NA	15.91	rounded rectangle	oval		3 MW	4 P6	4 P6	0.17	0.64	0.59	0.077	0.15	0.026	0.010	0.004	yes	53	199

PotholeID	PitHouseID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVd	VoISD	DUUsed	PstRef	PstRef
PH272-1114-3-1013	P272-1114-3	3	4.5	4.42 NA	NA	15.91	rounded rectangle	oval	3	MW	4	P13	0.13	0.66	0.59	0.077	0.15	0.026	0.010	0.004	yes	53	199
PH272-1114-3-1015	P272-1114-3	3	4.5	4.42 NA	NA	15.91	rounded rectangle	oval	3	MW	4	P15	0.13	0.57	0.59	0.077	0.15	0.026	0.010	0.004	yes	53	199
PH272-1114-3-1035	P272-1114-3	3	4.5	4.42 NA	NA	15.91	rounded rectangle	oval	3	MW	4	P35	0.17	0.49	0.59	0.077	0.15	0.026	0.010	0.004	yes	53	199
PH272-1115-1-1001	P272-1115-1	1	4.4	3.87 NA	NA	13.62	rounded rectangle	oval	n	MW	4	P1	0.30	0.80	0.70	0.121	0.20	0.069	0.027	0.020	yes	53	211
PH272-1115-1-1002	P272-1115-1	1	4.4	3.87 NA	NA	13.62	rounded rectangle	oval	n	MW	4	P2	0.20	0.73	0.70	0.121	0.20	0.069	0.027	0.020	yes	53	211
PH272-1115-1-1012	P272-1115-1	1	4.4	3.87 NA	NA	13.62	rounded rectangle	oval	n	MW	4	P12	0.19	0.73	0.70	0.121	0.20	0.069	0.027	0.020	yes	53	211
PH272-1115-1-1019	P272-1115-1	1	4.4	3.87 NA	NA	13.62	rounded rectangle	oval	n	MW	4	P19	0.13	0.52	0.70	0.121	0.20	0.069	0.027	0.020	yes	53	211
PH272-1117-1-1001	P272-1117-1	1	9.2	8.7 NA	NA	64.03	circle	oval	n	MW	9	P1	0.37	0.53	0.46	0.143	0.33	0.089	0.039	0.020	DIA	53	217
PH272-1117-1-1004	P272-1117-1	1	9.2	8.7 NA	NA	64.03	circle	oval	n	MW	9	P4	0.31	0.54	0.46	0.143	0.33	0.089	0.039	0.020	DIA	53	217
PH272-1117-1-1006	P272-1117-1	1	9.2	8.7 NA	NA	64.03	circle	oval	n	MW	9	P6	0.29	0.74	0.46	0.143	0.33	0.089	0.039	0.020	DIA	53	217
PH272-1117-1-1007	P272-1117-1	1	9.2	8.7 NA	NA	64.03	circle	oval	n	MW	9	P7	0.40	0.46	0.46	0.143	0.33	0.089	0.039	0.020	DIA	53	217
PH272-1117-1-1011	P272-1117-1	1	9.2	8.7 NA	NA	64.03	circle	oval	n	MW	9	P11	0.51	0.34	0.46	0.143	0.33	0.089	0.039	0.020	DIA	53	217
PH272-1117-1-1020	P272-1117-1	1	9.2	8.7 NA	NA	64.03	circle	oval	n	MW	9	P20	0.28	0.30	0.46	0.143	0.33	0.089	0.039	0.020	DIA	53	217
PH272-1117-1-1021	P272-1117-1	1	9.2	8.7 NA	NA	64.03	circle	oval	n	MW	9	P21	0.20	0.53	0.46	0.143	0.33	0.089	0.039	0.020	DIA	53	217
PH272-1117-1-1022	P272-1117-1	1	9.2	8.7 NA	NA	64.03	circle	oval	n	MW	9	P22	0.32	0.30	0.46	0.143	0.33	0.089	0.039	0.020	DIA	53	217
PH272-1117-1-1023	P272-1117-1	1	9.2	8.7 NA	NA	64.03	circle	oval	n	MW	9	P23	0.25	0.40	0.46	0.143	0.33	0.089	0.039	0.020	DIA	53	217
PH272-1118-1-1002	P272-1118-1	1	6.7	5.95 NA	NA	31.89	oval	oval	n	MW	8	P2	0.22	1.08	0.73	0.297	0.21	0.063	0.029	0.013	DIA	53	220
PH272-1118-1-1008	P272-1118-1	1	6.7	5.95 NA	NA	31.89	oval	oval	n	MW	8	P8	0.18	1.10	0.73	0.297	0.21	0.063	0.029	0.013	DIA	53	220
PH272-1118-1-1009	P272-1118-1	1	6.7	5.95 NA	NA	31.89	oval	oval	n	MW	8	P9	0.25	0.40	0.73	0.297	0.21	0.063	0.029	0.013	DIA	53	220
PH272-1118-1-1010	P272-1118-1	1	6.7	5.95 NA	NA	31.89	oval	oval	n	MW	8	P10	0.23	0.76	0.73	0.297	0.21	0.063	0.029	0.013	DIA	53	220
PH272-1118-1-1018	P272-1118-1	1	6.7	5.95 NA	NA	31.89	oval	oval	n	MW	8	P18	0.07	0.24	0.73	0.297	0.21	0.063	0.029	0.013	DIA	53	220
PH272-1118-1-1024	P272-1118-1	1	6.7	5.95 NA	NA	31.89	oval	oval	n	MW	8	P24	0.27	0.69	0.73	0.297	0.21	0.063	0.029	0.013	DIA	53	220
PH272-1118-1-1025	P272-1118-1	1	6.7	5.95 NA	NA	31.89	oval	oval	n	MW	8	P25	0.26	0.72	0.73	0.297	0.21	0.063	0.029	0.013	DIA	53	220
PH272-1118-1-1026	P272-1118-1	1	6.7	5.95 NA	NA	31.89	oval	oval	n	MW	8	P26	0.24	0.82	0.73	0.297	0.21	0.063	0.029	0.013	DIA	53	220
PH272-1119-1-1001	P272-1119-1	1	4.02	3.72 NA	NA	11.96	circle	oval	n	M	4	P1	0.14	0.75	0.67	0.093	0.17	0.019	0.016	0.003	yes	53	225
PH272-1119-1-1002	P272-1119-1	1	4.02	3.72 NA	NA	11.96	circle	oval	n	M	4	P2	0.18	0.62	0.67	0.093	0.17	0.019	0.016	0.003	yes	53	225
PH272-1119-1-1003	P272-1119-1	1	4.02	3.72 NA	NA	11.96	circle	oval	n	M	4	P3	0.19	0.74	0.67	0.093	0.17	0.019	0.016	0.003	yes	53	225
PH272-1119-1-1005	P272-1119-1	1	4.02	3.72 NA	NA	11.96	circle	oval	n	M	4	P5	0.18	0.56	0.67	0.093	0.17	0.019	0.016	0.003	yes	53	225
PH272-2003-1-1001	P272-2003-1	1	5.42	5.17 NA	NA	22.42	irregular rectangle	oval	n	MW	4	P1	0.26	0.61	0.69	0.125	0.24	0.030	0.029	0.003	yes	52	35
PH272-2003-1-1002	P272-2003-1	1	5.42	5.17 NA	NA	22.42	irregular rectangle	oval	n	MW	4	P2	0.21	0.77	0.69	0.125	0.24	0.030	0.029	0.003	yes	52	35
PH272-2003-1-1003	P272-2003-1	1	5.42	5.17 NA	NA	22.42	irregular rectangle	oval	n	MW	4	P3	0.26	0.55	0.69	0.125	0.24	0.030	0.029	0.003	yes	52	35
PH272-2003-1-1004	P272-2003-1	1	5.42	5.17 NA	NA	22.42	irregular rectangle	oval	n	MW	4	P4	0.21	0.81	0.69	0.125	0.24	0.030	0.029	0.003	yes	52	35
PH272-2083-1-1002	P272-2083-1	1	4.5	4.4 NA	NA	15.84	rounded rectangle	oval	2	MW	4	P2	0.17	0.55	0.43	0.107	0.15	0.033	0.008	0.004	yes	53	17
PH272-2083-1-1030	P272-2083-1	1	4.5	4.4 NA	NA	15.84	rounded rectangle	oval	2	MW	4	P30	0.10	0.43	0.43	0.107	0.15	0.033	0.008	0.004	yes	53	17
PH272-2083-1-1032	P272-2083-1	1	4.5	4.4 NA	NA	15.84	rounded rectangle	oval	2	MW	4	P32	0.16	0.45	0.43	0.107	0.15	0.033	0.008	0.004	yes	53	17
PH272-2083-1-1034	P272-2083-1	1	4.5	4.4 NA	NA	15.84	rounded rectangle	oval	2	MW	4	P34	0.17	0.29	0.43	0.107	0.15	0.033	0.008	0.004	yes	53	17
PH273-1001-1-1001	P273-1001-1	1	4.92	4.38 NA	NA	17.24	oval	oval	2	M	4	P1	0.30	0.60	0.63	0.102	0.29	0.034	0.042	0.013	yes	54	6
PH273-1001-1-1002	P273-1001-1	1	4.92	4.38 NA	NA	17.24	oval	oval	2	M	4	P2	0.24	0.53	0.63	0.102	0.29	0.034	0.042	0.013	yes	54	6

PostholeID	PthouseID	Bld	L	W	RecFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DapSD	MDia	DiaSD	MVd	VolSD	DUsed	PriRef	PstRef	
PH273-1001-1-1003	P273-1001-1	1	4.92	4.38	NA	17.24	oval	oval	2	M		4	P3	0.30	0.77	0.63	0.102	0.29	0.084	0.042	0.013	yes	54	
PH273-1001-1-1004	P273-1001-1	1	4.92	4.38	NA	17.24	oval	oval	2	M		4	P4	0.31	0.60	0.63	0.102	0.29	0.084	0.042	0.013	yes	54	
PH273-1001-2-1001	P273-1001-2	2	4.92	4.38	NA	17.24	oval	oval	2	M		4	P1	0.30	0.60	0.63	0.102	0.29	0.084	0.042	0.013	yes	54	
PH273-1001-2-1002	P273-1001-2	2	4.92	4.38	NA	17.24	oval	oval	2	M		4	P2	0.30	0.53	0.63	0.102	0.29	0.084	0.042	0.013	yes	54	
PH273-1001-2-1003	P273-1001-2	2	4.92	4.38	NA	17.24	oval	oval	2	M		4	P3	0.24	0.77	0.63	0.102	0.29	0.084	0.042	0.013	yes	54	
PH273-1001-2-1004	P273-1001-2	2	4.92	4.38	NA	17.24	oval	oval	2	M		4	P4	0.31	0.60	0.63	0.102	0.29	0.084	0.042	0.013	yes	54	
PH273-1002-1-1001	P273-1002-1	1	5.37	NA	NA	NA	rounded rectangle	oval	n	M		4	P1	0.20	0.52	0.52	0.045	0.21	0.037	0.019	0.008	yes	54	
PH273-1002-1-1002	P273-1002-1	1	5.37	NA	NA	NA	rounded rectangle	oval	n	M		4	P2	0.17	0.46	0.52	0.045	0.21	0.037	0.019	0.008	yes	54	
PH273-1002-1-1003	P273-1002-1	1	5.37	NA	NA	NA	rounded rectangle	oval	n	M		4	P3	0.20	0.53	0.52	0.045	0.21	0.037	0.019	0.008	yes	54	
PH273-1002-1-1004	P273-1002-1	1	5.37	NA	NA	NA	rounded rectangle	oval	n	M		4	P4	0.26	0.57	0.52	0.045	0.21	0.037	0.019	0.008	yes	54	
PH276-1001-1-1001	P276-1001-1	1	5.42	4.5	NA	19.51	oval	oval	n	M		5	P1	0.23	0.48	0.55	0.058	0.26	0.031	0.030	0.007	yes	57	
PH276-1001-1-1002	P276-1001-1	1	5.42	4.5	NA	19.51	oval	oval	n	M		5	P2	0.25	0.57	0.55	0.058	0.26	0.031	0.030	0.007	yes	57	
PH276-1001-1-1003	P276-1001-1	1	5.42	4.5	NA	19.51	oval	oval	n	M		5	P3	0.27	0.58	0.55	0.058	0.26	0.031	0.030	0.007	yes	57	
PH276-1001-1-1004	P276-1001-1	1	5.42	4.5	NA	19.51	oval	oval	n	M		5	P4	0.24	0.61	0.55	0.058	0.26	0.031	0.030	0.007	yes	57	
PH276-1001-1-1005	P276-1001-1	1	5.42	4.5	NA	19.51	oval	oval	n	M		5	P5	0.31	0.49	0.55	0.058	0.26	0.031	0.030	0.007	yes	57	
PH278-1006-1-1001	P278-1006-1	1	4.1	NA	NA	NA	rounded rectangle	oval	n	M		4	P1	0.15	0.56	0.55	0.085	0.13	0.023	0.008	0.003	yes	59	
PH278-1006-1-1003	P278-1006-1	1	4.1	NA	NA	NA	rounded rectangle	oval	n	M		4	P3	0.12	0.63	0.55	0.085	0.13	0.023	0.008	0.003	yes	59	
PH278-1006-1-1004	P278-1006-1	1	4.1	NA	NA	NA	rounded rectangle	oval	n	M		4	P4	0.16	0.58	0.55	0.085	0.13	0.023	0.008	0.003	yes	59	
PH278-1006-1-1005	P278-1006-1	1	4.1	NA	NA	NA	rounded rectangle	oval	n	M		4	P5	0.11	0.43	0.55	0.085	0.13	0.023	0.008	0.003	yes	59	
PH278-1008-1-1001	P278-1008-1	1	NA	NA	NA	NA	rounded rectangle	oval	2	M		4	P1	0.10	0.50	0.55	0.123	0.10	0.008	0.004	0.001	DIA	59	
PH278-1008-1-1003	P278-1008-1	1	NA	NA	NA	NA	rounded rectangle	oval	2	M		4	P3	0.11	0.56	0.55	0.123	0.10	0.008	0.004	0.001	DIA	59	
PH278-1008-1-1004	P278-1008-1	1	NA	NA	NA	NA	rounded rectangle	oval	2	M		4	P4	0.10	0.71	0.55	0.123	0.10	0.008	0.004	0.001	DIA	59	
PH278-1008-1-1005	P278-1008-1	1	NA	NA	NA	NA	rounded rectangle	oval	2	M		4	P5	0.09	0.42	0.55	0.123	0.10	0.008	0.004	0.001	DIA	59	
PH278-1008-2-1001	P278-1008-2	2	4.7	3.85	NA	14.48	rounded rectangle	oval	2	M		4	P1	0.10	0.50	0.42	0.228	0.09	0.027	0.003	0.002	DIA	59	
PH278-1008-2-1002	P278-1008-2	2	4.7	3.85	NA	14.48	rounded rectangle	oval	2	M		4	P2	0.06	0.25	0.42	0.228	0.09	0.027	0.003	0.002	DIA	59	
PH278-1008-2-1004	P278-1008-2	2	4.7	3.85	NA	14.48	rounded rectangle	oval	2	M		4	P4	0.10	0.71	0.42	0.228	0.09	0.027	0.003	0.002	DIA	59	
PH278-1008-2-1006	P278-1008-2	2	4.7	3.85	NA	14.48	rounded rectangle	oval	2	M		4	P6	0.13	0.23	0.42	0.228	0.09	0.027	0.003	0.002	DIA	59	
PH278-1009-1-1001	P278-1009-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P1	0.11	0.31	NA	NA	NA	NA	NA	NA	NA	NA	4	NA
PH278-1009-1-1002	P278-1009-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P2	0.10	0.32	NA	NA	NA	NA	NA	NA	NA	NA	8	NA
PH278-1009-1-1004	P278-1009-1	NA	NA	NA	NA	NA	NA	NA	NA	M	NA	P4	0.11	0.41	NA	NA	NA	NA	NA	NA	NA	NA	8	NA
NA	P146-1003-1	1	4.71	4.08	NA	15.37	irregular circle	oval	n	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	4	NA
NA	P147-1026-1	1	3.93	3.76	12.12	11.82	oval	oval	3	NA		4	NA	NA	NA	NA	NA	NA	NA	NA	NA	DIA	8	NA
NA	P147-1026-2	2	3.93	3.76	12.12	11.82	oval	oval	3	NA		4	NA	NA	NA	NA	NA	NA	NA	NA	NA	DIA	8	NA
NA	P148-1001-1	1	2.9	NA	NA	NA	rectangle	oval	2	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	9	NA
NA	P148-1002-1	1	4.5	4.1	13.5	14.76	irregular circle	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	9	NA
NA	P148-1003-1	1	3.7	3	10	8.88	rectangle	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	9	NA
NA	P148-1005-1	1	4.3	3.4	10.3	11.70	irregular circle	oval	2	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	9	NA
NA	P148-1005-2	2	4.3	3.4	10.3	11.70	irregular circle	oval	2	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	9	NA

PotholeID	PthHoleID	Bld	L	W	RefFlr	Floor	Shape	Sform	Rbld	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUsed	PtRef	PstRef
NA	P148-1009-1	1	5.1	4.4	16.7	17.95	oval	oval	2 NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1009-2	2	5.1	4.4	16.7	17.95	oval	oval	2 NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1011-1	1	5.8	5.2	21.8	24.13	rounded square	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1013-1	1	5.8	5.2	18.3	24.13	oval	oval	2 NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1013-2	2	5.8	5.2	18.3	24.13	oval	oval	2 NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1014-1	1	2.3	2.2	12.1	4.05	circle	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1015-1	1	7.3	6.85	29	40.00	circle	oval	2 NA		5 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1015-2	2	4.7	4	12.6	15.04	circle	oval	2 NA		4 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1018-1	1	4.2	4.2	12.2	14.11	rounded square	oval	2 NA		4 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1018-2	2	4.2	4.2	12.2	14.11	rounded square	oval	2 NA		4 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1019-1	1	6.2	4.9	20.1	24.30	rounded rectangle	oval	2 NA		6 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1019-2	2	6.2	4.9	20.1	24.30	rounded rectangle	oval	2 NA		6 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1020-1	1	2.4	2.4	3.7	4.61	rounded rectangle	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1021-1	1 NA	NA	NA	NA	NA	rounded rectangle	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1022-2	2	4.8	2.2	13.3	8.45	oval	oval	3 NA		5 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1022-3	3	4.8	2.2	13.3	8.45	oval	oval	3 NA		5 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1023-1	1 NA	NA	NA	NA	NA	rounded square	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1024-1	1 NA	NA	NA	NA	NA	oval	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1025-1	1	5.4	5.2	16	22.46	irregular circle	oval	2 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1027-1	1	6.2	5	23.4	24.80	rounded rectangle	oval	2 NA		6 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1027-2	2	6.2	5	23.4	24.80	rounded rectangle	oval	2 NA		6 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-1029-1	1	5.3	4.6	16.4	19.50	oval	oval	2 NA		4 NA	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P148-2027-1	1	3	2.6	5.7	6.24	rounded rectangle	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	9 NA	
NA	P149-1005-1	1	4.6	3.9 NA	14.35	circle	oval	oval	2 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	10 NA	
NA	P149-1005-2	2	4.6	3.9 NA	14.35	circle	oval	oval	2 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	10 NA	
NA	P149-1006-1	1 NA	NA	NA	NA	NA	circle	oval	2 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	10 NA	
NA	P149-1006-2	2	5.9	5.2 NA	24.54	circle	oval	oval	2 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	10 NA	
NA	P150-1003-1	1	5.3	4.8 NA	20.35	oval	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	11 NA	
NA	P150-1004-1	1	7.2	6 NA	34.56	mirror	oval	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	no	11 NA	
NA	P150-1006-1	1	4.59	4.14 NA	15.20	circle-oval	oval	oval	uk	NA	5 NA	NA	NA	NA	NA	NA	NA	NA	no	11 NA	
NA	P150-1008-1	1	3.9	3.8 NA	11.86	circle	oval	oval	uk	NA	43926 NA	NA	NA	NA	NA	NA	NA	NA	no	11 NA	
NA	P150-1011-1	1 NA	NA	NA	NA	NA	circle-oval	oval	uk	NA	43957 NA	NA	NA	NA	NA	NA	NA	NA	no	11 NA	
NA	P150-1016-1	1	3.6	3 NA	8.64	circle-oval	oval	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	no	11 NA	
NA	P150-1018-1	1	3.2	3.2 NA	8.04	circle	circle	circle	uk	NA	43926 NA	NA	NA	NA	NA	NA	NA	NA	no	11 NA	
NA	P150-1019-1	1	3	2.8 NA	6.72	circle	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	11 NA	
NA	P150-1020-1	1	5.1	4.6 NA	18.77	oval	oval	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	no	11 NA	
NA	P150-1021-1	1	5.4	3.5 NA	15.12	mirror	oval	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	no	11 NA	
NA	P150-1022-1	1	5.7	4.7 NA	21.43	mirror	oval	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	no	11 NA	

PstholeID	PthousID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUsed	PstRef	PstRef
NA	P150-1023-1	1	3.5	2.7	NA	7.56	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1024-1	1	3.6	3.3	NA	9.50	circle-oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1025-1	1	4.5	4.2	NA	15.12	oval/rounded square	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1027-1	1	4.2	4	NA	13.44	rounded square	oval		2 NA		4 NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1027-2	2	4.2	4	NA	13.44	rounded square	oval		2 NA		5 NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1030-1	1	4.5	4.5	NA	16.20	UK	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1031-1	1	6	5.1	NA	24.48	UK	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1032-1	1	3.9	3.9	NA	12.17	UK	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1033-1	1	5.55	5.4	NA	23.98	irregular circle/pentagon	oval		2 NA		5 NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1033-2	2	5.55	5.4	NA	23.98	irregular circle/pentagon	oval		2 NA		5 NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1039-1	1	NA	NA	NA	NA	oval	oval		2 NA		5 NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1039-2	2	4.7	4.2	NA	15.79	oval	oval		2 NA		5 NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1042-1	1	5.1	4.8	NA	19.58	UK	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1043-1	1	5.7	4.5	NA	20.52	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1044-1	1	4.2	3.9	NA	13.10	oval/rounded rectangle	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1046-1	1	NA	NA	NA	NA	UK	oval		2 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1046-2	2	5.8	5.5	NA	25.52	UK	oval		2 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1047-1	1	4	3.8	NA	12.16	circle-oval	oval	uk	NA		5 NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1048-1	1	4.5	4.5	NA	16.20	circle/oval	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1049-1	1	3.6	3.4	NA	9.79	circle/oval	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1050-1	1	4	3.9	NA	12.48	circle/oval	oval	n	NA	43926	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1051-1	1	5.4	4.4	NA	19.01	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1054-1	1	6	4.1	NA	19.68	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1055-1	1	3.1	3.1	NA	7.69	circle-oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1056-2	2	6.3	5.5	NA	27.72	oval	oval		2 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1058-1	1	5.1	3.6	NA	14.69	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1059-1	1	3.8	3.6	NA	10.94	rounded rectangle/oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1059-2	2	3.8	3.6	NA	10.94	rounded rectangle/oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1061-1	1	3.9	3.5	NA	10.92	circle/oval	oval	uk	NA		0 NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1062-1	1	4	4	NA	12.80	UK	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1063-1	1	4.4	4.1	NA	14.43	circle	oval	uk	NA	43989	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1064-1	1	NA	NA	NA	NA	circle	oval		2 NA	43989	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1064-2	2	4.5	4.2	NA	15.12	circle	oval		2 NA	43989	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1065-1	1	4.8	4.2	NA	16.13	oval	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1067-1	1	3.3	3.3	NA	8.71	circle	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P150-1068-1	1	4.5	4.3	NA	15.48	circle-oval	oval	uk	NA		6 NA	NA	NA	NA	NA	NA	NA	NA	no	11	NA
NA	P151-1010-1	1	3.1	2.9	NA	7.19	circle	oval	uk	NA		1 NA	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	P151-1011-1	1	NA	NA	NA	NA	UK	oval		2 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	12	NA

PotholeID	PthousID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
NA	PI51-1011-2	2	6.9	6.2	NA	34.22	UK	oval	n	2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1013-1	1	5.7	5.3	NA	24.17	circle-oval	oval		NA	43957	NA	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1014-1	1	NA	NA	NA	NA	oval	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1014-2	2	4.5	3.9	NA	14.04	oval	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1017-1	1	NA	NA	NA	NA	UK	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1017-2	2	4.8	4.2	NA	16.13	rounded rectangle/oval	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1023-1	1	3	3	NA	7.20	UK	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1024-1	1	4.5	4.5	NA	16.20	circle-oval	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1025-1	1	4.5	4.5	NA	16.20	UK	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1028-1	1	4.5	4.5	NA	16.20	circle-oval	oval	n	NA		5	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1029-1	1	NA	NA	NA	NA	irregular circle/oval	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1029-2	2	4.9	4.7	NA	18.42	irregular circle/oval	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1030-1	1	4.5	4.5	NA	16.20	rounded square/oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1031-4,5	1	4.5	4.5	NA	16.20	rounded square	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1032-1	1	NA	NA	NA	NA	UK	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1032-2	2	5	4.5	NA	18.00	UK	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI51-1033-1	1	4.5	4.3	NA	15.48	UK	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	12	NA
NA	PI52-1001-1	1	NA	NA	NA	NA	irregular pentagon	oval		3	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1001-2	2	NA	NA	NA	NA	irregular pentagon	oval		3	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1001-3	3	6.8	6.2	NA	33.73	irregular pentagon	oval		3	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1005-1	1	5.4	3.9	NA	16.85	irregular mirror	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1007-1	1	4.8	NA	NA	NA	rounded square	oval	uk	NA		6	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1008-1	1	6.3	NA	NA	NA	rounded square/irregular circle	oval	uk	NA		6	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1010-1	1	4.8	NA	NA	18.10	circle	circle		3	NA	5	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1010-2	2	4.8	NA	NA	18.10	circle	circle		3	NA	5	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1010-3	3	4.8	NA	NA	18.10	circle	circle		3	NA	5	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1011-1	1	6	NA	NA	28.27	circle	circle	n	NA		6	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1014-1	1	6.5	6	NA	31.20	oval	oval	uk	NA		6	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1016-1	1	4.8	NA	NA	18.10	circle	circle	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1018-1	1	4.8	NA	NA	18.10	circle	circle	no	NA		5	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1024-1	1	4.5	NA	NA	15.90	UK	circle	uk	NA	43957	NA	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1032-1	1	4	NA	NA	NA	rounded square	oval		3	NA	4	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1032-2	2	4	NA	NA	NA	rounded square	oval		3	NA	4	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1032-3	3	4	NA	NA	NA	rounded square	oval		3	NA	4	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1035-1	1	9.6	7.2	NA	55.30	UK	oval	uk	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI52-1039-1	1	4	NA	NA	12.57	circle	circle	uk	NA	43926	NA	NA	NA	NA	NA	NA	NA	NA	no	13	NA
NA	PI54-1004-1	1	4.25	NA	NA	14.19	circle	circle		NA		NA	NA	NA	NA	NA	NA	NA	NA	DIA	17	NA
NA	PI55-1004-1	1	3.5	3.5	NA	9.80	rounded rectangle	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	18	NA

PotholeID	PthHoleID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUsed	PstRef	PstRef
NA	P155-1006-1	1	5	4.3	NA	17.20	circle	oval		uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	18	NA
NA	P155-1009-1	1	NA	NA	NA	NA	circle	oval		3 NA	5-6?	NA	NA	NA	NA	NA	NA	NA	NA	no	18	NA
NA	P155-1009-2	2	NA	NA	NA	NA	circle	oval		3 NA	5-6?	NA	NA	NA	NA	NA	NA	NA	NA	no	18	NA
NA	P155-1009-3	3	6.5	6.2	25.3	32.24	circle	oval		3 NA	5-6?	NA	NA	NA	NA	NA	NA	NA	NA	no	18	NA
NA	P155-1011-3	3	2	2	9.5	3.14	circle	circle	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	yes	18	NA
NA	P155-1019-1	1	4.8	NA	17.6	18.10	rounded rectangle	circle	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	19	NA
NA	P155-1026-1	1	5.45	NA	21	23.33	circle	circle	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	19	NA
NA	P155-1031-1	1	4.4	NA	11.6	15.21	oval	circle	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	19	NA
NA	P156-1002-1	1	3.8	2.9	NA	8.82	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	21	NA
NA	P246-1027-1	1	3.4	3.1	NA	8.43	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	yes	25	NA
NA	P246-1029-1	1	5	4.3	NA	17.20	oval/rounded rectangle	oval	y	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	yes	25	NA
NA	P247-1001-1	1	4.5	4.43	NA	15.95	rounded square	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	26	NA
NA	P247-1002-1	1	3.32	NA	NA	8.66	rounded square	circle	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	26	NA
NA	P251-1001-1	1	5.86	4.45	NA	20.86	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	DIA	30	NA
NA	P251-1002-1	1	5.51	4.2	NA	18.51	mirror	oval	?	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	DIA	30	NA
NA	P251-1003-1	1	4	4.2	NA	13.44	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	DIA	30	NA
NA	P256-1038-1	1	5.4	3.6	NA	15.55	oval	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	DIA	36	NA
NA	P257-1008-2	2	6.5	6	NA	31.20	UK	oval		2 NA		4 NA	NA	NA	NA	NA	NA	NA	NA	yes	37	NA
NA	P257-1016-1	1	3.9	3.2	8.8	9.98	oval	oval	n	NA		0 NA	NA	NA	NA	NA	NA	NA	NA	no	37	NA
NA	P257-1024-1	1	3.45	3	7.4	8.28	circle	oval	n	NA		0 NA	NA	NA	NA	NA	NA	NA	NA	no	37	NA
NA	P257-1036-1	1	2.4	2.3	4.7	4.42	circle	oval	n	NA		0 NA	NA	NA	NA	NA	NA	NA	NA	no	37	NA
NA	P257-1038-1	1	3.1	2.5	6	6.20	circle	oval	n	NA	1?	NA	NA	NA	NA	NA	NA	NA	NA	no	37	NA
NA	P257-1051-1	1	4.9	4.3	NA	16.86	circle	oval		3 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	37	NA
NA	P258-1001-1	1	4.1	3.9	NA	12.79	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	38	NA
NA	P259-1001-1	1	4.4	4.2	15.71	14.78	rounded square	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	39	NA
NA	P259-1007-2	2	4.4	4.4	13.9	15.21	circle	circle		NA		NA	NA	NA	NA	NA	NA	NA	NA	no	39	NA
NA	P260-1001-1	1	3.2	3.3	NA	8.45	irregular circle	oval	n	NA		0 NA	NA	NA	NA	NA	NA	NA	NA	no	40	NA
NA	P260-1002-1	1	4.6	4.9	NA	18.03	irregular circle	oval	n	NA	4?	NA	NA	NA	NA	NA	NA	NA	NA	no	40	NA
NA	P265-1003-1	1	1.6	1.8	NA	2.30	circle	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	45	NA
NA	P266-1002-1	1	5.15	4.25	NA	17.51	oval	oval	2?	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	46	NA
NA	P266-1002-2	2	5.15	4.25	NA	17.51	oval	oval	2?	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	46	NA
NA	P266-1006-1	1	6.25	5.45	NA	27.25	circle/oval	oval		2 NA	6?	NA	NA	NA	NA	NA	NA	NA	NA	no	46	NA
NA	P266-1006-2	2	6.25	5.45	NA	27.25	circle/oval	oval		2 NA	6?	NA	NA	NA	NA	NA	NA	NA	NA	no	46	NA
NA	P266-1009-1	1	5.1	3	NA	12.24	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	46	NA
NA	P266-1012-1	1	4.1	3.55	NA	11.64	irregular oval	oval	n	NA		0 NA	NA	NA	NA	NA	NA	NA	NA	no	46	NA
NA	P266-1023-1	1	5.3	4.05	NA	17.17	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	46	NA
NA	P268-1001-1	1	3.35	3.1	NA	8.31	circle	oval	n	NA		4 NA	NA	NA	NA	NA	NA	NA	NA	no	48	NA
NA	P268-1003-1	1	4.72	4.5	NA	16.99	circle	oval	uk	NA		5 NA	NA	NA	NA	NA	NA	NA	NA	no	48	NA

PotholeID	PthousID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
NA	P269-1012-1	1	5.8	4.7	18.97	21.81	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	yes	49	NA
NA	P269-1016-1	1	5.8	5.6	25.62	25.98	circle?	oval	2?	NA	6?	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1016-2	2	5.8	5.6	25.62	25.98	circle?	oval	2?	NA	6?	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1018-1	1	NA	NA	NA	NA	mirror	oval	2	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1018-2	2	4.9	4.9	22.96	19.21	mirror	oval	2	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1019-1	1	5.5	4.1	16.18	18.04	irregular circle?	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1019-2	2	5.5	4.1	16.18	18.04	irregular circle?	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1022-1	1	5.4	5	21.89	21.60	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1026-1	1	NA	NA	NA	NA	mirror	oval	2	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1026-2	2	4	3.85	14.17	12.32	mirror	oval	2	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1028-1	1	NA	NA	NA	NA	circle?	oval	n?	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1029-1	1	6	4.5	17.15	21.60	circle?	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1031-1	1	NA	NA	NA	NA	circle?	oval	n	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1032-1	1	NA	NA	NA	NA	circle?	oval	n	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1033-1	1	NA	NA	NA	NA	rounded square?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1037-1	1	NA	NA	NA	NA	UK	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1038-1	1	5	4.5	16.55	18.00	irregular circle	oval	n	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1041-1	1	5.5	4.7	15.09	20.68	oval	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1042-1	1	NA	NA	NA	NA	mirror	oval	2	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1042-2	2	3.95	3.5	11.78	11.06	mirror	oval	2	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1047-1	1	4	3.3	10.1	10.56	oval	oval	n	NA	4-5?	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1048-2	2	5.25	5	17.78	21.00	pentagon	oval	3	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1048-3	3	5.25	5	17.78	21.00	pentagon	oval	3	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1051-1	1	4.5	4	13.7	14.40	oval/rounded pentagon	oval	2	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1052-1	1	NA	NA	18.28	NA	rounded square	oval	3	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1052-2	2	NA	NA	21.25	NA	rounded pentagon	oval	3	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1052-3	3	NA	NA	25.2	NA	rounded pentagon	oval	3	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1055-1	1	NA	NA	NA	NA	mirror	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1059-1	1	4.65	3.9	12.85	14.51	oval	oval	n	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1060-1	1	NA	NA	NA	NA	rounded square?	oval	n	NA	43927	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1061-1	1	6.5	5.5	22.75	28.60	oval/heptagon	oval	4	NA	43989	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1061-2	2	6.5	5.5	22.75	28.60	oval/heptagon	oval	4	NA	43989	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1061-3	3	6.5	5.95	24.22	30.94	oval/heptagon	oval	4	NA	43989	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1061-4	4	6.5	5.95	24.22	30.94	oval/heptagon	oval	4	NA	43989	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1063-1	1	NA	NA	NA	NA	circle?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1064-1	1	4.5	4.2	16.37	15.12	mirror	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1067-1	1	6	5.1	22.19	24.48	oval	oval	n	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1069-1	1	NA	NA	NA	NA	mirror	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA

PstholeID	PthousID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
NA	P269-1070-1	1	4.3	4.3	14.8	14.79	circle/rounded square?	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1072-1	1	NA	NA	NA	NA	circle	oval	n	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1073-1	1	5	5	20.77	20.00	circle?	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1073-2	2	5	5	20.77	20.00	circle?	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1074-1	1	NA	NA	NA	NA	oval?	oval	3	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1077-1	1	5	4.8	17.27	19.20	rounded square	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1078-1	1	NA	NA	11.95	NA	circle?	oval	n	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1079-1	1	4	4	14.91	12.80	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1082-1	1	NA	NA	NA	NA	mirror	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1083-1	1	4.7	NA	8.47	NA	oval?	oval	NA	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1083-2	2	4.7	NA	8.47	NA	oval?	oval	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1085-1	1	4.7	NA	NA	NA	inverted trapezoid	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1085-2	2	NA	NA	NA	NA	inverted trapezoid	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1098-1	1	NA	NA	NA	NA	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1101-1	1	NA	NA	NA	NA	circle?	oval	n	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1103-1	1	NA	NA	NA	NA	circle?	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1113-1	1	4.9	3.8	12.68	14.90	oval	oval	n	NA	43927	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1114-1	1	NA	NA	NA	NA	rounded square?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1115-1	1	NA	NA	NA	NA	circle?	oval	n	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1117-1	1	6.3	5.7	24.71	28.73	oval	oval	2	NA	43989	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1118-1	1	NA	NA	NA	NA	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1124-1	1	8.7	7.3	54.2	50.81	pentagon	oval	2	NA	43989	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1124-2	2	8.7	7.3	54.2	50.81	pentagon	oval	NA	2	43989	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1126-1	1	NA	NA	NA	NA	pentagon?	oval	n	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1128-1	1	5.3	5.3	20.33	22.47	pentagon?	oval	2	NA	43957	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1128-2	2	5.3	5.3	20.33	22.47	pentagon?	oval	2	NA	43957	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1130-1	1	4.6	4.5	14.52	16.56	pentagon	oval	3	NA	43926	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1130-2	2	5.75	5.3	22.07	24.38	pentagon	oval	3	NA	43959	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1130-3	3	6	5.95	25.78	28.56	pentagon	oval	3	NA	43959	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1132-1	1	NA	NA	NA	NA	mirror	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1134-1	1	7	6	NA	33.60	oval?	oval	n	NA	43957	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1136-1	1	4.6	4.6	NA	16.93	pentagon?	oval	uk	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1139-1	1	2.9	2.9	7.21	6.73	pentagon?	oval	uk	NA	43927	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1140-1	1	NA	NA	NA	NA	mirror	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1150-1	1	5.9	5.5	23.98	25.96	rounded rectangle/hexagon	oval	2	NA	6?	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1150-2	2	5.9	5.5	23.98	25.96	rounded rectangle/hexagon	oval	2	NA	6?	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1151-1	1	NA	NA	NA	NA	circle?	oval	n	NA	43926	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1154-1	1	4.3	NA	NA	14.52	circle?	circle	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA

PotholeID	PthHoleID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
NA	P269-1158-1	1	NA	NA	NA	NA	circle?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1159-1	1	NA	NA	NA	NA	square?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1160-1	1	NA	NA	15.51	NA	rectangle?	oval	uk	NA	43927	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1161-1	1	NA	NA	NA	NA	oval	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1162-1	1	NA	NA	NA	NA	rounded square?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1165-1	1	NA	NA	NA	NA	circle?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1168-1	1	3.95	3.6	13.93	11.38	mirror	oval	n	NA	cire	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1169-1	1	4	3.3	12.22	10.56	mirror	oval	n	NA	cire	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1171-1	1	NA	NA	NA	NA	circle	oval	2	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1173-1	1	5	4.6	15.85	18.40	rounded pentagon	oval	3	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1173-2	2	5	4.6	15.85	18.40	rounded pentagon	oval	3	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1173-3	3	5	4.6	15.85	18.40	rounded pentagon	oval	3	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1175-1	1	NA	NA	NA	NA	circle?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1177-1	1	NA	NA	NA	NA	circle?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1179-1	1	NA	NA	NA	NA	circle	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1180-1	1	NA	NA	NA	NA	circle?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1182-1	1	5.35	4.9	17.08	20.97	rounded pentagon	oval	2	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1182-2	2	5.35	4.9	17.08	20.97	rounded pentagon	oval	2	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1187-1	1	NA	NA	NA	NA	pentagon?	oval	2	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1187-2	2	NA	NA	NA	NA	pentagon?	oval	2	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1188-1	1	2.9	2.9	6.39	6.73	mirror	oval	n	NA	cire	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1189-1	1	NA	NA	NA	NA	circle?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1190-1	1	4.1	4.1	15.66	13.45	mirror	oval	n	NA	cire	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1191-1	1	NA	NA	NA	NA	oval	oval	2	NA	7+	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1192-2	2	5	NA	NA	NA	circle?	oval	3	NA	43957	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1192-3	3	NA	NA	NA	NA	circle?	oval	3	NA	43957	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1195-1	1	4.6	4.4	NA	16.19	oval	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1199-1	1	NA	NA	7.63	NA	circle	oval	4	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1199-2	2	5	NA	15.25	NA	circle	oval	4	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1199-3	3	5.5	NA	19.41	NA	circle	oval	4	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1199-4	4	6.05	5.6	23.28	27.10	circle	oval	4	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1200-1	1	5.8	4.3	22.57	19.95	rounded square/pentagon	oval	2	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1201-1	1	4.7	4.6	13.95	17.30	circle	oval	n	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1203-1	1	6.2	5.9	24.32	29.26	rounded pentagon	oval	2	NA	43926	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1203-2	2	6.8	6.2	29.55	33.73	rounded hexagon/oval	oval	2	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1205-1	1	5.3	4.9	18.01	20.78	oval?	oval	2	NA	43926	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1208-1	1	NA	NA	NA	NA	pentagon?	oval	3	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1208-2	2	NA	NA	NA	NA	pentagon?	oval	3	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA

PotholeID	PthHoleID	Bld	L	W	Reeflr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUsed	PstRef	PstRef
NA	P269-1208-3	3	NA	NA	NA	NA	pentagon?	oval	uk	3	NA	5	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1209-1	1	NA	NA	NA	NA	circle?	oval				4	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1215-1	1	NA	NA	NA	NA	rounded square?	oval		3	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1215-2	2	NA	NA	NA	NA	rounded square?	oval		3	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1215-3	3	NA	NA	NA	NA	rounded pentagon?	oval		3	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1221-1	1	NA	NA	NA	NA	oval?	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-1221-2	2	NA	NA	NA	NA	oval?	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-2008-1	1	NA	NA	NA	NA	circle?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-2009-1	1	5	4.5	18.15	18.00	rounded square?	oval		2	NA	43926	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-2009-2	2	5	4.5	18.15	18.00	rounded square?	oval		2	NA	43926	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-2010-1	1	5	4.5	16.56	18.00	rounded square/hexagon	oval		2	NA	6	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-2010-2	2	5	4.5	16.56	18.00	rounded square/hexagon	oval		2	NA	6	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P269-2011-1	1	NA	NA	NA	NA	rectangle?	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	49	NA
NA	P270-1018-1	1	5.9	NA	14.87	NA	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	50	NA
NA	P272-1002-1	1	5.02	4.92	NA	19.76	pentagon/circle	oval		2	NA	5	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1002-2	2	5.02	4.92	NA	19.76	pentagon/circle	oval		2	NA	5	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1003-1	1	5.5	4	NA	17.60	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1005-1	1	5.15	3.78	NA	15.57	oval	oval	n	NA		0	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1007-1	1	6	4	NA	19.20	mirror	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1010-1	1	7	6	NA	33.60	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1012-1	1	6.1	5.1	NA	24.89	oval	oval		2	NA	5	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1013-1	1	4.37	4.43	NA	15.49	irregular oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1016-1	1	4.35	3.96	NA	13.78	oval	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1017-1	1	5.97	5.73	NA	27.37	irregular oval	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1018-1	1	3.78	3.63	NA	10.98	circle	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1018-2	2	5.67	5.4	NA	24.49	oval	oval		2	NA	uk	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1020-1	1	4.84	4.67	NA	18.08	circle	oval	n	NA	4?	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1026-1	1	3.6	NA	NA	10.18	circle?	circle	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1030-1	1	6	5.29	NA	25.39	oval	oval	uk	NA		43957	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1032-1	1	3.6	NA	NA	10.18	oval?	circle	n	NA		0	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1033-1	1	4.9	NA	NA	18.86	circle?	circle	n	NA		0	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1034-1	1	4.72	4.58	NA	17.29	oval	oval		2	NA	5	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1034-2	2	5.11	4.58	NA	18.72	oval	oval		2	NA	5	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1035-1	1	5.3	4.47	NA	18.95	pentagon/oval	oval		2	NA	5	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1035-2	2	5.75	5.18	NA	23.83	pentagon/oval	oval		2	NA	5	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1036-2	2	4.7	4	NA	15.04	oval	oval	n	NA	43926	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1038-1	1	4.36	3.94	NA	13.74	oval	oval		2	NA	4	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1038-2	2	4.36	3.94	NA	13.74	oval	oval		2	NA	4	NA	NA	NA	NA	NA	NA	NA	no	52	NA

PstholeID	PthouseID	Bld	L	W	RecFlr	Floor	Shape	Sform	Rbld	Pos	Config	AdptID	Dia	Dap	MDep	DepsD	MDia	DiaSD	MVol	VolSD	DUUsed	PstRef	PstRef
NA	P272-1039-1	1	5	4.5	NA	18.00	oval?	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1043-1	1	NA	NA	NA	NA	irregular oval?	oval	n	NA	uk	0	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1049-1	1	4.38	4.05	NA	14.19	irregular oval	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1052-1	1	5.4	NA	NA	22.90	circle	circle	2	NA	uk	5	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1052-2	2	5.4	NA	NA	22.90	circle	circle	2	NA	uk	5	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1053-1	1	5.5	4.93	NA	21.69	irregular oval	oval	uk	NA	6?	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1057-1	1	4.5	NA	NA	NA	rounded square	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1058-1	1	4	NA	NA	NA	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1064-1	1	4.33	3.92	NA	13.58	oval	oval	n	NA	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1070-1	1	4.71	4.22	NA	15.90	oval	oval	n	NA	43926	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1071-1	1	5.28	4.66	NA	19.68	oval	oval	n	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1072-1	1	5.54	5.43	NA	24.07	rounded square	oval	NA	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1072-2	2	5.54	5.43	NA	24.07	rounded square	oval	NA	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1075-1	1	4.5	NA	NA	15.90	circle	circle	n	NA	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1079-1	1	6.2	5.2	NA	25.79	oval	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1080-1	1	6.1	NA	NA	NA	oval	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1085-1	1	5.3	4.5	NA	19.08	oval?	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-1091-1	1	4.8	NA	NA	NA	square/rectangle	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1093-1	1	5.8	5.5	NA	25.52	circle	oval	2	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1093-2	2	5.5	5.5	NA	24.20	circle	oval	2	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1094-1	1	5.2	5.2	NA	21.63	circle	oval	2	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1094-2	2	5.8	5.8	NA	26.91	circle	oval	2	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1096-2	2	3.9	NA	NA	NA	rounded rectangle	oval	NA	6	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1097-1	1	5	5	NA	20.00	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1099-1	1	NA	NA	NA	square	NA	oval	3	NA	4?	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1101-1	1	3.65	NA	NA	10.46	circle	circle	2	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1101-2	2	4.4	NA	NA	15.21	circle	circle	2	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1102-1	1	5.2	5.2	NA	21.63	circle	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1103-1	1	5.6	5.6	NA	25.09	circle	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1104-1	1	4	NA	NA	NA	not a circle	oval	2	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1104-2	2	5.4	NA	NA	22.90	circle	circle	2	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1113-1	1	NA	NA	NA	NA	oval	oval	2	NA	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-1113-2	2	NA	NA	NA	NA	oval	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P272-2035-1	1	3.6	NA	NA	NA	oval?	oval	n	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	52	NA
NA	P272-2083-2	2	4.5	4.4	NA	15.84	rounded rectangle	oval	2	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	53	NA
NA	P274-1015-1	1	3.09	2.95	NA	7.29	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	55	NA
NA	P275-1001-1	1	4.1	3.7	NA	12.14	rounded square	oval	n	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	56	NA
NA	P277-1005-1	1	NA	NA	NA	NA	oval?	oval	2	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	NA	no	58	NA

PotholeID	PthouseID	Bld	L	W	RefFlr	Floor	Shape	SForm	Rbld	Pos	Config	AdptID	Dia	MDep	DepsSD	MDia	DiaSD	MVol	VolSD	DUsed	PtRef	PstRef
NA	P277-1005-2	2	4.5	3.7	NA	13.32	oval?	oval	uk	2 NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	58	NA
NA	P277-1006-1	1	3.5	3.5	NA	9.80	mirror	oval	uk	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	58	NA
NA	P277-1007-1	1	2.1	2	NA	3.36	mirror	oval	n	NA	circ	NA	NA	NA	NA	NA	NA	NA	NA	no	58	NA
NA	P278-1007-1	1	3.25	2.8	NA	7.28	rounded rectangle	oval	n	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	no	59	NA
NA	P278-1010-1	1	NA	NA	NA	NA	rounded square/rectangle	oval	uk	NA	uk	NA	NA	NA	NA	NA	NA	NA	NA	no	59	NA

Appendix B: Skeletal Data

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
1	向ノ台貝塚	Mukaenodai Shellmound	1号人骨	不明	UK	UK	0.00	0.00	0.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
2	向ノ台貝塚	Mukaenodai Shellmound	2号人骨	不明	UK	UK	0.00	0.00	0.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
3	向ノ台貝塚	Mukaenodai Shellmound	3号人骨	不明	UK	UK	0.00	0.00	0.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
4	向ノ台貝塚	Mukaenodai Shellmound	4号人骨	不明	UK	UK	0.00	0.00	0.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
5	城ノ台特異塚	Shironodaimihari Shellmound	2号人骨	壮年期(21-39)	21	39	0.00	1.00	0.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
6	城ノ台特異塚	Shironodaimihari Shellmound	3号人骨	壮年期(21-39)	21	39	0.00	1.00	0.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
7	大谷寺洞穴	Oyaji Cave	早期人骨	不明	UK	UK	0.00	0.00	0.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
8	飛ノ台貝塚	Tobinodai Shellmound	1号	壮年期(21-39)	21	39	0.00	1.00	0.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
9	飛ノ台貝塚	Tobinodai Shellmound	2号	思春期(13-16)	13	16	0.00	1.00	1.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
10	平坂貝塚	Hirasaka Shellmound	1946年度出土人骨	熟年期(40-59)	40	59	0.00	1.00	0.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
11	妙善寺洞穴	Myoniji Cave	壮年期(21-39)	壮年期(21-39)	21	39	0.00	1.00	0.00	initial Jomon	Initial Jomon	15540	7050	Yamada 2006
12	香田貝塚	Kode Shellmound	38号住居跡出土人骨	不明	UK	UK	0.00	0.00	0.00	Early Jomon	Early Jomon	7050	5415	Yamada 2006
13	諏訪旧跡長瀬貝塚	Kokubukuryenpejo Shellmound	1957年度出土人骨	不明	UK	UK	0.00	0.00	0.00	Early Jomon	Early Jomon	7050	5415	Yamada 2006
14	黒谷貝塚	Kuroya Shellmound	1939年度出土人骨	幼児期(2-5)	2	5	1.00	0.25	0.25	Early Jomon	Early Jomon	7050	5415	Yamada 2006
15	米子貝塚	Mizugo Shellmound	1992年度人骨	壮年期(21-39)	21	39	0.00	1.00	0.00	Early Jomon	Early Jomon	7050	5415	Yamada 2006
16	打越貝塚	Okoshi Shellmound	75号住居跡出土人骨 1	壮年期(21-39)	21	39	0.00	1.00	0.00	Early Jomon	Early Jomon	7050	5415	Yamada 2006
17	打越貝塚	Okoshi Shellmound	75号住居跡出土人骨 2	小児期(6-12)	6	12	0.00	1.00	1.00	Early Jomon	Early Jomon	7050	5415	Yamada 2006
18	大谷寺洞穴	Oyaji Cave	岡山組人骨		X	X	0.00	0.00	0.00	Early Jomon	Early Jomon	7050	5415	Yamada 2006
19	天神前遺跡	Tenjirnae Site	40号土織出土人骨	壮年期(21-39)	21	39	0.00	1.00	0.00	Early Jomon	Early Jomon	7050	5415	Yamada 2006
20	ささゆ貝塚	Sarabo Shellmound	仮1号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
21	烏宿込貝塚	Karasuhorikomi Shellmound	1985年度出土1号人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
22	烏宿込貝塚	Karasuhorikomi Shellmound	1985年度出土1号人骨	新生児期(neonatal)	0	0	1.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
23	花野貝塚	Hanazumi Shellmound		不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
24	達磨殿貝塚	Kokuzo Shellmound	1972年度出土人骨	小児期(6-12)	6	12	0.00	1.00	1.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
25	向谷貝塚	Mukaidai Shellmound	1号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
26	向谷貝塚	Mukaidai Shellmound	2号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
27	向谷貝塚	Mukaidai Shellmound	3号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
28	向谷貝塚	Mukaidai Shellmound	4号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
29	向谷貝塚	Mukaidai Shellmound	5号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
30	向谷貝塚	Mukaidai Shellmound	6号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
31	向谷貝塚	Mukaidai Shellmound	7号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
32	向谷貝塚	Mukaidai Shellmound	8号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
33	向谷貝塚	Mukaidai Shellmound	9号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
34	向谷貝塚	Mukaidai Shellmound	10号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
35	向台貝塚	Mukaidai Shellmound	1 1号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
36	向台貝塚	Mukaidai Shellmound	1 2号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
37	向台貝塚	Mukaidai Shellmound	1 3号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
38	向台貝塚	Mukaidai Shellmound	1 4号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
39	向山田貝塚	Mukaiburada Shellmound	1 9 5 1 年出土人骨	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
40	荒瀬貝塚	Arayashiki Shellmound	C地点O 6 O C号址人骨	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
41	荒瀬貝塚	Arayashiki Shellmound	C地点O 4 3 C号址人骨	壮年期(21-39)	21	39	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
42	今庭田貝塚	Imashimada Shellmound	1 9 6 8 年度出土遺物人骨	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
43	今庭田貝塚	Imashimada Shellmound	1 9 6 8 年度出土人骨	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
44	三反田貝塚	Satada Shellmound	1 9 6 8 年度 1 号	壮年期(21-39)	21	39	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
45	三反田貝塚	Satada Shellmound	1 9 6 8 年度 2 号	熟年期(40-59)	40	59	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
46	三反田貝塚	Satada Shellmound	1 9 6 8 年度 3 号	熟年期(40-59)	40	59	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
47	三反田貝塚	Satada Shellmound	1 9 6 8 年度 4 号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
48	三反田貝塚	Satada Shellmound	1 9 6 8 年度 5 号	壮年期(21-39)	21	39	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
49	三反田貝塚	Satada Shellmound	1 9 6 8 年度 6 号	壮年期(21-39)	21	39	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
50	三反田貝塚	Satada Shellmound	1 9 6 8 年度 7 号	小児期(6-12)	6	12	0.0	1.0	1.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
51	三反田貝塚	Satada Shellmound	1 9 6 8 年度 8 号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
52	子船清水貝塚	Kowashimizu Shellmound	2 号	老年期(60+)	60	70	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
53	子船清水貝塚	Kowashimizu Shellmound	B 1 号住居跡出土人骨	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
54	子船清水貝塚	Kowashimizu Shellmound	3 8 号住居跡出土人骨	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
55	子船清水貝塚	Kowashimizu Shellmound	2 7 6 号土壇出土人骨	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
56	子船清水貝塚	Kowashimizu Shellmound	1 号	老年期(60+)	60	70	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
57	小山台貝塚	Koyamada Shellmound	1 号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
58	小山台貝塚	Koyamada Shellmound	2 号	熟年期(40-59)	40	59	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
59	小山台貝塚	Koyamada Shellmound	3 号	熟年期(40-59)	40	59	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
60	小山台貝塚	Koyamada Shellmound	1 4 号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
61	厨舎遺跡	Kuriyada Site	S K 6 6 出土人骨	壮年期(21-39)	21	39	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
62	西方貝塚	Nishikata Shellmound	1 号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
63	西方貝塚	Nishikata Shellmound	2 号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
64	西方貝塚	Nishikata Shellmound	3 号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
65	西方貝塚	Nishikata Shellmound	4 号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
66	千草棚薬風貝塚	Sendaborisamukaze Shellmound	1 9 3 3 年度底鉢 1 号	熟年期(40-59)	40	59	0.0	1.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
67	千草棚薬風貝塚	Sendaborisamukaze Shellmound	1 9 3 3 年度出土人骨底鉢 2 号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
68	千草棚薬風貝塚	Sendaborisamukaze Shellmound	1 9 3 3 年度出土人骨底鉢 3 号	不明	UK	UK	0.0	0.0	0.0	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006

ID	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
69	千草畑寒風貝塚	Sendaborisamukaze Shellmound	1 9 3 3 年度出土人骨既称 4 号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
70	千草畑寒風貝塚	Sendaborisamukaze Shellmound	1 9 6 3 年度出土人骨	青年期(17-20)	17	20	0.00	1.00	0.75	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
71	千草畑寒風貝塚	Sendaborisamukaze Shellmound	1 9 6 5 年度既称 1 号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
72	千草畑寒風貝塚	Sendaborisamukaze Shellmound	1 9 6 5 年度既称 2 号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
73	千草畑寒風貝塚	Sendaborisamukaze Shellmound	1 9 6 5 年度既称 3 号人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
74	千草久保貝塚	Chidorikubo Shellmound	1 号	熟年期(40-59)	40	59	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
75	千草久保貝塚	Chidorikubo Shellmound	3 号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
76	千草久保貝塚	Chidorikubo Shellmound	5 号	熟年期(40-59)	40	59	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
77	千草久保貝塚	Chidorikubo Shellmound	6 号	熟年期(40-59)	40	59	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
78	千草久保貝塚	Chidorikubo Shellmound	7 号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
79	千草久保貝塚	Chidorikubo Shellmound	8 号	熟年期(40-59)	40	59	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
80	千草久保貝塚	Chidorikubo Shellmound	4 号	壮年期(21-39)	21	39	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
81	千草久保貝塚	Chidorikubo Shellmound	2 号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
82	倉輪遺跡	Kurawa Site	1 9 8 5 年度出土人骨 1 号	熟年期(40-59)	40	59	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
83	倉輪遺跡	Kurawa Site	1 9 8 5 年度出土人骨既 2 号	壮年期(21-39)	21	39	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
84	村田貝塚	Murata Shellmound	1 9 6 8 年度 出土成人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
85	村田貝塚	Murata Shellmound	1 9 6 8 年度出土幼児骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
86	鍛冶台遺跡	Kajitai Site	1 9 8 8 年度出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
87	長巻部貝塚	Haabe Shellmound	1 9 6 9 年度既 3 号人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
88	廿草南貝塚	Tsuhejininami Shellmound	1 9 7 2 年度出土人骨	熟年期(40-59)	40	59	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
89	廿草南貝塚	Tsuhejininami Shellmound	1 9 7 2 年度出土人骨	熟年期(40-59)	40	59	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
90	能瀬ノ小貝塚	Nomankamiko Shellmound	6 1 号土坑 出土人骨 (2 号)	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
91	自井大宮台貝塚	Shiraomiya Shellmound	S K-0 1 出土板人骨	熟年期(40-59)	40	59	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
92	自井大宮台貝塚	Shiraomiya Shellmound	S K-0 2 出土板人骨	幼児期(2-5)	2	5	1.00	0.25	0.25	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
93	菱谷貝塚	Hishina Shellmound	1 9 6 8 年度出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
94	平原貝塚	Heguri Shellmound	1 9 6 8 年度 1 号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
95	平原貝塚	Heguri Shellmound	1 9 6 8 年度 2 号	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
96	陸支貝塚	Okadaira Shellmound	1 9 8 7 年度出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
97	燕立遺跡貝塚	Warabiuchi Site	4 号柱居跡 出土 1 号人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
98	燕立遺跡貝塚	Warabiuchi Site	4 号柱居跡 出土 2 号人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
99	燕立遺跡貝塚	Warabiuchi Site	2 1 号柱居跡 出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
100	燕立遺跡貝塚	Warabiuchi Site	2 2 号柱居跡 出土伸麗那人骨 1	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
101	燕立遺跡貝塚	Warabiuchi Site	2 2 号柱居跡 出土伸麗那人骨 2	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
102	燕立遺跡貝塚	Warabiuchi Site	2 2 号柱居跡 出土麗那人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
103	巖立遺跡貝塚	Warabitachi Site	2 8号室穴状遺構 出土幼骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
104	巖立遺跡貝塚	Warabitachi Site	2 9号室穴状遺構 出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
105	巖立遺跡貝塚	Warabitachi Site	3 0号室穴状遺構 出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Yamada 2006
106	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 0 2号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
107	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 0 1号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
108	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 0 3号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
109	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 0 5号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
110	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 0 6号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
111	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 0 7号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
112	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 0 8号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
113	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 0 9号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
114	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 1 0号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
115	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 1 1号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
116	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 2 1号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
117	紙屋原貝塚	Gonbara Shellmound	G 4 S 0 2 3号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
118	紙屋原貝塚	Gonbara Shellmound	G 4 3 1 0号土甕出土多数合葬例	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
119	紙屋原貝塚	Gonbara Shellmound	3 8号住居跡入り口部出土人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
120	古瀬貝塚	Furuhashi Shellmound	1 9 5 6年度出土人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
121	広瀬貝塚	Hirohata Shellmound	1 9 6 0年度出土人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
122	坂東山遺跡	Bandooyama Site	墓前内出土人骨	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
123	三反田遺跡貝塚	Mitandashizuka Shellmound	1 9 8 2年度 1号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
124	三反田遺跡貝塚	Mitandashizuka Shellmound	1 9 8 2年度 2号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
125	三反田遺跡貝塚	Mitandashizuka Shellmound	1 9 8 2年度 3号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
126	三反田遺跡貝塚	Mitandashizuka Shellmound	1 9 8 2年度 4号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
127	三反田遺跡貝塚	Mitandashizuka Shellmound	1 9 8 1年度 1号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
128	三反田遺跡貝塚	Mitandashizuka Shellmound	1 9 6 7年度 1号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
129	三反田遺跡貝塚	Mitandashizuka Shellmound	1 9 6 7年度 2号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
130	三反田遺跡貝塚	Mitandashizuka Shellmound	1 9 6 7年度 2号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
131	小倉沖貝塚	Kokanzawa Shellmound	1号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
132	小倉沖貝塚	Kokanzawa Shellmound	3号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
133	小倉沖貝塚	Kokanzawa Shellmound	4号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
134	小山台貝塚	Koyamadai Shellmound	4号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
135	小山台貝塚	Koyamadai Shellmound	5号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006
136	小山台貝塚	Koyamadai Shellmound	6号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Yamada 2006

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
137	小山台貝塚	Koyamada Shellmound	7号	熟年期(40-59)		40	59	0.00	1.00	0.00	Late Jomon	4490	3220	Yamada 2006
138	小山台貝塚	Koyamada Shellmound	8号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
139	小山台貝塚	Koyamada Shellmound	9号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
140	小山台貝塚	Koyamada Shellmound	9号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
141	小山台貝塚	Koyamada Shellmound	10号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
142	小山台貝塚	Koyamada Shellmound	11号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
143	小山台貝塚	Koyamada Shellmound	12号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
144	小山台貝塚	Koyamada Shellmound	13号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
145	小山台貝塚	Koyamada Shellmound	15号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
146	小山台貝塚	Koyamada Shellmound	16号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
147	小山台貝塚	Koyamada Shellmound	17号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
148	小山台貝塚	Koyamada Shellmound	18号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
149	小山台貝塚	Koyamada Shellmound	19号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
150	小山台貝塚	Koyamada Shellmound	20号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
151	小山台貝塚	Koyamada Shellmound	21号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
152	小山台貝塚	Koyamada Shellmound	22号	熟年期(40-59)		40	59	0.00	1.00	0.00	Late Jomon	4490	3220	Yamada 2006
153	小山台貝塚	Koyamada Shellmound	23号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
154	小山台貝塚	Koyamada Shellmound	24号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
155	小山台貝塚	Koyamada Shellmound	25号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
156	小山台貝塚	Koyamada Shellmound	26号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
157	小山台貝塚	Koyamada Shellmound	27号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
158	小山台貝塚	Koyamada Shellmound	28号	熟年期(40-59)		40	59	0.00	1.00	0.00	Late Jomon	4490	3220	Yamada 2006
159	小山台貝塚	Koyamada Shellmound	29号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
160	小山台貝塚	Koyamada Shellmound	30号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
161	小山台貝塚	Koyamada Shellmound	31号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
162	小山台貝塚	Koyamada Shellmound	32号	熟年期(40-59)		40	59	0.00	1.00	0.00	Late Jomon	4490	3220	Yamada 2006
163	小山台貝塚	Koyamada Shellmound	33号	不明	UK	UK		0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
164	鈴名寺貝塚	Shomyoji Shellmound	1号	熟年期(40-59)		40	59	0.00	1.00	0.00	Late Jomon	4490	3220	Yamada 2006
165	鈴名寺貝塚	Shomyoji Shellmound	2号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	4490	3220	Yamada 2006	
166	鈴名寺貝塚	Shomyoji Shellmound	3A号	新生児期(neonatal)	0	0	1.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006	
167	鈴名寺貝塚	Shomyoji Shellmound	3B号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	4490	3220	Yamada 2006	
168	鈴名寺貝塚	Shomyoji Shellmound	3C号	熟年期(40-59)		40	59	0.00	1.00	0.00	Late Jomon	4490	3220	Yamada 2006
169	鈴名寺貝塚	Shomyoji Shellmound	4号	熟年期(40-59)		40	59	0.00	1.00	0.00	Late Jomon	4490	3220	Yamada 2006
170	鈴名寺貝塚	Shomyoji Shellmound	5号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	4490	3220	Yamada 2006	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	0to5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
171	鈴名寺貝塚	Shomyoji Shellmound	6号	老年期(60-)	60	70	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	6
172	鈴名寺貝塚	Shomyoji Shellmound	7号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
173	鈴名寺貝塚	Shomyoji Shellmound	8号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
174	鈴名寺貝塚	Shomyoji Shellmound	9号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
175	鈴名寺貝塚	Shomyoji Shellmound	土器内散乱	新生児期(neonatal)	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	7
176	梁次遺跡	Fukazawa Site	2 0号配石遺構出土人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
177	梁次遺跡	Fukazawa Site	2 1号配石遺構出土人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
178	神前貝塚	Shinmei Shellmound	1号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
179	神前貝塚	Shinmei Shellmound	2号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	8
180	曾谷貝塚	Soya Shellmound	1 9 6 0年度出土人骨	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
181	草刈埴貝塚	Kusakariba Shellmound		不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
182	草刈埴貝塚	Kusakariba Shellmound		不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
183	草刈埴貝塚	Kusakariba Shellmound	1 9 4 2年C地品土器棺内人骨	新生児期(neonatal)	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	9
184	草刈埴貝塚	Kusakariba Shellmound	1 9 4 2年A地品土器棺内人骨	新生児期(neonatal)	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
185	台門貝塚	Daimon Shellmound	土器棺内人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
186	築船台貝塚	Tsukijidai Shellmound	1 9 5 0年出土土葬棺	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
187	中妻貝塚	Nakatsuma Shellmound	1 9 7 2年度出土人骨	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	10
188	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度1号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
189	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度6号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
190	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 1号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
191	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 2号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	11
192	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 3号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
193	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 4号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
194	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 5号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
195	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 6号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	12
196	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 7号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
197	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 8号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
198	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 9号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
199	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 1 1号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	13
200	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 1 2号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
201	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 1 2号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
202	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 1 4号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
203	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 1 5号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	14
204	中妻貝塚	Nakatsuma Shellmound	1 9 9 2年度A土葬出土A 1 6号	思春期(13-16)	13	16	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
205	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A17号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
206	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A18号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
207	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A19号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
208	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A20号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
209	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A21号	思春期(13-16)	13	16	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
210	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A22号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
211	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A23号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
212	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A101号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
213	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A109号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
214	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A110号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
215	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A111号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
216	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A112号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
217	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A113号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
218	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A114号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
219	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A115号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
220	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A119号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
221	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A126号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
222	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A128号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
223	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A132号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
224	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A133号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
225	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A134号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
226	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A135号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
227	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A136号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
228	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A137号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
229	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A138号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
230	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A139号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
231	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A141号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
232	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A143号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
233	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A146号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
234	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A148号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
235	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A150号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
236	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A151号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
237	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A151-1号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
238	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A151-2号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
239	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A153号	思春期(13-16)	13	16	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
240	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A154号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
241	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A156号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
242	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A157号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
243	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A158号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
244	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A159号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
245	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A160号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
246	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A161号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
247	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A162号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
248	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A163号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
249	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A164号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
250	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A167号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
251	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A168号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
252	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A170-1号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
253	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A170-2号	老年期(60+)	60	70	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
254	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A170-3号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
255	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A172号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
256	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A175号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
257	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A176号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
258	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A177号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
259	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A178号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
260	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A179号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
261	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A181号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
262	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A182号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
263	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A183号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
264	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A184号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
265	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A185号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
266	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A186号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
267	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A188号	青年期(17-20)	17	20	0.00	1.00	0.75	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
268	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A189号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
269	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A190-1号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
270	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A190-2号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
271	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A191号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
272	中妻貝塚	Nakatsuma Shellmound	1992年度A土層出土A192号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
273	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A197号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	3220 Yamada 2006
274	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A199号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
275	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A200号	老年期(60+)	60	70	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
276	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A201号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
277	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A202号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
278	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A203号	老年期(60+)	60	70	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
279	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A204号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
280	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A205号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
281	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A206号	熟年期(40-59)	40	59	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
282	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A207号	青年期(17-20)	17	20	0.00	1.00	0.75	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
283	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A208号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
284	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A209号	幼児期(2-5)	2	5	1.00	0.25	0.25	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
285	中野貝塚	Nakatsuna Shellmound	1992年度A土層出土A155号	壮年期(21-39)	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
286	中沢貝塚	Nakazawa Shellmound	1962年度出土人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
287	長谷部貝塚	Hasabe Shellmound	1959年度底1号人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
288	長谷部貝塚	Hasabe Shellmound	1959年度底2号人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
289	長谷部貝塚	Hasabe Shellmound	1959年度底4号人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
290	長谷部貝塚	Hasabe Shellmound	1959年度底5号人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
291	殿平貝塚	Tonohira Site	1966年度住居部内出土人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
292	冬木A遺跡	Fuyugi A Site	1号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
293	冬木A遺跡	Fuyugi A Site	2号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
294	冬木A遺跡	Fuyugi A Site	3号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
295	冬木A遺跡	Fuyugi A Site	8号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
296	冬木A遺跡	Fuyugi A Site	4号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
297	冬木A遺跡	Fuyugi A Site	5号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
298	冬木A遺跡	Fuyugi A Site	6号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
299	冬木A遺跡	Fuyugi A Site	7号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
300	冬木A遺跡	Fuyugi A Site	9号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
301	冬木A遺跡	Fuyugi A Site	10号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
302	冬木A遺跡	Fuyugi A Site	11号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
303	冬木A遺跡	Fuyugi A Site	12号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
304	冬木A遺跡	Fuyugi A Site	13号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
305	冬木A遺跡	Fuyugi A Site	15号	小児期(6-12)	6	12	0.00	1.00	1.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	
306	冬木A遺跡	Fuyugi A Site	17号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Yamada 2006	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	0to5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
307	冬木A遺跡	Fuyugi A Site	1 8号	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
308	東（新部）貝塚	Hgashi Shingo Shellmound	1 9 3 3年層出土人骨	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
309	南野貝塚	Minamitsubo Shellmound	1号	壮年期(21-39)	21	39	0.00	1.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
310	南野貝塚	Minamitsubo Shellmound	2号	壮年期(21-39)	21	39	0.00	1.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
311	南野貝塚	Minamitsubo Shellmound	3号	青年期(17-20)	17	20	0.00	1.00	0.75	0.75	Late Jomon	4490	3220	Yamada 2006
312	福野貝塚	Fukuda Shellmound	1 9 7 1年層人骨埋拵	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
313	平原貝塚	Hegen Shellmound	1号	壮年期(21-39)	21	39	0.00	1.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
314	豊玖貝塚	Toyoasawa Shellmound	1 4 2号人骨	熟年期(40-59)	40	59	0.00	1.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
315	豊玖貝塚	Toyoasawa Shellmound	1 4 3号人骨	壮年期(21-39)	21	39	0.00	1.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
316	木戸作遺跡	Kidosaku Site	1号	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
317	木戸作遺跡	Kidosaku Site	2号	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
318	糸山貝塚	Yoyama Shellmound	1号	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
319	糸山貝塚	Yoyama Shellmound	2号	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
320	糸山貝塚	Yoyama Shellmound	3号	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
321	糸山貝塚	Yoyama Shellmound	4号	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
322	糸山貝塚	Yoyama Shellmound	5号	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
323	六通貝塚	Rokutsu Shellmound	1 9 4 9年出土土壘棺	不明	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	4490	3220	Yamada 2006
324	釜淵貝塚	Kutsukake Shellmound	1 9 8 5年層出土人骨	不明	UK	UK	0.00	0.00	0.00	0.00	Final Jomon	3220	2385	Yamada 2006
325	荒瀬貝塚	Arami Shellmound	第 3 次調査出土版 1号人骨	不明	UK	UK	0.00	0.00	0.00	0.00	Final Jomon	3220	2385	Yamada 2006
326	荒瀬貝塚	Arami Shellmound	第 3 次調査出土版 2号人骨	不明	UK	UK	0.00	0.00	0.00	0.00	Final Jomon	3220	2385	Yamada 2006
327	中妻貝塚	Nakatsuma Shellmound	1 9 7 3年層出土人骨	熟年期(40-59)	40	59	0.00	1.00	0.00	0.00	Final Jomon	3220	2385	Yamada 2006
328	能浜ノ小貝塚	Nomankamiko Shellmound	1 7号住居層出土人骨（1号）	不明	UK	UK	0.00	0.00	0.00	0.00	Final Jomon	3220	2385	Yamada 2006
329	中沢貝塚	Nakazawa Shellmound	第 8 次 1号人骨	壮年期(21-39)	21	39	0.00	1.00	0.00	0.00	uk			Yamada 2006
330	中沢貝塚	Nakazawa Shellmound	第 8 次 2号人骨	老年期(60-)	60	70	0.00	1.00	0.00	0.00	uk			Yamada 2006
331	中沢貝塚	Nakazawa Shellmound	第 8 次 3号人骨	青年期(17-20)	17	20	0.00	1.00	0.75	0.75	uk			Yamada 2006
332	中沢貝塚	Nakazawa Shellmound	第 8 次 4号人骨	壮年期(21-39)	21	39	0.00	1.00	0.00	0.00	uk			Yamada 2006
333	中沢貝塚	Nakazawa Shellmound	第 1 4 次 1号人骨	幼児期(2-5)	2	5	1.00	0.25	0.25	0.25	uk			Yamada 2006
334	若海貝塚	Wakaumi Shellmound		熟年期(40-59)	40	59	0.00	1.00	0.00	0.00				Yamada 2006
335	棚原岩陰遺跡	Tochibaraikawake Site	K A－1号	不明	UK	UK	0.00	0.00	0.00	0.00				Yamada 2006
336	棚原岩陰遺跡	Tochibaraikawake Site	K A－2号	熟年期(40-59)	40	59	0.00	1.00	0.00	0.00	Initial Jomon	15540	7050	Yamada 2006
337	棚原岩陰遺跡	Tochibaraikawake Site	K A－3号	新生児期(neonatal)	0	0	1.00	0.00	0.00	0.00	Initial Jomon	15540	7050	Yamada 2006
338	棚原岩陰遺跡	Tochibaraikawake Site	K A－4号	不明	UK	UK	0.00	0.00	0.00	0.00				Yamada 2006
339	棚原岩陰遺跡	Tochibaraikawake Site	K A－5号	新生児期(neonatal)	0	0	1.00	0.00	0.00	0.00	Initial Jomon	15540	7050	Yamada 2006
340	棚原岩陰遺跡	Tochibaraikawake Site	K A－6号	不明	UK	UK	0.00	0.00	0.00	0.00				Yamada 2006

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPMax	calBPmin	Reference
341	新原岩陰遺跡	Tochibaraiwakage Site	KA-7号	不明	UK	UK	0.00	0.00	0.00					Yamada 2006
342	新原岩陰遺跡	Tochibaraiwakage Site	KA-8号	不明	UK	UK	0.00	0.00	0.00					Yamada 2006
343	新原岩陰遺跡	Tochibaraiwakage Site	KA-9号	熟年期(40-59)	40	59	0.00	1.00	0.00	initial Jomon	Initial Jomon	15540		7050 Yamada 2006
344	新原岩陰遺跡	Tochibaraiwakage Site	KA-10号	不明	UK	UK	0.00	0.00	0.00					Yamada 2006
345	新原岩陰遺跡	Tochibaraiwakage Site	KA-11号	幼児期(2-5)	2	5	1.00	0.25	0.25	initial Jomon	Initial Jomon	15540		7050 Yamada 2006
346	新原岩陰遺跡	Tochibaraiwakage Site	KA-12号	幼児期(2-5)	2	5	1.00	0.25	0.25	initial Jomon	Initial Jomon	15540		7050 Yamada 2006
347	大川遺跡	Otsawa Site	1955年出土人骨	熟年期(40-59)	40	59	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415		4395 Yamada 2006
348	梨久保遺跡	Nashikubo Site	P269出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415		4395 Yamada 2006
349	梨久保遺跡	Nashikubo Site	P273出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415		4395 Yamada 2006
350	梨久保遺跡	Nashikubo Site	P554出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415		4395 Yamada 2006
351	梨久保遺跡	Nashikubo Site	P723出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415		4395 Yamada 2006
352	梨久保遺跡	Nashikubo Site	P289出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415		4395 Yamada 2006
353	梨久保遺跡	Nashikubo Site	P354出土人骨	不明	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415		4395 Yamada 2006
354	宮崎遺跡	Myazaki Site	8号箱蓋出土人骨断片1号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490		3220 Yamada 2006
355	宮崎遺跡	Myazaki Site	8号箱蓋出土人骨断片2号	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490		3220 Yamada 2006
356	大槌型土建跡	Oyokomichae Site	飯石佐磨出土人骨	不明	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490		3220 Yamada 2006
357	宮崎遺跡	Myazaki Site	1号	壮年期(21-39)	21	39	0.00	1.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
358	宮崎遺跡	Myazaki Site	2号	壮年期(21-39)	21	39	0.00	1.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
359	宮崎遺跡	Myazaki Site	3号	壮年期(21-39)	21	39	0.00	1.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
360	宮崎遺跡	Myazaki Site	4号	壮年期(21-39)	21	39	0.00	1.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
361	宮崎遺跡	Myazaki Site	5号	壮年期(21-39)	21	39	0.00	1.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
362	宮崎遺跡	Myazaki Site	6号	幼児期(2-5)	2	5	1.00	0.25	0.25	Final Jomon	Final Jomon	3220		2385 Yamada 2006
363	宮崎遺跡	Myazaki Site	7号	不明	UK	UK	0.00	0.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
364	宮崎遺跡	Myazaki Site	8号	壮年期(21-39)	21	39	0.00	1.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
365	宮崎遺跡	Myazaki Site	9号	不明	UK	UK	0.00	0.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
366	宮崎遺跡	Myazaki Site	10号	不明	UK	UK	0.00	0.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
367	宮崎遺跡	Myazaki Site	11号	不明	UK	UK	0.00	0.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
368	宮崎遺跡	Myazaki Site	3号石棺蓋出土人骨	不明	UK	UK	0.00	0.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
369	宮崎遺跡	Myazaki Site	8号トレンチ出土人骨	青年期(17-20)	X	X	0.00	0.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
370	宮崎遺跡	Myazaki Site	3号埋蓋下出土人骨	青年期(17-20)	17	20	0.00	1.00	0.75	Final Jomon	Final Jomon	3220		2385 Yamada 2006
371	俣崎遺跡	Hoji Site	1965年出土人骨	熟年期(40-59)	40	59	0.00	1.00	0.00	Final Jomon	Final Jomon	3220		2385 Yamada 2006
372	北村遺跡	Kiamura Site	SH501	30-40	30	40	0.00	1.00	0.00	Hornouchi 2	Kasori B1	4050		3750 Kitamura 1993
373	北村遺跡	Kiamura Site	SH502	13-14	13	14	0.00	1.00	1.00	Hornouchi 2	Kasori B1	4050		3750 Kitamura 1993
374	北村遺跡	Kiamura Site	SH503	30-40	30	40	0.00	1.00	0.00	Hornouchi 2	Kasori B1	4050		3750 Kitamura 1993

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto 5	Over 5	5 to 19	Period Start	Period End	calBPMax	calBPMin	Reference
375	北村遺跡	Kiamura Site	SH504A	40-50	40	50	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
376	北村遺跡	Kiamura Site	SH505	20-	20	20	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
377	北村遺跡	Kiamura Site	SH507	30-40	30	40	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
378	北村遺跡	Kiamura Site	SH508	50-60	50	60	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
379	北村遺跡	Kiamura Site	SH512	25-30	25	30	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
380	北村遺跡	Kiamura Site	SH515	25-30	25	30	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
381	北村遺跡	Kiamura Site	SH517A	18-20	18	20	0.00	1.00	0.07	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
382	北村遺跡	Kiamura Site	SH517B	12-13	12	13	0.00	1.00	1.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
383	北村遺跡	Kiamura Site	SH518A	40-50	40	50	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
384	北村遺跡	Kiamura Site	SH520	60-	60	70	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
385	北村遺跡	Kiamura Site	SH521	20前後	15	19	0.00	1.00	1.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
386	北村遺跡	Kiamura Site	SH522	50-	50	50	0.00	1.00	0.00	Kasori B1	Kasori B1	3900	3750	Kiamura 1993
387	北村遺跡	Kiamura Site	SH523	20-	20	20	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
388	北村遺跡	Kiamura Site	SH534	40-50	40	50	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
389	北村遺跡	Kiamura Site	SH536	12-20	12	20	0.00	1.00	0.89	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
390	北村遺跡	Kiamura Site	SH540	5前後	5	5	1.00	1.00	1.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
391	北村遺跡	Kiamura Site	SH542	13-14	13	14	0.00	1.00	1.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
392	北村遺跡	Kiamura Site	SH545	30-35	30	35	0.00	1.00	0.00	uk	uk			Kiamura 1993
393	北村遺跡	Kiamura Site	SH549A	40-50	40	50	0.00	1.00	0.00	Kasori B1	Kasori B1	3900	3750	Kiamura 1993
394	北村遺跡	Kiamura Site	SH549B	20代	20	29	0.00	1.00	0.00	Kasori B1	Kasori B1	3900	3750	Kiamura 1993
395	北村遺跡	Kiamura Site	SH550	30-40	30	40	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
396	北村遺跡	Kiamura Site	SH555A	30-35	30	35	0.00	1.00	0.00	Kasori B1	Kasori B1	3900	3750	Kiamura 1993
397	北村遺跡	Kiamura Site		9 20前後	15	19	0.00	1.00	1.00	Kasori B1	Kasori B1	3900	3750	Kiamura 1993
398	北村遺跡	Kiamura Site	SH558	20-	20	20	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
399	北村遺跡	Kiamura Site	SH559	40-50	40	50	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
400	北村遺跡	Kiamura Site	SH573	20-25	20	25	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
401	北村遺跡	Kiamura Site	SH606	20-	20	20	0.00	1.00	0.00	Kasori E3	Horinouchi 2	4730	3900	Kiamura 1993
402	北村遺跡	Kiamura Site	SH607	25-30	25	30	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
403	北村遺跡	Kiamura Site	SH616	20-25	20	25	0.00	1.00	0.00	uk	uk			Kiamura 1993
404	北村遺跡	Kiamura Site	SH620	50-60	50	60	0.00	1.00	0.00	uk	uk			Kiamura 1993
405	北村遺跡	Kiamura Site	SH627A	20-	20	20	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
406	北村遺跡	Kiamura Site	SH627B	20-	20	20	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
407	北村遺跡	Kiamura Site	SH638	30-35	30	35	0.00	1.00	0.00	Kasori E3	Shomyoji	4730	4235	Kiamura 1993
408	北村遺跡	Kiamura Site	SH652	25-30	25	30	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993

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409	北村遺跡	Kiamura Site	SH659	40~60	40	60	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
410	北村遺跡	Kiamura Site	SH674	25~30	25	30	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Kiamura 1993
411	北村遺跡	Kiamura Site	SH692	13~14	13	14	0.00	1.00	1.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
412	北村遺跡	Kiamura Site	SH693	20~	20	20	0.00	1.00	0.00	Kasori B1	Kasori B1	3900	3750	Kiamura 1993
413	北村遺跡	Kiamura Site	SH694	20~	20	20	0.00	1.00	0.00	uk	uk			Kiamura 1993
414	北村遺跡	Kiamura Site	SH703	30~	30	30	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
415	北村遺跡	Kiamura Site	SH709	50代	50	59	0.00	1.00	0.00	Kasori E3	Horinouchi 2	4730	3900	Kiamura 1993
416	北村遺跡	Kiamura Site	SH711	60~	60	70	0.00	1.00	0.00	Kasori E3	Horinouchi 2	4730	3900	Kiamura 1993
417	北村遺跡	Kiamura Site	SH714	20~	20	20	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
418	北村遺跡	Kiamura Site	SH717A	20~	20	20	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
419	北村遺跡	Kiamura Site	SH717B		20	20	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
420	北村遺跡	Kiamura Site	SH735	25~30	25	30	0.00	1.00	0.00	uk	uk			Kiamura 1993
421	北村遺跡	Kiamura Site	SH739	30~35	30	35	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
422	北村遺跡	Kiamura Site	SH743	50~60	50	60	0.00	1.00	0.00	uk	uk			Kiamura 1993
423	北村遺跡	Kiamura Site	SH751	60~	60	70	0.00	1.00	0.00	uk	uk			Kiamura 1993
424	北村遺跡	Kiamura Site	SH753	50~60	50	60	0.00	1.00	0.00	uk	uk			Kiamura 1993
425	北村遺跡	Kiamura Site	SH761	20~25	20	25	0.00	1.00	0.00	uk	uk			Kiamura 1993
426	北村遺跡	Kiamura Site	SH762	40~50	40	50	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
427	北村遺跡	Kiamura Site	SH763	50~60	50	60	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
428	北村遺跡	Kiamura Site	SH764	30~40	30	40	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
429	北村遺跡	Kiamura Site	SH771A	25前後	25	25	0.00	1.00	0.00	Kasori E3	Shomyoji	4730	4235	Kiamura 1993
430	北村遺跡	Kiamura Site	SH771B	8~9	8	9	0.00	1.00	1.00	Kasori E3	Shomyoji	4730	4235	Kiamura 1993
431	北村遺跡	Kiamura Site	SH775	30~40	30	40	0.00	1.00	0.00	Kasori E4	Horinouchi 1	4540	4050	Kiamura 1993
432	北村遺跡	Kiamura Site	SH782	18前後	18	18	0.00	1.00	1.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
433	北村遺跡	Kiamura Site	SH784	20~30	20	30	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
434	北村遺跡	Kiamura Site	SH785A	50~60	50	60	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
435	北村遺跡	Kiamura Site	SH785B	若い		1.00	0.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993	
436	北村遺跡	Kiamura Site	SH794	20~	20	20	0.00	1.00	0.00	uk	uk			Kiamura 1993
437	北村遺跡	Kiamura Site	SH796	30~40	30	40	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
438	北村遺跡	Kiamura Site	SH799	50~60	50	60	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
439	北村遺跡	Kiamura Site	SH800	7前後	7	7	0.00	1.00	1.00	Kasori E3	Shomyoji	4730	4235	Kiamura 1993
440	北村遺跡	Kiamura Site	SH803	25~30	25	30	0.00	1.00	0.00	Kasori E4	Horinouchi 1	4540	4050	Kiamura 1993
441	北村遺跡	Kiamura Site	SH805	30~40	30	40	0.00	1.00	0.00	uk	uk			Kiamura 1993
442	北村遺跡	Kiamura Site	SH815	35~40	35	40	0.00	1.00	0.00	uk	uk			Kiamura 1993

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443	北村遺跡	Kiamura Site	SH824A	50代	50	59	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
444	北村遺跡	Kiamura Site	SH824B	25-30	25	30	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
445	北村遺跡	Kiamura Site	SH828	20-	20	30	0.00	1.00	0.00	Kasori E3	Shomyoji	4730	4235	Kiamura 1993
446	北村遺跡	Kiamura Site	SH851	40-50	40	50	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
447	北村遺跡	Kiamura Site	SH852	50代	50	59	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
448	北村遺跡	Kiamura Site	SH853	60-	60	70	0.00	1.00	0.00	Shomyoji	Kasori B1	4490	3750	Kiamura 1993
449	北村遺跡	Kiamura Site	SH854	12-15	12	15	0.00	1.00	1.00	Shomyoji	Kasori B1	4490	3750	Kiamura 1993
450	北村遺跡	Kiamura Site	SH855	50-60	50	60	0.00	1.00	0.00	Shomyoji	Kasori B1	4490	3750	Kiamura 1993
451	北村遺跡	Kiamura Site	SH856	60-	60	70	0.00	1.00	0.00	Shomyoji	Kasori B1	4490	3750	Kiamura 1993
452	北村遺跡	Kiamura Site	SH857	40-60	40	60	0.00	1.00	0.00	Horinouchi 2	Kasori B1	4050	3750	Kiamura 1993
453	北村遺跡	Kiamura Site	SH858	60-	60	70	0.00	1.00	0.00	Shomyoji	Kasori B1	4490	3750	Kiamura 1993
454	北村遺跡	Kiamura Site	SH859	20前後	20	20	0.00	1.00	0.00	Shomyoji	Kasori B1	4490	3750	Kiamura 1993
455	北村遺跡	Kiamura Site	SH868	20-	20	20	0.00	1.00	0.00	Shomyoji	Kasori B1	4490	3750	Kiamura 1993
456	北村遺跡	Kiamura Site	SH879	40-50	40	50	0.00	1.00	0.00	Shomyoji	Kasori B1	4490	3750	Kiamura 1993
457	北村遺跡	Kiamura Site	SH908	30-40	30	40	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Kiamura 1993
458	北村遺跡	Kiamura Site	SH924	60-	60	70	0.00	1.00	0.00	uk	uk			Kiamura 1993
459	北村遺跡	Kiamura Site	SH952	20-	20	20	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
460	北村遺跡	Kiamura Site	SH958	25-30	25	30	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
461	北村遺跡	Kiamura Site	SH979	25-30	25	30	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
462	北村遺跡	Kiamura Site	SH1066	15前後	15	15	0.00	1.00	1.00	Kasori B1	Kasori B1	3900	3750	Kiamura 1993
463	北村遺跡	Kiamura Site	SH1068	20-	20	20	0.00	1.00	0.00	Kasori B1	Kasori B1	3900	3750	Kiamura 1993
464	北村遺跡	Kiamura Site	SH1129	60-	60	70	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
465	北村遺跡	Kiamura Site	SH1136	20-25	20	25	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
466	北村遺跡	Kiamura Site	SH1143	10-11	10	11	0.00	1.00	1.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
467	北村遺跡	Kiamura Site	SH1144	45-50	45	50	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
468	北村遺跡	Kiamura Site	SH1149	30-40	30	40	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
469	北村遺跡	Kiamura Site	SH1155	50代	50	59	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
470	北村遺跡	Kiamura Site	SH1156A	50代	50	59	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
471	北村遺跡	Kiamura Site	SH1156B	30-40	30	40	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
472	北村遺跡	Kiamura Site	SH1156C	50代	50	59	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
473	北村遺跡	Kiamura Site	SH1157	3前後	3	3	1.00	0.00	0.00	Shomyoji	Kasori B1	4490	3750	Kiamura 1993
474	北村遺跡	Kiamura Site	SH1158	45-55	45	55	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
475	北村遺跡	Kiamura Site	SH1160	60-	60	70	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
476	北村遺跡	Kiamura Site	SH1161	60-	60	70	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993

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477	北村遺跡	Kiamura Site	SH1162	50代	50	59	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
478	北村遺跡	Kiamura Site	SH1163A	25前後	25	25	0.00	1.00	0.00	uk	uk			Kiamura 1993
479	北村遺跡	Kiamura Site	SH1163B	~18	18	18	0.00	1.00	1.00	uk	uk			Kiamura 1993
480	北村遺跡	Kiamura Site	SH1165	20~	20	20	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
481	北村遺跡	Kiamura Site	SH1166	3~7月	0	0	1.00	0.00	0.00	uk	uk			Kiamura 1993
482	北村遺跡	Kiamura Site	SH1168	12~20	12	20	0.00	1.00	0.89	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
483	北村遺跡	Kiamura Site	SH1172-1	20~	20	20	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
484	北村遺跡	Kiamura Site	SH1174	30~40	30	40	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
485	北村遺跡	Kiamura Site	SH1176	50代	50	59	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
486	北村遺跡	Kiamura Site	SH1177	25前後	25	25	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
487	北村遺跡	Kiamura Site	SH1178	50代	50	59	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
488	北村遺跡	Kiamura Site	SH1179	60~	60	70	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
489	北村遺跡	Kiamura Site	SH1180A	20~	20	20	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
490	北村遺跡	Kiamura Site	SH1180B	20~	20	20	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
491	北村遺跡	Kiamura Site	SH1180C	20~	20	20	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
492	北村遺跡	Kiamura Site	SH1180D	20~	20	20	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
493	北村遺跡	Kiamura Site	SH1180E	20~	20	20	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
494	北村遺跡	Kiamura Site	SH1181	60前後	60	60	0.00	1.00	0.00	Kasori E3	Shomyoji	4730	4235	Kiamura 1993
495	北村遺跡	Kiamura Site	SH1182A	40~45	40	45	0.00	1.00	0.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
496	北村遺跡	Kiamura Site	SH1182B	9前後	9	9	0.00	1.00	1.00	Horinouchi 1	Kasori B1	4235	3750	Kiamura 1993
497	北村遺跡	Kiamura Site	SH1184	40~45	40	45	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
498	北村遺跡	Kiamura Site	SH1185	3~4	3	4	1.00	0.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
499	北村遺跡	Kiamura Site	SH1186	50代	50	59	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
500	北村遺跡	Kiamura Site	SH1187A	20~25	20	25	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Kiamura 1993
501	北村遺跡	Kiamura Site	SH1187B	40~45	40	45	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Kiamura 1993
502	北村遺跡	Kiamura Site	SH1188	60~	60	70	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993
503	北村遺跡	Kiamura Site	SH1189	50代	50	59	0.00	1.00	0.00	Kasori B1	Kasori B1	3900	3750	Kiamura 1993
504	北村遺跡	Kiamura Site	SH1190	20~	20	20	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
505	北村遺跡	Kiamura Site	SH1191	60~	60	70	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
506	北村遺跡	Kiamura Site	SH1192	50代	50	59	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
507	北村遺跡	Kiamura Site	SH1193	12前後	12	12	0.00	1.00	1.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
508	北村遺跡	Kiamura Site	SH1195		20	20	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kiamura 1993
509	北村遺跡	Kiamura Site	SH1198	55~60	55	60	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kiamura 1993
510	北村遺跡	Kiamura Site	SH1199	60~	60	70	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kiamura 1993

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
511	北村遺跡	Kitamura Site	SH1200	50~55	50	55	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kitamura 1993
512	北村遺跡	Kitamura Site	SH1201	20~	20	20	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kitamura 1993
513	北村遺跡	Kitamura Site	SH1202A	25前後	25	25	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kitamura 1993
514	北村遺跡	Kitamura Site	SH1202B	20~	20	20	0.00	1.00	0.00	Kasori E3	Horinouchi 1	4730	4050	Kitamura 1993
515	北村遺跡	Kitamura Site	SH1203	20~	20	20	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Kitamura 1993
516	北村遺跡	Kitamura Site	SH1204	40~50	40	50	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kitamura 1993
517	北村遺跡	Kitamura Site	SH1205	20~	20	20	0.00	1.00	0.00	Kasori E3	Shomyoji	4730	4235	Kitamura 1993
518	北村遺跡	Kitamura Site	SH1206	50~55	50	55	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kitamura 1993
519	北村遺跡	Kitamura Site	SH1207	13~15	13	15	0.00	1.00	1.00	Kasori E3	Horinouchi 1	4730	4050	Kitamura 1993
520	北村遺跡	Kitamura Site	SH1208	30~40	30	40	0.00	1.00	0.00	Shomyoji	Shomyoji	4490	4235	Kitamura 1993
521	北村遺跡	Kitamura Site	SH1211	18~20	18	20	0.00	1.00	0.67	Kasori E3	Shomyoji	4730	4235	Kitamura 1993
522	北村遺跡	Kitamura Site	SH1215	20~	20	20	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Kitamura 1993
523	北村遺跡	Kitamura Site	SH1216	60~	60	70	0.00	1.00	0.00	Kasori E3	Shomyoji	4730	4235	Kitamura 1993
524	北村遺跡	Kitamura Site	SH1217A	12前後	12	12	0.00	1.00	1.00	Kasori E3	Kasori E3	4730	4540	Kitamura 1993
525	北村遺跡	Kitamura Site	SH1228	13~14	13	14	0.00	1.00	1.00	Shomyoji	Shomyoji	4490	4235	Kitamura 1993
526	北村遺跡	Kitamura Site	SH1233	20~	20	20	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Kitamura 1993
527	北村遺跡	Kitamura Site	SK2029	8前後	8	8	0.00	1.00	1.00	uk	uk			Kitamura 1993
527	貝の花貝塚	Kainohana Shellmound	1号	熟年	35	49	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
528	貝の花貝塚	Kainohana Shellmound	2号	X	UK	UK	0.00	0.00	0.00	Late Jomon First Half	Mid Late Jomon	3855	3643	Chiba 1999
529	貝の花貝塚	Kainohana Shellmound	3号	壮年	21	39	0.00	1.00	0.00	End of Middle Jomon	Start of Late Jomon	4540	4235	Chiba 1999
530	貝の花貝塚	Kainohana Shellmound	4号	成人	20	39	0.00	1.00	0.00	Mid Late Jomon	Mid Late Jomon	4067	3643	Chiba 1999
531	貝の花貝塚	Kainohana Shellmound	5号	幼児 1歳半くらい	1	2	1.00	0.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
532	貝の花貝塚	Kainohana Shellmound	6号	壮年	21	39	0.00	1.00	0.00	End of Middle Jomon	End of Middle Jomon	4540	4395	Chiba 1999
533	貝の花貝塚	Kainohana Shellmound	7号	成人	20	39	0.00	1.00	0.00	End of Middle Jomon	Start of Late Jomon	4540	4235	Chiba 1999
534	貝の花貝塚	Kainohana Shellmound	8号	熟年	35	49	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
535	貝の花貝塚	Kainohana Shellmound	9号	成人	20	39	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
536	貝の花貝塚	Kainohana Shellmound	10号	熟年~老年	35	70	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
537	貝の花貝塚	Kainohana Shellmound	11号	青年	15	29	0.00	1.00	0.33	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
538	貝の花貝塚	Kainohana Shellmound	12号	成人	20	39	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
539	貝の花貝塚	Kainohana Shellmound	13号	幼児 (新生児)	0	0	1.00	0.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
570	貝の花貝塚	Kainohana Shellmound	14号	成人	20	39	0.00	1.00	0.00	Start of Late Jomon	Mid Late Jomon	4490	3643	Chiba 1999
571	貝の花貝塚	Kainohana Shellmound	15号	成人	20	39	0.00	1.00	0.00	Late Jomon First Half	Late Jomon First Half	3855	3220	Chiba 1999
572	貝の花貝塚	Kainohana Shellmound	16号	壮年	21	39	0.00	1.00	0.00	Late Jomon First Half	Late Jomon First Half	3855	3220	Chiba 1999
573	貝の花貝塚	Kainohana Shellmound	17号	壮年	21	39	0.00	1.00	0.00	Mid Late Jomon	Mid Late Jomon	4067	3643	Chiba 1999

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
574	貝の花貝塚	Kainohana Shellmound	1 8号	壮年	21	39	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
575	貝の花貝塚	Kainohana Shellmound	1 9号	熟年	35	49	0.00	1.00	0.00	Mid Late Jomon	Mid Late Jomon	4067	3643	Chiba 1999
576	貝の花貝塚	Kainohana Shellmound	2 0号	成人	20	39	0.00	1.00	0.00	Mid Late Jomon	Mid Late Jomon	4067	3643	Chiba 1999
577	貝の花貝塚	Kainohana Shellmound	2 1号	熟年	35	49	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
578	貝の花貝塚	Kainohana Shellmound	2 2号	成人	20	39	0.00	1.00	0.00	Mid Late Jomon	Mid Late Jomon	4067	3643	Chiba 1999
579	貝の花貝塚	Kainohana Shellmound	2 3号	成人	20	39	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
580	貝の花貝塚	Kainohana Shellmound	2 4号	熟年	35	49	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
581	貝の花貝塚	Kainohana Shellmound	2 5号	熟年	35	49	0.00	1.00	0.00	uk	uk			Chiba 1999
582	貝の花貝塚	Kainohana Shellmound	2 6号	X	UK	UK	0.00	0.00	0.00	Mid Late Jomon	Mid Late Jomon	4067	3643	Chiba 1999
583	貝の花貝塚	Kainohana Shellmound	2 7号	成人	20	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
584	貝の花貝塚	Kainohana Shellmound	2 8号	幼児4才前後	4	4	1.00	0.00	0.00	Late Jomon First Half	Late Jomon First Half	3855	3220	Chiba 1999
585	貝の花貝塚	Kainohana Shellmound	2 9号	乳児2ヶ月くらい	0	0	1.00	0.00	0.00	Late Jomon First Half	Late Jomon First Half	3855	3220	Chiba 1999
586	貝の花貝塚	Kainohana Shellmound	3 0号	X	UK	UK	0.00	0.00	0.00	Start of Late Jomon	Mid Late Jomon	4490	3643	Chiba 1999
587	貝の花貝塚	Kainohana Shellmound	3 1号	壮年	21	39	0.00	1.00	0.00	Start of Late Jomon	Mid Late Jomon	4490	3643	Chiba 1999
588	貝の花貝塚	Kainohana Shellmound	3 2号	不明	UK	UK	0.00	0.00	0.00	End of Middle Jomon	Start of Late Jomon	4540	4235	Chiba 1999
589	貝の花貝塚	Kainohana Shellmound	3 3号	不明	UK	UK	0.00	0.00	0.00	Mid Late Jomon	Mid Late Jomon	4067	3643	Chiba 1999
590	貝の花貝塚	Kainohana Shellmound	3 4号	成人	20	39	0.00	1.00	0.00	End of Middle Jomon	End of Middle Jomon	4540	4395	Chiba 1999
591	貝の花貝塚	Kainohana Shellmound	3 5号	熟年	35	49	0.00	1.00	0.00	End of Middle Jomon	Start of Late Jomon	4540	4235	Chiba 1999
592	貝の花貝塚	Kainohana Shellmound	3 6号	熟年	35	49	0.00	1.00	0.00	End of Middle Jomon	Start of Late Jomon	4540	4235	Chiba 1999
593	貝の花貝塚	Kainohana Shellmound	3 7号	新生児	0	0	1.00	0.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
594	貝の花貝塚	Kainohana Shellmound	3 8号	幼児	1	10	0.50	0.60	0.60	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
595	貝の花貝塚	Kainohana Shellmound	3 9号	幼児	1	10	0.50	0.60	0.60	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
596	貝の花貝塚	Kainohana Shellmound	4 0号	壮年	21	39	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
597	貝の花貝塚	Kainohana Shellmound	4 1号	成人	20	39	0.00	1.00	0.00	Mid Late Jomon	Mid Late Jomon	4067	3643	Chiba 1999
598	貝の花貝塚	Kainohana Shellmound	4 2号	壮年	21	39	0.00	1.00	0.00	End of Middle Jomon	End of Middle Jomon	4540	4395	Chiba 1999
599	貝の花貝塚	Kainohana Shellmound	4 3号	成人	20	39	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
600	貝の花貝塚	Kainohana Shellmound	4 4号	青年	10	24	0.00	1.00	0.67	End of Middle Jomon	Start of Late Jomon	4540	4235	Chiba 1999
601	貝の花貝塚	Kainohana Shellmound	4 5号	成人	20	39	0.00	1.00	0.00	End of Middle Jomon	End of Middle Jomon	4540	4395	Chiba 1999
602	貝の花貝塚	Kainohana Shellmound	4 6号	成人	20	39	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
603	貝の花貝塚	Kainohana Shellmound	4 7号	成人	20	39	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
604	貝の花貝塚	Kainohana Shellmound	4 8号	熟年	35	49	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
605	貝の花貝塚	Kainohana Shellmound	4 9号	成人	20	39	0.00	1.00	0.00	uk	uk			Chiba 1999
606	貝の花貝塚	Kainohana Shellmound	5 0号	幼児	1	10	0.50	0.60	0.60	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999
607	貝の花貝塚	Kainohana Shellmound	5 1号	成人	20	39	0.00	1.00	0.00	Start of Late Jomon	Start of Late Jomon	4490	4235	Chiba 1999

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
608	堀之内内貝塚	Horiouchi Shellmound	堀越1 型録堀の内 (0405) 2	熟年 4 0才以上	40	50	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
609	堀之内内貝塚	Horiouchi Shellmound	型録堀の内 (0405) 3	X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
610	堀之内内貝塚	Horiouchi Shellmound	堀越2 型録堀の内 (0405) 1	X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
611	堀之内内貝塚	Horiouchi Shellmound	堀越3 鈴木8	老年	50	70	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
612	堀之内内貝塚	Horiouchi Shellmound	堀越3 鈴木区7 型録堀の内1	成年 3 5 ~ 3 9 才	35	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
613	堀之内内貝塚	Horiouchi Shellmound	堀越5 型録堀の内2	X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
614	堀之内内貝塚	Horiouchi Shellmound	堀越1 2 鈴木1 型録堀の内 (54) 1	熟年	35	49	0.00	1.00	0.00	Horiouchi 1	Horiouchi 1	4235	4050 Chiba 1999	
615	堀之内内貝塚	Horiouchi Shellmound	堀越1 3 鈴木2 型録堀の内 (54) 2	熟年	35	49	0.00	1.00	0.00	Horiouchi 1	Horiouchi 1	4235	4050 Chiba 1999	
616	堀之内内貝塚	Horiouchi Shellmound	堀越6 鈴木3	成年	20	40	0.00	1.00	0.00	Horiouchi 1	Horiouchi 2	4235	3900 Chiba 1999	
617	堀之内内貝塚	Horiouchi Shellmound	堀越7 鈴木4	熟年	35	49	0.00	1.00	0.00	Horiouchi 1	Horiouchi 2	4235	3900 Chiba 1999	
618	堀之内内貝塚	Horiouchi Shellmound	堀越8 鈴木5	成年	20	40	0.00	1.00	0.00	Horiouchi 1	Horiouchi 2	4235	3900 Chiba 1999	
619	堀之内内貝塚	Horiouchi Shellmound	堀越9 鈴木6	熟年	35	49	0.00	1.00	0.00	Horiouchi 1	Horiouchi 2	4235	3900 Chiba 1999	
620	堀之内内貝塚	Horiouchi Shellmound	堀越10	成年	20	40	0.00	1.00	0.00	Horiouchi 1	Horiouchi 2	4235	3900 Chiba 1999	
621	堀之内内貝塚	Horiouchi Shellmound	堀越11	小児	1	10	0.50	0.60	0.60	Horiouchi 1	Horiouchi 2	4235	3900 Chiba 1999	
622	堀之内内貝塚	Horiouchi Shellmound		成年 2 7 ~ 3 5 才	27	35	0.00	1.00	0.00	Horiouchi 1	Horiouchi 2	4235	3900 Chiba 1999	
623	堀之内内貝塚	Horiouchi Shellmound		老年	50	70	0.00	1.00	0.00	Horiouchi 1	Horiouchi 2	4235	3900 Chiba 1999	
624	堀之内内貝塚	Horiouchi Shellmound		X	UK	UK	0.00	0.00	0.00	Horiouchi 1	Horiouchi 2	4235	3900 Chiba 1999	
625	堀之内内貝塚	Horiouchi Shellmound		X	UK	UK	0.00	0.00	0.00	Horiouchi 1	Horiouchi 2	4235	3900 Chiba 1999	
626	榛形原	Gongenbara	渡辺7号	壮年	21	39	0.00	1.00	0.00	Horiouchi 1	Horiouchi 1	4235	4050 Chiba 1999	
627	榛形原	Gongenbara	渡辺8号 第一号墓坑	幼児	1	10	0.50	0.60	0.60	Horiouchi 1	Horiouchi 1	4235	4050 Chiba 1999	
628	榛形原	Gongenbara	渡辺9号 第二号墓坑	幼児 2 才	2	2	1.00	0.00	0.00	Horiouchi 1	Horiouchi 1	4235	4050 Chiba 1999	
629	榛形原	Gongenbara	渡辺1号土壌墓群	X	UK	UK	0.00	0.00	0.00	Kasori E4	Kasori E4	4540	4490 Chiba 1999	
630	榛形原	Gongenbara	1号	熟年	35	49	0.00	1.00	0.00	Shomyoji 1	Horiouchi 2	4490	3900 Chiba 1999	
631	榛形原	Gongenbara	2号	壮年	21	39	0.00	1.00	0.00	Shomyoji 1	Horiouchi 2	4490	3900 Chiba 1999	
632	榛形原	Gongenbara	3号	壮年	21	39	0.00	1.00	0.00	Shomyoji 1	Horiouchi 2	4490	3900 Chiba 1999	
633	榛形原	Gongenbara	4号	幼児 5 ~ 6 才	5	6	0.50	1.00	1.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
634	榛形原	Gongenbara	5号	幼児 2 才以下	2	2	1.00	0.00	0.00	Kasori E4	Kasori E4	4540	4490 Chiba 1999	
635	榛形原	Gongenbara	6号	乳児 6 ヶ月前後	0	0	1.00	0.00	0.00	Kasori E4	Kasori E4	4540	4490 Chiba 1999	
636	榛形原	Gongenbara	合葬a号	熟年 4 0 才	40	40	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
637	榛形原	Gongenbara	合葬b号	幼児 5 才強	5	5	1.00	1.00	1.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
638	榛形原	Gongenbara	合葬c号	壮年 3 0 才	30	30	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
639	榛形原	Gongenbara	合葬d号	壮年 3 0 才	30	30	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
640	榛形原	Gongenbara	合葬e号	成年 2 0 代後半	25	29	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
641	榛形原	Gongenbara	合葬f号	老年 5 0 才以上	50	70	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
642	樟頭原	Gongenbara	合葬g号	少年 1 5才前後	15	15	0.00	1.00	1.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
643	樟頭原	Gongenbara	合葬h号	少児 7～9才	7	9	0.00	1.00	1.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
644	樟頭原	Gongenbara	合葬号	壮年 3 0才	30	30	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
645	樟頭原	Gongenbara	合葬号	少年 1 5～1 6才	15	16	0.00	1.00	1.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
646	樟頭原	Gongenbara	合葬k号	少年 1 4～1 5才	14	15	0.00	1.00	1.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
647	樟頭原	Gongenbara	合葬号	熟年 3 0代後半	35	39	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
648	樟頭原	Gongenbara	合葬m号	老年 5 0才以上	50	70	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
649	樟頭原	Gongenbara	合葬n号	少年 1 4～1 5才	14	15	0.00	1.00	1.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
650	樟頭原	Gongenbara	合葬o号	老年 5 0才以上	50	70	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
651	樟頭原	Gongenbara	合葬p号	青年 2 0才前後	20	20	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
652	樟頭原	Gongenbara	合葬q号	幼児 5才	5	5	1.00	1.00	1.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
653	樟頭原	Gongenbara	合葬r号	熟年 5 0代	50	59	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
654	樟頭原	Gongenbara		成人 5 0代以上	50	70	0.00	1.00	0.00	Shomyoji 1	Shomyoji 1	4490	4395 Chiba 1999	
655	樟頭原	Gongenbara	熊辺2号土甕蓋群	X	UK	UK	0.00	0.00	0.00	Kasori E4	Kasori E4	4540	4490 Chiba 1999	
656	中峠貝塚	Nakabyo Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
657	中峠貝塚	Nakabyo Shellmound		壮年～熟年	21	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
658	中峠貝塚	Nakabyo Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
659	中峠貝塚	Nakabyo Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
660	中峠貝塚	Nakabyo Shellmound		熟年	35	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
661	中峠貝塚	Nakabyo Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
662	中峠貝塚	Nakabyo Shellmound		成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270 Chiba 1999	
663	中峠貝塚	Nakabyo Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E2	Kasori E3	4860	4540 Chiba 1999	
664	中峠貝塚	Nakabyo Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
665	中峠貝塚	Nakabyo Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
666	中峠貝塚	Nakabyo Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
667	中峠貝塚	Nakabyo Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
668	中峠貝塚	Nakabyo Shellmound		成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
669	中峠貝塚	Nakabyo Shellmound		成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
670	中峠貝塚	Nakabyo Shellmound		幼児	1	10	0.50	0.60	0.60	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
671	中峠貝塚	Nakabyo Shellmound		幼児	1	10	0.50	0.60	0.60	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
672	中峠貝塚	Nakabyo Shellmound	川次―1号	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
673	中峠貝塚	Nakabyo Shellmound	川次―2号	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
674	中峠貝塚	Nakabyo Shellmound	川次―3号	青年	15	29	0.00	1.00	0.33	Kasori E1	Kasori E1	4850	4860 Chiba 1999	
675	中峠貝塚	Nakabyo Shellmound	川次―4号	熟年	35	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860 Chiba 1999	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto 5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
676	中峠貝塚	Nakabyo Shellmound	川辺—5号	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
677	中峠貝塚	Nakabyo Shellmound	川辺—6号	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
678	中峠貝塚	Nakabyo Shellmound	IV次—1号	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
679	中峠貝塚	Nakabyo Shellmound	IV次—2号	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
680	中峠貝塚	Nakabyo Shellmound	IV次—3a号	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
681	中峠貝塚	Nakabyo Shellmound	IV次—3b号	小児	1	10	0.50	0.60	0.60	Kasori E1	Kasori E1	4950	4860	Chiba 1999
682	中峠貝塚	Nakabyo Shellmound	V次—1a号	青年	15	29	0.00	1.00	0.33	Kasori E1	Kasori E1	4950	4860	Chiba 1999
683	中峠貝塚	Nakabyo Shellmound	V次—1b号	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
684	中峠貝塚	Nakabyo Shellmound	V次—2a号	熟年	35	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
685	中峠貝塚	Nakabyo Shellmound	V次—2b号	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
686	中峠貝塚	Nakabyo Shellmound	V次—2c号	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
687	中峠貝塚	Nakabyo Shellmound	V次—2d号	小児	1	10	0.50	0.60	0.60	Kasori E1	Kasori E1	4950	4860	Chiba 1999
688	中峠貝塚	Nakabyo Shellmound	V次—2e号	幼児	10才	10	0.00	1.00	1.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
689	中峠貝塚	Nakabyo Shellmound	V次—3号	小児	1	10	0.50	0.60	0.60	Kasori E1	Kasori E1	4950	4860	Chiba 1999
690	中峠貝塚	Nakabyo Shellmound	V次—4号	熟年	35	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
691	中峠貝塚	Nakabyo Shellmound	V1次—1号	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
692	中峠貝塚	Nakabyo Shellmound	V1次—2号	小児	6才	6	0.00	1.00	1.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
693	中峠貝塚	Nakabyo Shellmound	V1次—3号	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
694	中峠貝塚	Nakabyo Shellmound	V1次—4号	小児	1	10	0.50	0.60	0.60	Kasori E1	Kasori E1	4950	4860	Chiba 1999
695	根部貝塚	Nego Shellmound	1号	壮年	21	39	0.00	1.00	0.00	Atamadai 4	Atamadai 4	5230	5100	Chiba 1999
696	根部貝塚	Nego Shellmound	2号	壮年前半	21	30	0.00	1.00	0.00	Atamadai 4	Atamadai 4	5230	5100	Chiba 1999
697	根部貝塚	Nego Shellmound	3号	熟年	35	49	0.00	1.00	0.00	Atamadai 4	Atamadai 4	5230	5100	Chiba 1999
698	根部貝塚	Nego Shellmound	4号	熟年	35	49	0.00	1.00	0.00	Atamadai 4	Atamadai 4	5230	5100	Chiba 1999
699	根部貝塚	Nego Shellmound	5号	熟年	35	49	0.00	1.00	0.00	Atamadai 4	Atamadai 4	5230	5100	Chiba 1999
700	根部貝塚	Nego Shellmound	6号	壮年	21	39	0.00	1.00	0.00	Atamadai 4	Atamadai 4	5230	5100	Chiba 1999
701	根部貝塚	Nego Shellmound	7号	青年	15	29	0.00	1.00	0.33	Nakabyo	Nakabyo	5310	5270	Chiba 1999
702	根部貝塚	Nego Shellmound	8号	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4860	4860	Chiba 1999
703	埴山貝塚	Ubayama Shellmound	埴鉢城山（11）	老年	50	70	0.00	1.00	0.00	Kasori E1	Kasori B3	4950	3420	Chiba 1999
704	埴山貝塚	Ubayama Shellmound	1号	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4950	4490	Chiba 1999
705	埴山貝塚	Ubayama Shellmound	2号	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4950	4490	Chiba 1999
706	埴山貝塚	Ubayama Shellmound	3号	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4950	4490	Chiba 1999
707	埴山貝塚	Ubayama Shellmound	4号	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4950	4490	Chiba 1999
708	埴山貝塚	Ubayama Shellmound	5号	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4950	4490	Chiba 1999
709	埴山貝塚	Ubayama Shellmound	6号	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4950	4490	Chiba 1999

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
710	姥山貝塚	Ubayama Shellmound	7号	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
711	姥山貝塚	Ubayama Shellmound	1号墓箱	小児	1	10	0.50	0.60	0.60	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
712	姥山貝塚	Ubayama Shellmound	2号墓箱	胎児～乳幼児	0	4	1.0	0.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
713	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）A1	成年	20	39	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
714	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）A3	成年	20	39	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
715	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）A4	成年	20	39	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
716	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）A5	熟年	35	49	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
717	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）A6	若年	10	24	0.0	1.0	0.67	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
718	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）A7	若年	10	24	0.0	1.0	0.67	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
719	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）A8	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
720	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 7）A2	成年	20	39	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
721	姥山貝塚	Ubayama Shellmound	1号	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
722	姥山貝塚	Ubayama Shellmound	2号	熟年	35	49	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
723	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）B1	熟年	35	49	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
724	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）B2	熟年	35	49	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
725	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）B3	熟年	35	49	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
726	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）B4	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
727	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）溝1	乳幼児	0	4	1.0	0.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
728	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）溝2	成年	20	39	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
729	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）溝3	成年	20	39	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
730	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）溝4	成人	20	39	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
731	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）溝5	幼児	1	10	0.50	0.60	0.60	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
732	姥山貝塚	Ubayama Shellmound	型跡姥山（'2 6）溝5	成年	20	39	0.0	1.0	0.0	Kaori E1	Kaori E4	4950	4490 Chiba 1999	
733	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）2	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
734	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）4	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
735	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）5	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
736	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）8	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
737	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）10	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
738	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）11	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
739	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）13	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
740	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）16	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
741	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）19	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
742	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）21	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
743	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）22	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	
744	姥山貝塚	Ubayama Shellmound	型跡姥山（'5 0）23	X	UK	UK	0.0	0.0	0.0	Kaori E1	Kaori B3	4950	3420 Chiba 1999	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBpMax	calBpMin	Reference
744	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 2 4	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
745	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 2 5	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
746	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 2 6	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
747	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 2 7	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
748	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 2 8	成年 3 0 ~ 3 4 才	30	34	0.00	1.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
749	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 3 0	成年 3 0 ~ 3 4 才	30	34	0.00	1.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
750	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 3 1	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
751	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 3 2	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
752	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 3 3	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
753	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 3 4	幼児	1	10	0.50	0.60	0.60	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
754	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 3 5	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
755	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 3 6	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
756	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 3 7	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
757	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 3 8	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
758	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 3 9	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
759	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 4 0	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
760	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 4 1	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
761	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 4 2	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
762	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 4 3	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
763	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 4 4	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
764	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 4 5	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
765	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 4 6	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
766	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 4 7	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
767	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 4 8	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
768	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 4 9	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
769	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 5 0	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
770	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 5 1	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
771	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 5 2	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
772	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 5 3	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
773	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 5 4	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
774	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 5 5	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
775	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 5 6	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
776	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 5 8	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	
777	埴山貝塚	Ubayama Shellmound	型跡埴山 (5 O) 5 9	X	UK	UK	0.00	0.00	0.00	Kaori Et	Kaori B3	4850	3420 Chiba 1999	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBpMax	calBpMin	Reference
778	姥山貝塚	Ubayama Shellmound	型録姥山（50）番外 1	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori B3	4850	3420 Chiba 1999	
779	姥山貝塚	Ubayama Shellmound	型録姥山（50）番外 2, 3	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori B3	4850	3420 Chiba 1999	
780	姥山貝塚	Ubayama Shellmound	型録姥山（50）0 1	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori B3	4850	3420 Chiba 1999	
781	姥山貝塚	Ubayama Shellmound	型録姥山（50）0 2	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori B3	4850	3420 Chiba 1999	
782	姥山貝塚	Ubayama Shellmound	型録姥山（50）0 3	成年 2 5 ～ 2 9 才	25	29	0.00	1.00	0.00	Kasori E1	Kasori B3	4850	3420 Chiba 1999	
783	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1	老年 5 0 才以上	50	70	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
784	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）2	老年 5 0 才以上	50	70	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
785	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）3	老年 5 0 才以上	50	70	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
786	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）3 C	X	UK	UK	0.00	0.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
787	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）4	熟年 4 0 ～ 4 4 才	40	44	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
788	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）5	老年 5 0 才以上	50	70	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
789	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）6	X	UK	UK	0.00	0.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
790	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）7	熟年 4 0 ～ 4 4 才	40	44	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
791	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）8	成年 3 0 ～ 3 4 才	30	34	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
792	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）8 ˊ	X	UK	UK	0.00	0.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
793	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）9	熟年 4 5 ～ 4 9 才	45	49	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
794	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1 0	幼児 5 ～ 9 才	5	9	0.20	1.00	1.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
795	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1 1	成年 3 5 ～ 3 9 才	35	39	0.00	1.00	0.00	Kasori E1	Kasori E4	4850	4490 Chiba 1999	
796	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1 2	成年 3 0 ～ 3 4 才	30	34	0.00	1.00	0.00	Kasori E1	Kasori E4	4850	4490 Chiba 1999	
797	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1 3	少年 1 0 ～ 1 4 才	10	14	0.00	1.00	1.00	Kasori E1	Kasori E4	4850	4490 Chiba 1999	
798	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1 4	X	UK	UK	0.00	0.00	0.00	Hornouchi 1	Hornouchi 2	4235	3900 Chiba 1999	
799	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1 5	成年 3 0 ～ 3 4 才	30	34	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
800	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1 6	成年 3 0 ～ 3 4 才	30	34	0.00	1.00	0.00	Hornouchi 1	Hornouchi 2	4235	3900 Chiba 1999	
801	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1 7	成年 3 0 ～ 3 4 才	30	34	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
802	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1 8	若年 2 0 ～ 2 4 才	20	24	0.00	1.00	0.00	Hornouchi 1	Hornouchi 2	4235	3900 Chiba 1999	
803	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）1 9	成年 3 0 ～ 3 4 才	30	34	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
804	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）2 0	老年 5 0 才以上	50	70	0.00	1.00	0.00	Hornouchi 1	Hornouchi 2	4235	3900 Chiba 1999	
805	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）2 1	成年 2 5 ～ 2 9 才	25	29	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
806	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）2 2	乳幼児 0 ～ 4 才	0	4	1.00	0.00	0.00	Hornouchi 1	Hornouchi 2	4235	3900 Chiba 1999	
807	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）2 3	X	UK	UK	0.00	0.00	0.00	Hornouchi 1	Hornouchi 2	4235	3900 Chiba 1999	
808	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）2 4	X	UK	UK	0.00	0.00	0.00	Hornouchi 1	Hornouchi 2	4235	3900 Chiba 1999	
809	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）2 5	老年 5 0 才以上	50	70	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
810	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）2 6	幼児 5 ～ 9 才	5	9	0.20	1.00	1.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
811	姥山貝塚	Ubayama Shellmound	型録姥山（6 2）2 7	少年 1 0 ～ 1 4 才	10	14	0.00	1.00	1.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	

ID	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
812	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 2 8	熟年 4 5 ~ 4 9 才	45	49	0.00	1.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
813	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 2 9	若年 1 5 ~ 1 9 才	15	19	0.00	1.00	1.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
814	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 3 0	X	UK	UK	0.00	0.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
815	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 3 1	成年 3 0 ~ 3 4 才	30	34	0.00	1.00	0.00	Kaori E1	Kaori E4	4950	4490	Chiba 1999
816	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 3 2	X	UK	UK	0.00	0.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
817	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 3 3	X	UK	UK	0.00	0.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
818	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 3 4	X	UK	UK	0.00	0.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
819	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 3 5	成年 3 0 ~ 3 4 才	30	34	0.00	1.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
820	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 3 6	成年 2 0 ~ 2 4 才	20	24	0.00	1.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
821	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 3 7	X	UK	UK	0.00	0.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
822	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 3 8	成年 2 5 ~ 2 9 才	25	29	0.00	1.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
823	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 3 9	熟年 4 5 ~ 4 9 才	45	49	0.00	1.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
824	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 4 0	幼期 5 ~ 9 才	5	9	0.20	1.00	1.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
825	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 4 1	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori E4	4950	4490	Chiba 1999
826	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 4 2	老年 5 0 才以上	50	70	0.00	1.00	0.00	Kaori B1	Kaori B3	3900	3420	Chiba 1999
827	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 1 0 4	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
828	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 1 0 5	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
829	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 0 1	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
830	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 0 2	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
831	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 0 3	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
832	埤山貝塚	Ubayama Shellmound	型錄埤山 (' 6 2) 0 4	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
833	埤山貝塚	Ubayama Shellmound	型錄埤山 1 3	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
834	埤山貝塚	Ubayama Shellmound	型錄埤山 1 8	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
835	埤山貝塚	Ubayama Shellmound	型錄埤山 1 9	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
836	埤山貝塚	Ubayama Shellmound	型錄埤山 1 1 4 c 第 1 号	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
837	埤山貝塚	Ubayama Shellmound	型錄埤山 1 2 5	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
838	埤山貝塚	Ubayama Shellmound	型錄埤山 2 2	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
839	埤山貝塚	Ubayama Shellmound	型錄埤山 0 1	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
840	埤山貝塚	Ubayama Shellmound	型錄埤山 0 2	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
841	埤山貝塚	Ubayama Shellmound	型錄埤山 0 3	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
842	埤山貝塚	Ubayama Shellmound	型錄埤山 0 4	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
843	埤山貝塚	Ubayama Shellmound	型錄埤山 0 5	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
844	埤山貝塚	Ubayama Shellmound	型錄埤山 0 6	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999
845	埤山貝塚	Ubayama Shellmound	型錄埤山 0 7	X	UK	UK	0.00	0.00	0.00	Kaori E1	Kaori B3	4950	3420	Chiba 1999

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
846	麓山貝塚	Ubayama Shellmound	型群林山O 8	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori B3	4850	3420 Chiba 1999	
847	古作貝塚	Kosaku Old Shellmound	1号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
848	古作貝塚	Kosaku Old Shellmound	2号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
849	古作貝塚	Kosaku Old Shellmound	3号	熟年	35	49	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
850	古作貝塚	Kosaku Old Shellmound	4号	壮年後半	30	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
851	古作貝塚	Kosaku Old Shellmound	4号	壮年前半	21	30	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
852	古作貝塚	Kosaku Old Shellmound	5号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
853	古作貝塚	Kosaku Old Shellmound	6号	熟年	35	49	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
854	古作貝塚	Kosaku Old Shellmound	7号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
855	古作貝塚	Kosaku Old Shellmound	8 二う	幼児 2～3才	2	3	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
856	古作貝塚	Kosaku Old Shellmound	9号	乳児	0	4	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
857	古作貝塚	Kosaku Old Shellmound	10号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
858	古作貝塚	Kosaku Old Shellmound	11号	幼児 2才前後	2	2	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
859	古作貝塚	Kosaku Old Shellmound	12号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
860	古作貝塚	Kosaku Old Shellmound	13号	成年	20	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
861	古作貝塚	Kosaku Old Shellmound	14号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
862	古作貝塚	Kosaku Old Shellmound	15号	壮年	21	39	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420 Chiba 1999	
863	古作貝塚	Kosaku Old Shellmound	16号	成年	20	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
864	古作貝塚	Kosaku Old Shellmound	17号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
865	古作貝塚	Kosaku Old Shellmound	18号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
866	古作貝塚	Kosaku Old Shellmound	19号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
867	古作貝塚	Kosaku Old Shellmound	20号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
868	古作貝塚	Kosaku Old Shellmound	21号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
869	古作貝塚	Kosaku Old Shellmound	22号	熟年	35	49	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
870	古作貝塚	Kosaku Old Shellmound	23号	幼児 2～3才	2	3	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
871	古作貝塚	Kosaku Old Shellmound	24号	X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
872	古作貝塚	Kosaku Old Shellmound	26号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
873	古作貝塚	Kosaku Old Shellmound	27号	熟年	35	49	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
874	古作貝塚	Kosaku Old Shellmound	28号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
875	古作貝塚	Kosaku Old Shellmound	29号	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
876	古作貝塚	Kosaku Old Shellmound		X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
877	古作貝塚	Kosaku Old Shellmound		X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
878	古作貝塚	Kosaku Old Shellmound	型群古作 (2 6)	熟年	35	49	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
879	古作貝塚	Kosaku Old Shellmound	型群O 1	X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBMax	calBMin	Reference
880	古作貝塚	Kosaku Old Shellmound	型録 O 2	X	UK	UK	0.0	0.0	0.0	0.0 Late Jomon	Late Jomon	4490	3220 Chiba 1999	
881	古作貝塚	Kosaku Old Shellmound	型録 O 3	X	UK	UK	0.0	0.0	0.0	0.0 Late Jomon	Late Jomon	4490	3220 Chiba 1999	
882	古作貝塚	Kosaku Old Shellmound	1 号	成人	20	39	0.0	1.0	0.0	0.0 Kasori B1	Kasori B3	3900	3420 Chiba 1999	
883	古作貝塚	Kosaku Old Shellmound	1 号	小児 8 ~ 1 0 才	8	10	0.0	1.0	1.0	0.0 Kasori B1	Kasori B3	3900	3420 Chiba 1999	
884	古作貝塚	Kosaku Old Shellmound	2 号	熟年	35	49	0.0	1.0	0.0	0.0 Kasori B1	Kasori B3	3900	3420 Chiba 1999	
885	古作貝塚	Kosaku Old Shellmound	3 号	X	UK	UK	0.0	0.0	0.0	0.0 Kasori B1	Kasori B3	3900	3420 Chiba 1999	
886	古作貝塚	Kosaku Old Shellmound	4 号	X	UK	UK	0.0	0.0	0.0	0.0 Early Late Jomon	Mid Late Jomon	4490	3643 Chiba 1999	
887	古作貝塚	Kosaku Old Shellmound	5 号	X	UK	UK	0.0	0.0	0.0	0.0 Early Late Jomon	Mid Late Jomon	4490	3643 Chiba 1999	
888	古作貝塚	Kosaku Old Shellmound	6 号	X	UK	UK	0.0	0.0	0.0	0.0 Kasori B1	Kasori B3	3900	3420 Chiba 1999	
889	古作貝塚	Kosaku Old Shellmound	7 号	壮年	21	39	0.0	1.0	0.0	0.0 Late Jomon	Late Jomon	4490	3220 Chiba 1999	
890	古作貝塚	Kosaku Old Shellmound	8 号	熟年	35	49	0.0	1.0	0.0	0.0 Early Late Jomon	Mid Late Jomon	4490	3643 Chiba 1999	
891	古作貝塚	Kosaku Old Shellmound	9 号	X	UK	UK	0.0	0.0	0.0	0.0 Late Jomon	Late Jomon	4490	3220 Chiba 1999	
892	古作貝塚	Kosaku Old Shellmound	1 0 号	乳児 0 ~ 3 ヶ月	0	0	1.0	0.0	0.0	0.0 Shomyoji 1	Shomyoji 2	4490	4395 Chiba 1999	
893	古作貝塚	Kosaku Old Shellmound	1 1 号	成年 2 0 代前半	20	20	0.0	1.0	0.0	0.0 Kasori B1	Kasori B3	3900	3420 Chiba 1999	
894	古作貝塚	Kosaku Old Shellmound	1 2 号	X	UK	UK	0.0	0.0	0.0	0.0 Early Late Jomon	Mid Late Jomon	4490	3643 Chiba 1999	
895	古作貝塚	Kosaku Old Shellmound	1 3 号	壮年 3 0 ~ 4 0 才	30	40	0.0	1.0	0.0	0.0 Hornouchi 1	Hornouchi 2	4235	3900 Chiba 1999	
896	古作貝塚	Kosaku Old Shellmound	1 4 号	X	UK	UK	0.0	0.0	0.0	0.0 Kasori B2	Kasori B2	3750	3525 Chiba 1999	
897	古作貝塚	Kosaku Old Shellmound	1 5 (1)号	X	UK	UK	0.0	0.0	0.0	0.0 Early Late Jomon	Mid Late Jomon	4490	3643 Chiba 1999	
898	古作貝塚	Kosaku Old Shellmound	1 5 (2)号	X	UK	UK	0.0	0.0	0.0	0.0 Early Late Jomon	Mid Late Jomon	4490	3643 Chiba 1999	
899	古作貝塚	Kosaku Old Shellmound	1 5 (3)号	胎児 胎生 1 0 ヶ月	0	0	1.0	0.0	0.0	0.0 Early Late Jomon	Mid Late Jomon	4490	3643 Chiba 1999	
900	古作貝塚	Kosaku Old Shellmound	1 6 号	X	UK	UK	0.0	0.0	0.0	0.0 Hornouchi 1	Hornouchi 1	4235	4050 Chiba 1999	
901	古作貝塚	Kosaku Old Shellmound	外濬	X	UK	UK	0.0	0.0	0.0	0.0 uk	uk		Chiba 1999	
902	宮本台貝塚	Myamotodai Shellmound	1 号	熟年	35	49	0.0	1.0	0.0	0.0 Hornouchi 1	Hornouchi 1	4235	4050 Chiba 1999	
903	宮本台貝塚	Myamotodai Shellmound	2 号	成人	20	39	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	
904	宮本台貝塚	Myamotodai Shellmound	3 号	成人	20	39	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	
905	宮本台貝塚	Myamotodai Shellmound	4 号	熟年	35	49	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	
906	宮本台貝塚	Myamotodai Shellmound	5 号	成人	20	39	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	
907	宮本台貝塚	Myamotodai Shellmound	6 号	成人	20	39	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	
908	宮本台貝塚	Myamotodai Shellmound	7 号	成人	20	39	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	
909	宮本台貝塚	Myamotodai Shellmound	8 号	成人	20	39	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	
910	宮本台貝塚	Myamotodai Shellmound	9 号	成人	20	39	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	
911	宮本台貝塚	Myamotodai Shellmound	1 0 号	成人	20	39	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	
912	宮本台貝塚	Myamotodai Shellmound	2 1 号	壮年 ~ 熟年	21	49	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	
913	宮本台貝塚	Myamotodai Shellmound	2 1 号	成人	20	39	0.0	1.0	0.0	0.0 Hornouchi 2	Hornouchi 2	4050	3900 Chiba 1999	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
914	宮本台員塚	Myamotodai Shellmound	2 1 号	少年前期	10	15	0.00	1.00	1.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
915	宮本台員塚	Myamotodai Shellmound	2 2 号	壮年	21	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
916	宮本台員塚	Myamotodai Shellmound	2 3 号	幼年前期	1	5	1.00	0.20	0.20	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
917	宮本台員塚	Myamotodai Shellmound	2 4 号	乳児～幼年前期	0	5	1.00	0.17	0.17	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
918	宮本台員塚	Myamotodai Shellmound	2 5 号	成人	21	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
919	宮本台員塚	Myamotodai Shellmound	1 0 0—A号	少年後期～青年前期	10	19	0.00	1.00	1.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
920	宮本台員塚	Myamotodai Shellmound	1 0 1 号	成人	20	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
921	宮本台員塚	Myamotodai Shellmound	1 0 2 号	成人	20	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
922	宮本台員塚	Myamotodai Shellmound	1 0 3 号	壮年	21	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
923	宮本台員塚	Myamotodai Shellmound	1 0 4 号	成人	20	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
924	宮本台員塚	Myamotodai Shellmound	1 0 5 号	壮年	21	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
925	宮本台員塚	Myamotodai Shellmound	1 0 6 号	熟年	35	49	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
926	宮本台員塚	Myamotodai Shellmound	1 0 8 号	成人	20	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
927	宮本台員塚	Myamotodai Shellmound	1 0 9 号	壮年	21	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
928	宮本台員塚	Myamotodai Shellmound	1 1 0 号	熟年	35	49	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
929	宮本台員塚	Myamotodai Shellmound	1 1 1 号	壮年	21	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
930	宮本台員塚	Myamotodai Shellmound	1 1 2 号	少年後期	10	15	0.00	1.00	1.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
931	宮本台員塚	Myamotodai Shellmound	1 1 3 号	成人	20	39	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
932	宮本台員塚	Myamotodai Shellmound	1 1 4 号	壮年～熟年	21	49	0.00	1.00	0.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
933	宮本台員塚	Myamotodai Shellmound	1 1 5 号	少年後期	10	15	0.00	1.00	1.00	Horinouchi 2	Horinouchi 2	4050	3900	Chiba 1999
934	團生員塚	Somo Shellmound		X	UK	UK	0.00	0.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
935	團生員塚	Somo Shellmound		成人	20	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
936	團生員塚	Somo Shellmound		成人	20	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
937	團生員塚	Somo Shellmound		成人	20	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
938	團生員塚	Somo Shellmound		成人	20	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
939	團生員塚	Somo Shellmound		成人	20	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
940	團生員塚	Somo Shellmound		小児	1	10	0.50	0.60	0.60	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
941	團生員塚	Somo Shellmound		成人	20	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
942	團生員塚	Somo Shellmound		成人	20	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
943	團生員塚	Somo Shellmound		X	UK	UK	0.00	0.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
944	加喜利南員塚	South Kasori Shellmound	1 号	成人	20	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
946	加喜利南員塚	South Kasori Shellmound	2 号	成人	20	39	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420	Chiba 1999
946	加喜利南員塚	South Kasori Shellmound	1 号	成人	20	39	0.00	1.00	0.00	Angyo 2	Angyo 2	3370	3220	Chiba 1999
947	加喜利南員塚	South Kasori Shellmound	2 号	幼児	1	10	0.50	0.60	0.60	Horinouchi 1	Horinouchi 1	4235	4050	Chiba 1999

ID	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
948	加普利南貝塚	South Kasori Shellmound	3 号	成人	20	39	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420	Chiba 1999
949	加普利南貝塚	South Kasori Shellmound	4 号	幼児	1	10	0.50	0.60	0.60	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
950	加普利南貝塚	South Kasori Shellmound	5 号	成人	20	39	0.00	1.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
951	加普利南貝塚	South Kasori Shellmound	6 号	成人	20	39	0.00	1.00	0.00	Hornouchi 1	Hornouchi 2	4235	3900	Chiba 1999
952	加普利南貝塚	South Kasori Shellmound	7 号	成人	20	39	0.00	1.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
953	加普利南貝塚	South Kasori Shellmound	8 号	幼児	1	10	0.50	0.60	0.60	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
954	加普利南貝塚	South Kasori Shellmound	9 号	成人	20	39	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420	Chiba 1999
955	加普利南貝塚	South Kasori Shellmound	1 0 号	成人	20	39	0.00	1.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
956	加普利南貝塚	South Kasori Shellmound	1 1 号	幼児	1	10	0.50	0.60	0.60	Soya	Soya	3420	3370	Chiba 1999
957	加普利南貝塚	South Kasori Shellmound	1 2 号	X	UK	UK	0.00	0.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
958	加普利南貝塚	South Kasori Shellmound	1 3 号	成人	20	39	0.00	1.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
959	加普利南貝塚	South Kasori Shellmound	1 4 号	成人	20	39	0.00	1.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
960	加普利南貝塚	South Kasori Shellmound	1 5 号	幼児	1	10	0.50	0.60	0.60	Kasori B1	Kasori B3	3900	3420	Chiba 1999
961	加普利南貝塚	South Kasori Shellmound	1 6 号	成人	20	39	0.00	1.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
962	加普利南貝塚	South Kasori Shellmound	1 7 号	成人	20	39	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420	Chiba 1999
963	加普利南貝塚	South Kasori Shellmound	1 8 号	成人	20	39	0.00	1.00	0.00	Kasori B1	Kasori B3	3900	3420	Chiba 1999
964	加普利南貝塚	South Kasori Shellmound	1 9 号	成人	20	39	0.00	1.00	0.00	Kasori B1	Kasori B1	3900	3750	Chiba 1999
965	加普利南貝塚	South Kasori Shellmound	2 0 号	幼児	1	10	0.50	0.60	0.60	Kasori B1	Kasori B1	3900	3750	Chiba 1999
966	加普利南貝塚	South Kasori Shellmound	2 1 号	幼児	1	10	0.50	0.60	0.60	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
967	加普利南貝塚	South Kasori Shellmound	2 2 号	成人	20	39	0.00	1.00	0.00	Kasori B2	Kasori B2	3750	3525	Chiba 1999
968	加普利南貝塚	South Kasori Shellmound	2 3 号	X	UK	UK	0.00	0.00	0.00	Angyo 3a	Angyo 3a	3245	3130	Chiba 1999
969	加普利南貝塚	South Kasori Shellmound	2 4 号	X	UK	UK	0.00	0.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
970	加普利南貝塚	South Kasori Shellmound	2 5 号	X	UK	UK	0.00	0.00	0.00	Kasori B1	Kasori B2	3900	3525	Chiba 1999
971	加普利南貝塚	South Kasori Shellmound	2 6 号	X	UK	UK	0.00	0.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
972	加普利南貝塚	South Kasori Shellmound	2 7 号	X	UK	UK	0.00	0.00	0.00	Kasori B1	Kasori B2	3900	3525	Chiba 1999
973	加普利南貝塚	South Kasori Shellmound	2 8 号	X	UK	UK	0.00	0.00	0.00	Kasori B1	Kasori B2	3900	3525	Chiba 1999
974	加普利南貝塚	South Kasori Shellmound	2 9 号	X	UK	UK	0.00	0.00	0.00	Angyo 3b	Angyo 3b	3130	3085	Chiba 1999
975	加普利南貝塚	South Kasori Shellmound	3 0 号	X	UK	UK	0.00	0.00	0.00	Angyo 3b	Angyo 3b	3130	3085	Chiba 1999
976	加普利南貝塚	South Kasori Shellmound	3 1 号	X	UK	UK	0.00	0.00	0.00	Angyo 3b	Angyo 3b	3130	3085	Chiba 1999
977	加普利南貝塚	South Kasori Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
978	加普利南貝塚	South Kasori Shellmound	型跡加普利南 5	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
979	加普利南貝塚	South Kasori Shellmound	型跡加普利南 6	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
980	加普利南貝塚	South Kasori Shellmound	型跡加普利南 7 a	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
981	加普利南貝塚	South Kasori Shellmound	型跡加普利南 7 b	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999

ID	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPMax	calBPmin	Reference
982	加曾利南貝塚	South Kasori Shellmound	型跡加曾利南 9	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
983	加曾利南貝塚	South Kasori Shellmound	型跡加曾利南 1 0	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
984	加曾利南貝塚	South Kasori Shellmound	型跡加曾利南 1 0'	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
985	加曾利南貝塚	South Kasori Shellmound	型跡加曾利南 1 3	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
986	加曾利南貝塚	South Kasori Shellmound	型跡加曾利南 1 6	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
987	加曾利南貝塚	South Kasori Shellmound	型跡加曾利南 1 7	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
988	加曾利南貝塚	South Kasori Shellmound	型跡加曾利南 1 8	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
989	加曾利南貝塚	South Kasori Shellmound	型跡加曾利南 1 9	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
990	加曾利南貝塚または加曾利北貝塚		型跡加曾利 (0 7)	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
991	加曾利北貝塚	North Kasori Shellmound	型跡加曾利 (2 4) D-1	成人	20	39	0.00	1.00	0.00	uk	uk			Chiba 1999
992	加曾利北貝塚	North Kasori Shellmound	型跡加曾利 (2 4) D-2	成人	20	39	0.00	1.00	0.00	uk	uk			Chiba 1999
993	加曾利北貝塚	North Kasori Shellmound		X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E1	4850	4860	Chiba 1999
994	加曾利北貝塚	North Kasori Shellmound	1 号	熟年	35	49	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
995	加曾利北貝塚	North Kasori Shellmound	2 号	壮年	21	39	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
996	加曾利北貝塚	North Kasori Shellmound	3 号	熟年	35	49	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
997	加曾利北貝塚	North Kasori Shellmound	4 号	老年	50	70	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
998	加曾利北貝塚	North Kasori Shellmound	5 号	少年	13	16	0.00	1.00	1.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
999	加曾利北貝塚	North Kasori Shellmound	1 号	熟年	35	49	0.00	1.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
1000	加曾利北貝塚	North Kasori Shellmound	2 号	熟年	35	49	0.00	1.00	0.00	Kasori E1	Kasori E2	4850	4730	Chiba 1999
1001	加曾利北貝塚	North Kasori Shellmound	3 号	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1002	加曾利北貝塚	North Kasori Shellmound	4 号	成人	20	39	0.00	1.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
1003	加曾利北貝塚	North Kasori Shellmound	5 号	X	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1004	加曾利北貝塚	North Kasori Shellmound	6 号	熟年	35	49	0.00	1.00	0.00	Katsusaka 1	Katsusaka 3	5310	4950	Chiba 1999
1005	加曾利北貝塚	North Kasori Shellmound	7 号	熟年	35	49	0.00	1.00	0.00	Katsusaka 1	Katsusaka 3	5310	4950	Chiba 1999
1006	加曾利北貝塚	North Kasori Shellmound	8 号	成人	20	39	0.00	1.00	0.00	Katsusaka 1	Katsusaka 3	5310	4950	Chiba 1999
1007	加曾利北貝塚	North Kasori Shellmound	9 号	少年	1	10	0.50	0.60	0.60	Katsusaka 1	Katsusaka 3	5310	4950	Chiba 1999
1008	加曾利北貝塚	North Kasori Shellmound	1 0 号	乳幼児	0	4	1.00	0.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
1009	加曾利北貝塚	North Kasori Shellmound	1 1 号	幼児	1	10	0.50	0.60	0.60	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1010	加曾利北貝塚	North Kasori Shellmound	1 2 号	X	UK	UK	0.00	0.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1011	加曾利北貝塚	North Kasori Shellmound	1 3 号	幼児	1	10	0.50	0.60	0.60	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1012	加曾利北貝塚	North Kasori Shellmound	型跡加曾利北 1	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1013	加曾利北貝塚	North Kasori Shellmound	型跡加曾利北 1'	幼児	1	10	0.50	0.60	0.60	uk	uk			Chiba 1999
1014	加曾利北貝塚	North Kasori Shellmound	型跡加曾利北 2	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1015	加曾利北貝塚	North Kasori Shellmound	型跡加曾利北 3	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999

ID	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
1016	加曾科北貝塚	North Kasori Shellmound	型跡加曾科北 4	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1017	加曾科北貝塚	North Kasori Shellmound	型跡加曾科北 1－4	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1018	加曾科北貝塚	North Kasori Shellmound	型跡加曾科北 1－5	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1019	加曾科北貝塚	North Kasori Shellmound	型跡加曾科北 1－6	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1020	加曾科北貝塚	North Kasori Shellmound	1 号	成人	20	39	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1021	加曾科北貝塚	North Kasori Shellmound	2 号	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860	Chiba 1999
1022	加曾科北貝塚	North Kasori Shellmound	3 号	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860	Chiba 1999
1023	矢作貝塚	Yahagi Shellmound	X	X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	4490	Chiba 1999
1024	矢作貝塚	Yahagi Shellmound	X	X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	4490	Chiba 1999
1025	矢作貝塚	Yahagi Shellmound	X	X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	4490	Chiba 1999
1026	矢作貝塚	Yahagi Shellmound	1 号型跡矢作 1	成人	20	39	0.00	1.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
1027	矢作貝塚	Yahagi Shellmound	2 号型跡矢作 2	青年	15	19	0.00	1.00	1.00	Hornouchi 1	Hornouchi 2	4235	3900	Chiba 1999
1028	矢作貝塚	Yahagi Shellmound	3 号型跡矢作 3	青年	10	14	0.00	1.00	1.00	Hornouchi 1	Hornouchi 2	4235	3900	Chiba 1999
1029	矢作貝塚	Yahagi Shellmound	4 号型跡矢作 4	成人	30	34	0.00	1.00	0.00	Hornouchi 1	Hornouchi 2	4235	3900	Chiba 1999
1030	矢作貝塚	Yahagi Shellmound	5 号型跡矢作 5	成人	30	34	0.00	1.00	0.00	Hornouchi 2	Hornouchi 2	4050	3900	Chiba 1999
1031	矢作貝塚	Yahagi Shellmound	6 号型跡矢作 6	成人	30	34	0.00	1.00	0.00	Hornouchi 1	Hornouchi 2	4235	3900	Chiba 1999
1032	矢作貝塚	Yahagi Shellmound	7 号型跡矢作 7	成人	35	39	0.00	1.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
1033	矢作貝塚	Yahagi Shellmound	型跡矢作 1 1	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1034	矢作貝塚	Yahagi Shellmound	型跡矢作 1 1'	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1035	矢作貝塚	Yahagi Shellmound	型跡矢作 1 2	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1036	矢作貝塚	Yahagi Shellmound	型跡矢作 1 3	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1037	矢作貝塚	Yahagi Shellmound	型跡矢作 1 3－1	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1038	矢作貝塚	Yahagi Shellmound	型跡矢作 1 3－2	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1039	矢作貝塚	Yahagi Shellmound	型跡矢作 1 3－3	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1040	矢作貝塚	Yahagi Shellmound	型跡矢作 1 3－4	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1041	矢作貝塚	Yahagi Shellmound	型跡矢作 1 3－5	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1042	矢作貝塚	Yahagi Shellmound	型跡矢作 1 3－6	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1043	矢作貝塚	Yahagi Shellmound	型跡矢作 1 3－7	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1044	矢作貝塚	Yahagi Shellmound	型跡矢作 1 3－8	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1045	矢作貝塚	Yahagi Shellmound	型跡矢作 1 3－9	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1046	矢作貝塚	Yahagi Shellmound	型跡矢作 1 4	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1047	矢作貝塚	Yahagi Shellmound	型跡矢作 1 5	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1048	矢作貝塚	Yahagi Shellmound	型跡矢作 1 6	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999
1049	矢作貝塚	Yahagi Shellmound	型跡矢作 1 7	X	UK	UK	0.00	0.00	0.00	uk	uk			Chiba 1999

ID	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
1050 矢作貝塚	Yahagi Shellmound	型跡文件 1 8	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1051 矢作貝塚	Yahagi Shellmound	型跡文件 1 9	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1052 矢作貝塚	Yahagi Shellmound	型跡文件 2 0	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1053 矢作貝塚	Yahagi Shellmound	型跡文件 2 1	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1054 矢作貝塚	Yahagi Shellmound	型跡文件 2 2	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1055 矢作貝塚	Yahagi Shellmound	型跡文件 2 3	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1056 矢作貝塚	Yahagi Shellmound	型跡文件 2 4	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1057 矢作貝塚	Yahagi Shellmound	型跡文件 2 5	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1058 矢作貝塚	Yahagi Shellmound	型跡文件 2 6	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1059 矢作貝塚	Yahagi Shellmound	型跡文件 2 7	幼児	1	10	0.50	0.60	0.60	0.60	uk	uk			Chiba 1999
1060 矢作貝塚	Yahagi Shellmound	型跡文件 2 8	幼児	1	10	0.50	0.60	0.60	0.60	Homouchi 1	Homouchi 1	4235	4050	Chiba 1999
1061 矢作貝塚	Yahagi Shellmound	型跡文件 2 9	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1062 矢作貝塚	Yahagi Shellmound	型跡文件 3 0	X	UK	UK	0.00	0.00	0.00	0.00	uk	uk			Chiba 1999
1063 矢作貝塚	Yahagi Shellmound	1 号	成人	20	39	0.00	1.00	0.00	0.00	Homouchi 1	Homouchi 2	4235	3900	Chiba 1999
1064 矢作貝塚	Yahagi Shellmound	2 号	熟年	35	49	0.00	1.00	0.00	0.00	Homouchi 1	Homouchi 2	4235	3900	Chiba 1999
1065 矢作貝塚	Yahagi Shellmound	3 号	熟年	35	49	0.00	1.00	0.00	0.00	Homouchi 1	Homouchi 2	4235	3900	Chiba 1999
1066 矢作貝塚	Yahagi Shellmound	4 号	熟年	35	49	0.00	1.00	0.00	0.00	Homouchi 1	Homouchi 2	4235	3900	Chiba 1999
1067 矢作貝塚	Yahagi Shellmound	5 号	幼児	7 ~ 8 才	7	8	0.00	1.00	1.00	Homouchi 1	Homouchi 1	4235	4050	Chiba 1999
1068 矢作貝塚	Yahagi Shellmound	①	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1069 矢作貝塚	Yahagi Shellmound	②	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1070 矢作貝塚	Yahagi Shellmound	③	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1071 矢作貝塚	Yahagi Shellmound	④	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1072 矢作貝塚	Yahagi Shellmound	⑤	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1073 矢作貝塚	Yahagi Shellmound	⑥	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1074 矢作貝塚	Yahagi Shellmound	⑦	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1075 矢作貝塚	Yahagi Shellmound	⑧	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1076 矢作貝塚	Yahagi Shellmound	⑨	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1077 矢作貝塚	Yahagi Shellmound	⑩	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1078 矢作貝塚	Yahagi Shellmound	⑪	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1079 矢作貝塚	Yahagi Shellmound	⑫	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1080 矢作貝塚	Yahagi Shellmound	⑬	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1081 矢作貝塚	Yahagi Shellmound	⑭	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1082 矢作貝塚	Yahagi Shellmound	⑮	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
1083 矢作貝塚	Yahagi Shellmound	⑯	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999
		⑰	X	UK	UK	0.00	0.00	0.00	0.00	Late Jomon	Start of Final Jomon	4490	3130	Chiba 1999

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
1004	有吉北貝塚	Ariyoshikia Shellmound	SB-086-A	壮年	21	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
1005	有吉北貝塚	Ariyoshikia Shellmound	SB-086-B	幼児	1	10	0.50	0.60	0.00	Nakabyo	Kasori E4	5310	4490	Chiba 1999
1006	有吉北貝塚	Ariyoshikia Shellmound	SB-087-2	成人	20	39	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1007	有吉北貝塚	Ariyoshikia Shellmound	SB-087-3	幼児	1	10	0.50	0.60	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1008	有吉北貝塚	Ariyoshikia Shellmound	SB-175	成人	20	39	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1009	有吉北貝塚	Ariyoshikia Shellmound	SK-001	青年	15	29	0.00	1.00	0.33	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1000	有吉北貝塚	Ariyoshikia Shellmound	SK-081A	成人	20	39	0.00	1.00	0.00	Nakabyo	Kasori E1	5310	4860	Chiba 1999
1001	有吉北貝塚	Ariyoshikia Shellmound	SK-095	成人	20	39	0.00	1.00	0.00	Nakabyo	Kasori E2	5310	4730	Chiba 1999
1002	有吉北貝塚	Ariyoshikia Shellmound	SK-122-F	成人	20	39	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Chiba 1999
1003	有吉北貝塚	Ariyoshikia Shellmound	SK-122-M	壮年	21	39	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Chiba 1999
1004	有吉北貝塚	Ariyoshikia Shellmound	SK-251	成人	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860	Chiba 1999
1005	有吉北貝塚	Ariyoshikia Shellmound	SK-281A-A	成人	21	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
1006	有吉北貝塚	Ariyoshikia Shellmound	SK-281A-B	成人	21	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
1007	有吉北貝塚	Ariyoshikia Shellmound	SK-774	成人	21	39	0.00	1.00	0.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1008	有吉北貝塚	Ariyoshikia Shellmound	SK-781A	成人	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860	Chiba 1999
1009	有吉北貝塚	Ariyoshikia Shellmound	SK-793	青年	15	29	0.00	1.00	0.33	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1100	有吉北貝塚	Ariyoshikia Shellmound	1 1 — ①	壮年	21	39	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1101	有吉北貝塚	Ariyoshikia Shellmound	1 1 — ②	壮年	21	39	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1102	有吉北貝塚	Ariyoshikia Shellmound	1 1 — 4 2 / 1 5 0 6	成人	20	39	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1103	有吉北貝塚	Ariyoshikia Shellmound	1 1 — 4 0 / 1 7 2	X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1104	有吉北貝塚	Ariyoshikia Shellmound	1 1 — 2 0 / 1 4 0	X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1105	有吉北貝塚	Ariyoshikia Shellmound	1 — 4 9 / 5 5 9	X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1106	有吉北貝塚	Ariyoshikia Shellmound	1 1 — 1 0 / 2 5	X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1107	有吉北貝塚	Ariyoshikia Shellmound	1 1 — 2 1 / 1 2 8	X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1108	有吉北貝塚	Ariyoshikia Shellmound	1 1 — 4 4 / 6 1 9	X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1109	有吉北貝塚	Ariyoshikia Shellmound		X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1110	有吉北貝塚	Ariyoshikia Shellmound		X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1111	有吉北貝塚	Ariyoshikia Shellmound		X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1112	有吉北貝塚	Ariyoshikia Shellmound		X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1113	有吉南貝塚	Ariyoshiminaami Shellmound	0 8 1	未鑑定	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1114	有吉南貝塚	Ariyoshiminaami Shellmound	2 6 2	未鑑定	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1115	有吉南貝塚	Ariyoshiminaami Shellmound		未鑑定	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1116	有吉南貝塚	Ariyoshiminaami Shellmound		未鑑定	UK	UK	0.00	0.00	0.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1117	草刈貝塚	Kusakari Shellmound	1 6 3 A	成人	20	39	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Chiba 1999

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
	1118 草刈貝塚	Kusakari Shellmound	1 7 4	成人	20	39	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
	1119 草刈貝塚	Kusakari Shellmound	1 9 0 A	成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1120 草刈貝塚	Kusakari Shellmound	1 9 6	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
	1121 草刈貝塚	Kusakari Shellmound	2 0 2 -A	成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1122 草刈貝塚	Kusakari Shellmound	2 0 2 -B	幼児 4～6才	4	6	0.67	0.67	0.67	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1123 草刈貝塚	Kusakari Shellmound	2 0 2 -C	成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1124 草刈貝塚	Kusakari Shellmound	2 0 2 -D	成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1125 草刈貝塚	Kusakari Shellmound	2 0 2 -E	成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1126 草刈貝塚	Kusakari Shellmound	2 0 2 -F	若年	10	24	0.00	1.00	0.67	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1127 草刈貝塚	Kusakari Shellmound	2 0 3 A	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
	1128 草刈貝塚	Kusakari Shellmound	2 0 7 B	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
	1129 草刈貝塚	Kusakari Shellmound	2 0 7 C	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E2	4950	4730	Chiba 1999
	1130 草刈貝塚	Kusakari Shellmound	2 1 1	壮～熟年	21	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
	1131 草刈貝塚	Kusakari Shellmound	2 1 2	壮～熟年	21	49	0.00	1.00	0.00	Kasori E1	Kasori E4	4950	4490	Chiba 1999
	1132 草刈貝塚	Kusakari Shellmound	2 1 6 -A	壮年	21	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1133 草刈貝塚	Kusakari Shellmound	2 1 6 -B	幼児	1	10	0.50	0.60	0.60	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1134 草刈貝塚	Kusakari Shellmound	2 2 8 -A	熟年	35	49	0.00	1.00	0.00	Nakabyo	Kasori E1	5310	4860	Chiba 1999
	1135 草刈貝塚	Kusakari Shellmound	2 2 8 -B	乳幼児	0	4	1.00	0.00	0.00	Nakabyo	Kasori E1	5310	4860	Chiba 1999
	1136 草刈貝塚	Kusakari Shellmound	2 2 8 -C	成人	20	39	0.00	1.00	0.00	Nakabyo	Kasori E1	5310	4860	Chiba 1999
	1137 草刈貝塚	Kusakari Shellmound	2 2 8 -D	熟年	35	49	0.00	1.00	0.00	Nakabyo	Kasori E1	5310	4860	Chiba 1999
	1138 草刈貝塚	Kusakari Shellmound	2 2 8 -E	幼児 5～6才	5	6	0.50	1.00	1.00	Nakabyo	Kasori E1	5310	4860	Chiba 1999
	1139 草刈貝塚	Kusakari Shellmound	2 2 8 -F	熟年	35	49	0.00	1.00	0.00	Nakabyo	Kasori E1	5310	4860	Chiba 1999
	1140 草刈貝塚	Kusakari Shellmound	2 2 9 B-A	青年	15	29	0.00	1.00	0.33	Kasori E2	Kasori E2	4860	4730	Chiba 1999
	1141 草刈貝塚	Kusakari Shellmound	2 2 9 B-B	幼児	1	10	0.50	0.60	0.60	Kasori E2	Kasori E2	4860	4730	Chiba 1999
	1142 草刈貝塚	Kusakari Shellmound	4 8 0	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
	1143 草刈貝塚	Kusakari Shellmound	4 8 7 A	成人	20	39	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Chiba 1999
	1144 草刈貝塚	Kusakari Shellmound	4 9 4	成人	20	39	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Chiba 1999
	1145 草刈貝塚	Kusakari Shellmound	5 0 4	壮～熟年	21	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
	1146 草刈貝塚	Kusakari Shellmound	5 0 9 -A	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E2	4950	4730	Chiba 1999
	1147 草刈貝塚	Kusakari Shellmound	5 0 9 -B	胎児～幼児	0	5	1.00	0.17	0.17	Kasori E1	Kasori E2	4950	4730	Chiba 1999
	1148 草刈貝塚	Kusakari Shellmound	5 1 1	熟年	35	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
	1149 草刈貝塚	Kusakari Shellmound	5 1 6 -A	成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1150 草刈貝塚	Kusakari Shellmound	5 1 6 -B	熟年	35	49	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
	1151 草刈貝塚	Kusakari Shellmound	5 1 6 -C	成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
1152	草刈貝塚	Kusakari Shellmound	5 1 6-D	幼児 8才	8	8	0.00	1.00	1.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
1153	草刈貝塚	Kusakari Shellmound	5 1 6-E	成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
1154	草刈貝塚	Kusakari Shellmound	5 1 6-F	青年	15	29	0.00	1.00	0.33	Nakabyo	Nakabyo	5310	5270	Chiba 1999
1155	草刈貝塚	Kusakari Shellmound	5 1 6-G	若年	10	24	0.00	1.00	0.67	Nakabyo	Nakabyo	5310	5270	Chiba 1999
1156	草刈貝塚	Kusakari Shellmound	5 4 3	成人	20	39	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1157	草刈貝塚	Kusakari Shellmound	5 5 2	熟年	35	49	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Chiba 1999
1158	草刈貝塚	Kusakari Shellmound	5 8 5	壮年	21	39	0.00	1.00	0.00	Atamadai	Kasori E4	5310	4490	Chiba 1999
1159	草刈貝塚	Kusakari Shellmound	7 6 0	成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999
1160	草刈貝塚	Kusakari Shellmound		X	UK	UK	0.00	0.00	0.00	UK	UK			Chiba 1999
1161	草刈貝塚	Kusakari Shellmound	4 0 8	未鑑定	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1162	草刈貝塚	Kusakari Shellmound	4 8 7	未鑑定	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1163	草刈貝塚	Kusakari Shellmound	4 8 9	未鑑定	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1164	草刈貝塚	Kusakari Shellmound	6 8 9	未鑑定	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1165	草刈貝塚	Kusakari Shellmound	1 号	壮年	21	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860	Chiba 1999
1166	草刈貝塚	Kusakari Shellmound	2 号	幼児 4 ~ 5 才	4	5	1.00	0.50	0.50	Kasori E1	Kasori E1	4850	4860	Chiba 1999
1167	草刈貝塚	Kusakari Shellmound	6 号	熟年	35	49	0.00	1.00	0.00	Atamadai 3	Atamadai 4	5230	5100	Chiba 1999
1168	草刈貝塚	Kusakari Shellmound		X	UK	UK	0.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1169	山鹿貝塚	Yamakura Shellmound	1 号	壮年	21	39	0.00	1.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1170	山鹿貝塚	Yamakura Shellmound	2 号	少年 8才前後	8	8	0.00	1.00	1.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1171	山鹿貝塚	Yamakura Shellmound	3 号	熟年	35	49	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1172	山鹿貝塚	Yamakura Shellmound	4 - 1 号	熟年	35	49	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Chiba 1999
1173	山鹿貝塚	Yamakura Shellmound	4 - 2 号	幼児 ~ 少年	1	15	0.33	0.73	0.73	Kasori E3	Kasori E3	4730	4540	Chiba 1999
1174	山鹿貝塚	Yamakura Shellmound	5 号	熟年	35	49	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1175	山鹿貝塚	Yamakura Shellmound	6 号	熟年	35	49	0.00	1.00	0.00	Kasori E3	Kasori E3	4730	4540	Chiba 1999
1176	山鹿貝塚	Yamakura Shellmound	7 号	壮年 ~ 熟年	21	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4850	4860	Chiba 1999
1177	山鹿貝塚	Yamakura Shellmound	8 - 1 号	熟年	35	49	0.00	1.00	0.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1178	山鹿貝塚	Yamakura Shellmound	8 - 2 号	壮年 ~ 熟年	21	49	0.00	1.00	0.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1179	山鹿貝塚	Yamakura Shellmound	8 - 3 号	少年 1 0才前後	10	10	0.00	1.00	1.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1180	山鹿貝塚	Yamakura Shellmound	8 - 4 号	少年 9才前後	9	9	0.00	1.00	1.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1181	山鹿貝塚	Yamakura Shellmound	8 - 5 号	幼児 2才前後	2	2	1.00	0.00	0.00	Kasori E1	Kasori E4	4850	4490	Chiba 1999
1182	山鹿貝塚	Yamakura Shellmound	9 号	胎児	0	0	1.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1183	熊岡原貝塚	Gonbara Shellmound	1 4 号	X	UK	UK	0.00	0.00	0.00	Hornouchi 1	Hornouchi 1	4235	4050	Chiba 1999
1184	熊岡原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1185	熊岡原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
1186	紙屋原貝塚	Gonbara Shellmound	1 6号	X	UK	UK	0.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1187	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1188	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1189	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1190	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1191	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1192	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1193	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1194	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1195	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1196	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1197	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1198	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1199	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1200	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1201	紙屋原貝塚	Gonbara Shellmound	S001	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1202	紙屋原貝塚	Gonbara Shellmound	S002	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1203	紙屋原貝塚	Gonbara Shellmound	S003	X	UK	UK	0.00	0.00	0.00	Heinouchi 2	Heinouchi 2	4050	3900	Chiba 1999
1204	紙屋原貝塚	Gonbara Shellmound	S005	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1205	紙屋原貝塚	Gonbara Shellmound	S006	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1206	紙屋原貝塚	Gonbara Shellmound	S007	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1207	紙屋原貝塚	Gonbara Shellmound	S008	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1208	紙屋原貝塚	Gonbara Shellmound	S009	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1209	紙屋原貝塚	Gonbara Shellmound	S010	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1210	紙屋原貝塚	Gonbara Shellmound	S011	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1211	紙屋原貝塚	Gonbara Shellmound	S021	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1212	紙屋原貝塚	Gonbara Shellmound	S023	X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1213	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1214	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1215	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1216	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1217	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1218	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999
1219	紙屋原貝塚	Gonbara Shellmound		X	UK	UK	0.00	0.00	0.00	Heinouchi 1	Heinouchi 2	4235	3900	Chiba 1999

ID	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
1220	紙屋原貝塚	Gienbara Shellmound	S310	X	UK	UK	0.00	0.00	0.00	0.00	Horinouchi 1			
1221	西成貝塚	Saihiro Shellmound	No. 1	壮年	21	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1222	西成貝塚	Saihiro Shellmound	No. 2	壮年	21	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1223	西成貝塚	Saihiro Shellmound	No. 3	壮年	21	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1224	西成貝塚	Saihiro Shellmound	No. 4	熟年	35	49	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1225	西成貝塚	Saihiro Shellmound	No. 5	壮年	21	39	0.00	1.00	0.00	uk	uk			Chiba 1999
1226	西成貝塚	Saihiro Shellmound	No. 6	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1227	西成貝塚	Saihiro Shellmound	No. 7	壮年	21	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1228	西成貝塚	Saihiro Shellmound	No. 8	熟年	35	49	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1229	西成貝塚	Saihiro Shellmound	No. 9	熟年	35	49	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1230	西成貝塚	Saihiro Shellmound	No. 10	壮年	21	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Chiba 1999
1231	西成貝塚	Saihiro Shellmound	No. 11	熟年	35	49	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1232	西成貝塚	Saihiro Shellmound	No. 12	壮年	21	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1233	西成貝塚	Saihiro Shellmound	No. 13	壮年	21	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1234	西成貝塚	Saihiro Shellmound	No. 14	壮年	21	39	0.00	1.00	0.00	uk	uk			Chiba 1999
1235	西成貝塚	Saihiro Shellmound	No. 15	壮年	21	39	0.00	1.00	0.00	Angyo 3c	Maeura	3065	2590	Chiba 1999
1236	西成貝塚	Saihiro Shellmound	No. 16	壮年	21	39	0.00	1.00	0.00	Final Jomon	Final Jomon	3220	2385	Chiba 1999
1237	西成貝塚	Saihiro Shellmound	No. 17	壮年	21	39	0.00	1.00	0.00	Late Jomon	Final Jomon	4490	2385	Chiba 1999
1238	西成貝塚	Saihiro Shellmound	No. 18	X	UK	UK	0.00	0.00	0.00	Late Jomon	Final Jomon	4490	2385	Chiba 1999
1239	西成貝塚	Saihiro Shellmound	No. 19	壮年	21	39	0.00	1.00	0.00	Middle Jomon	Late Jomon	5415	3220	Chiba 1999
1240	西成貝塚	Saihiro Shellmound	No. 20	成年	20	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1241	西成貝塚	Saihiro Shellmound	No. 21	壮年	21	39	0.00	1.00	0.00	Horinouchi 1	Kasori B3	4235	3420	Chiba 1999
1242	西成貝塚	Saihiro Shellmound	No. 22	壮年	21	39	0.00	1.00	0.00	Horinouchi 1	Kasori B3	4235	3420	Chiba 1999
1243	西成貝塚	Saihiro Shellmound	No. 23	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1244	西成貝塚	Saihiro Shellmound	No. 24	幼児	1	10	0.50	0.60	0.60	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1245	西成貝塚	Saihiro Shellmound	No. 25	幼児	1	10	0.50	0.60	0.60	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1246	西成貝塚	Saihiro Shellmound	No. 26	熟年	35	49	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1247	西成貝塚	Saihiro Shellmound	No. 27	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1248	西成貝塚	Saihiro Shellmound	No. 28	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1249	西成貝塚	Saihiro Shellmound	No. 29	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1250	西成貝塚	Saihiro Shellmound	No. 30	幼児	1	10	0.50	0.60	0.60	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1251	西成貝塚	Saihiro Shellmound	No. 31	老年	50	70	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1252	西成貝塚	Saihiro Shellmound	No. 32	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1253	西成貝塚	Saihiro Shellmound	No. 33	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999

ID	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
1254	西位真塚	Saihiro Shellmound	No. 34	幼児	1	10	0.50	0.60	0.60	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1255	西位真塚	Saihiro Shellmound	No. 37	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1256	西位真塚	Saihiro Shellmound	No. 38	壮年	21	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1257	西位真塚	Saihiro Shellmound	No. 39	壮年	21	39	0.00	1.00	0.00	Angyo 3b	Angyo 3b	3130	3065 Chiba 1999	
1258	西位真塚	Saihiro Shellmound	No. 40	熟年	35	49	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1259	西位真塚	Saihiro Shellmound	No. 41	幼児	1	10	0.50	0.60	0.60	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1260	西位真塚	Saihiro Shellmound	No. 42	小児	1	10	0.50	0.60	0.60	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1261	西位真塚	Saihiro Shellmound	No. 43	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1262	西位真塚	Saihiro Shellmound	No. 44	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1263	西位真塚	Saihiro Shellmound	No. 45	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1264	西位真塚	Saihiro Shellmound	No. 46	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1265	西位真塚	Saihiro Shellmound	No. 47	乳児	0	4	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1266	西位真塚	Saihiro Shellmound	No. 48	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1267	西位真塚	Saihiro Shellmound	No. 49	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1268	西位真塚	Saihiro Shellmound	No. 50	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1269	西位真塚	Saihiro Shellmound	No. 51	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1270	西位真塚	Saihiro Shellmound	No. 52	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1271	西位真塚	Saihiro Shellmound	No. 53	乳児	0	4	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1272	西位真塚	Saihiro Shellmound	No. 54	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1273	西位真塚	Saihiro Shellmound	No. 55	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1274	西位真塚	Saihiro Shellmound	No. 56	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1275	西位真塚	Saihiro Shellmound	No. 57	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1276	西位真塚	Saihiro Shellmound	No. 58	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1277	西位真塚	Saihiro Shellmound	No. 59	新生児	0	0	1.00	0.00	0.00	Late Jomon	Late Jomon	4490	3220 Chiba 1999	
1278	内野遺跡	Uchino Site	1号	成人	20	39	0.00	1.00	0.00	End of Late Jomon	Start of Final Jomon	3370	3130 Chiba 1999	
1279	内野遺跡	Uchino Site	2号	成人	20	39	0.00	1.00	0.00	Angyo 2	Angyo 2	3370	3220 Chiba 1999	
1280	内野遺跡	Uchino Site	3号	成人	20	39	0.00	1.00	0.00	End of Late Jomon	Start of Final Jomon	3370	3130 Chiba 1999	
1281	内野遺跡	Uchino Site	4号	成人	20	39	0.00	1.00	0.00	End of Late Jomon	Start of Final Jomon	3370	3130 Chiba 1999	
1282	内野遺跡	Uchino Site	5号	成人	20	39	0.00	1.00	0.00	End of Late Jomon	Start of Final Jomon	3370	3130 Chiba 1999	
1283	内野遺跡	Uchino Site	6号	成人	20	39	0.00	1.00	0.00	End of Late Jomon	Start of Final Jomon	3370	3130 Chiba 1999	
1284	内野遺跡	Uchino Site	7号	成人	20	39	0.00	1.00	0.00	End of Late Jomon	Start of Final Jomon	3370	3130 Chiba 1999	
1285	内野遺跡	Uchino Site	8号	幼児 1才	1	1	1.00	0.00	0.00	End of Late Jomon	Start of Final Jomon	3370	3130 Chiba 1999	
1286	内野遺跡	Uchino Site	9号	成人	20	39	0.00	1.00	0.00	End of Late Jomon	Start of Final Jomon	3370	3130 Chiba 1999	
1287	内野遺跡	Uchino Site	10号	成人	20	39	0.00	1.00	0.00	Angyo 1	Angyo 1	3370	3220 Chiba 1999	

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
1288	内野遺跡	Uchino Site	1 1号	成人	20	39	0.00	1.00	0.00	Angyo 1	Angyo 1	3370	3220	Chiba 1999
1289	内野遺跡	Uchino Site	1 2号	成人	20	39	0.00	1.00	0.00	Angyo 1	Angyo 1	3370	3220	Chiba 1999
1290	中沢貝塚	Nakazawa Shellmound	ICI-73-001				1.00	0.00	0.00					Chiba 1999
1291	中沢貝塚	Nakazawa Shellmound	ICI-73-002				1.00	0.00	0.00	Horinouchi 1	Horinouchi 1	4235	4050	Chiba 1999
1292	中沢貝塚	Nakazawa Shellmound	ICI-73-003				1.00	0.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1293	中沢貝塚	Nakazawa Shellmound	ICI-73-004				1.00	0.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1294	中沢貝塚	Nakazawa Shellmound	ICI-73-005				1.00	0.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1295	中沢貝塚	Nakazawa Shellmound	ICI-73-006				1.00	0.00	0.00	Kasori B3	Kasori B3	3900	3420	Chiba 1999
1296	中沢貝塚	Nakazawa Shellmound	ICI-73-007	成人	20	39	0.00	1.00	0.00	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1297	中沢貝塚	Nakazawa Shellmound	ICI-73-008	幼児	1	10	0.50	0.60	0.60	Late Jomon	Late Jomon	4490	3220	Chiba 1999
1298	中沢貝塚	Nakazawa Shellmound	ICI-73-009	成人	20	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1299	中沢貝塚	Nakazawa Shellmound	ICI-73-010	成人	20	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1300	中沢貝塚	Nakazawa Shellmound	ICI-73-011	成人	20	39	0.00	1.00	0.00	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1301	中沢貝塚	Nakazawa Shellmound	ICI-73-012	幼児	1	10	0.50	0.60	0.60	Horinouchi 1	Horinouchi 2	4235	3900	Chiba 1999
1302	高根木戸貝塚	Takanekko Shellmound	1号	成人	20	39	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1303	高根木戸貝塚	Takanekko Shellmound	2号	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
1304	高根木戸貝塚	Takanekko Shellmound	3号	成人	20	39	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1305	高根木戸貝塚	Takanekko Shellmound	4号	熟年	35	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
1306	高根木戸貝塚	Takanekko Shellmound	5号	熟年—老年	35	70	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1307	高根木戸貝塚	Takanekko Shellmound	6号	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
1308	高根木戸貝塚	Takanekko Shellmound	7号	青年期以後	30	70	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1309	高根木戸貝塚	Takanekko Shellmound	8号	熟年	35	49	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
1310	藤立遺跡	Warabiuchi Site	1号				1.00	0.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
1311	藤立遺跡	Warabiuchi Site	2号				1.00	0.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
1312	藤立遺跡	Warabiuchi Site	IC6-37-03				1.00	0.00	0.00	Middle Jomon	Middle Jomon	5415	4395	Chiba 1999
1313	藤立遺跡	Warabiuchi Site	IC6-37-XX				1.00	0.00	0.00					Chiba 1999
1314	藤立遺跡	Warabiuchi Site	IC6-37-XX				1.00	0.00	0.00					Chiba 1999
1315	藤立遺跡	Warabiuchi Site	IC6-37-04				1.00	0.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
1316	藤立遺跡	Warabiuchi Site	IC6-37-05				1.00	0.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999
1317	藤立遺跡	Warabiuchi Site	IC6-37-06	成人	20	39	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1318	藤立遺跡	Warabiuchi Site	IC6-37-07	成人	20	39	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1319	藤立遺跡	Warabiuchi Site	IC6-37-08	成人	20	39	0.00	1.00	0.00	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1320	藤立遺跡	Warabiuchi Site	IC6-37-09	幼児	1	10	0.50	0.60	0.60	Kasori E2	Kasori E2	4860	4730	Chiba 1999
1321	藤立遺跡	Warabiuchi Site	IC6-37-10	成人	20	39	0.00	1.00	0.00	Kasori E1	Kasori E1	4950	4860	Chiba 1999

D	Site Name	Site Name Romanization	Individual ID	Age Range	Min Age	Max Age	Oto 5	Over 5	5 to 19	Period Start	Period End	calBPmax	calBPmin	Reference
1322	藤立遺跡	Warabitachi Site	ICG-37-11	成人	20	39	0.00	1.00	0.00	Nakabyo	Nakabyo	5310	5270	Chiba 1999

Appendix C: Analysis Code

The latest version of the R code and data used for this analysis is available in a GitHub repo at the following DOI: [10.17605/OSF.IO/H3ASC](https://doi.org/10.17605/OSF.IO/H3ASC)