Finally!! A KEWA is ready thanks entirely to Chris Ellis, who wrote the piece. As there is only one Chris, it would be very nice if other members would step up to the plate and submit articles to be printed in future issues of the newsletter!!

The speaker for March 10th 2016 is Tom Porawski of Timmins-Martelle Heritage Consultants who will speak about the use of Ground Penetrating Radar work to delimit an historic Ontario cemetery.

Speaker’s Night is held the 2nd Thursday of each month (January to April and September to December) at the Museum of Ontario Archaeology, 1600 Attawandaron Road, near the corner of Wonderland & Fanshawe Park Road, in the northwest part of the city. The meeting starts at 8:00 pm. Doors open at 7:30 PM and as usual there will be free juice and cookies!

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The Davidson Site, A Late Archaic, First Nations Ancestral Occupation near Parkhill, Ontario. Part I: Goals, Site Setting and Site Investigations

Chris Ellis, James Keron, Darryl Dann, Joe Desloges, Ed Eastaugh, Lisa Hodgetts, Kaitlyn Malleau, Stephen Monckton, Larry Nielsen, Roger Phillips, Andrew Stewart and Nancy Van Sas

In this paper we summarize some of the results of work between 2006 and 2015 at the Davidson or George Davidson (AhHk-54 in the site designation system used for Canada), Late Archaic site (ca. 2500-1000 BC), southwestern Ontario. Explicitly, the goal is to provide as non-technical a summary as possible of the archaeological investigations. We stress “as possible” because although we want to simplify things for a more general audience, we still want the interpretations to be challenging to a non-archaeological reader. In sum, while we want the results to be accessible to a more general readership, we also want to avoid “dumbing down” such results.

For the most part, archaeologists have tended to write very technical and/or scholarly papers intended primarily for the government agencies regulating archaeology and/or for their academic peers -- a large number of these works exist based wholly or partially on the work at Davidson (e.g. Eastaugh et al. 2013; Ellis 2006b, 2007a, 2007b, 2008, 2010, 2011a, 2011b, 2013a, 2014, 2015; Ellis and Eastaugh 2014; Ellis and Keron 2011, 2015; Ellis et al. 2009a, 2010, 2015; Keron 2015; Malleau 2015). However, increasingly, and quite rightly as they support the research for the public good, government agencies that fund such research are asking researchers to make their results more accessible to a wider audience. Indeed, in assessing whether or not specific projects should be granted research funds, the main agency which funds archaeological research in Canada, the Social Sciences and Humanities Research Council of Canada, now require grant applicants to spell out exactly how you will make your research available to that “public” – part of a process called “Knowledge Mobilization.” The Kewa newsletter, which is explicitly directed at a combined academic and non-professional audience (e.g., Ontario Archaeological Society members) seems an ideal venue to publish such an account.

Ellis has always tried to make his research accessible to a broader non-academic audience, drawing heavily upon volunteer labour by members of the general public in his field and lab projects, maintaining web pages for many years where research including that at Davidson and other sites can be easily accessed, never turning down the opportunity to present research results via public talks and presentations to live audiences, giving tours to various groups of ongoing excavations, and publishing in archaeology venues intended for a broader audience beyond academic archaeologists and bureaucrats such as in the Kewa. Moreover, it was always a goal of Ellis to write something about Davidson specifically for a broader audience and particularly for the numerous “stakeholders” who have directly supported the research at Davidson: from the
landowners to the large number of field and lab volunteers, to the local Kettle and Stony Point First Nation -- this paper, distilled, updated and expanded from that initial, privately circulated, endeavor (Ellis 2015), is the result. This task is approached with some trepidation, as one is simply not used to writing for such audiences! But secondly, when archaeologists publicize their work there is a real danger that by publicizing the discoveries, some individuals may use such information to essentially destroy the archaeological record via means such as unauthorized relic collecting. Yet, we happen to think that by showing/educating how archaeology and its methods can obtain and preserve knowledge about the past, the benefits of publicizing these discoveries far outweigh the losses -- so here is a start!

The Archaic Period and Archaeological Research

Davidson dates to the latest part of what archaeologists have called the Archaic period of pre-European contact, First Nations history. The Archaic as a whole extends from some 10,000 to 1000 BC or for over 9000 years. As such, it makes up in length most of the First Nations archaeological record since the end of the last ice age when the retreating glacial ice sheet left the southern Ontario area and exposed the land surface for human occupation. The last subdivision of the Archaic, the Late Archaic, began around 3200 BC (for more technical summaries of the Ontario Archaic see Ellis et al. 1990, 2009b; popular summaries can be found in Wright 1972 and Ellis 2013b). Based on the distinctive kinds of artifacts found at Davidson that have been directly dated elsewhere by radiocarbon, as well as 40 radiocarbon dates on wood charcoal and charred plant nutshell and acorns from the site itself (N=1 from Ian Kenyon’s [1980a] work; N=39 from this project -- 8 more dates are pending), the site was primarily used in this latter part of the Archaic and specifically from about 2500-1000 BC. It is the best dated Late Archaic site in Ontario and perhaps in the whole Great Lakes area.

Now, to provide some context and background for this research: over 25 years ago Ellis co-edited a weighty, almost 600 page volume on the First Nations archaeology of southern Ontario (Ellis and Ferris 1990). That volume followed the standard archaeological practice of dividing up the archaeological record of the last 13,000 years into three major time sequential categories called Paleoindian, the aforementioned Archaic and finally, after 1000 BC, the Woodland (see Table 1). One book reviewer (Shott 1993:385) noted that the vast majority of the book was devoted to the last 1000 years and the earlier archaeological record, particularly the Archaic period, was relatively neglected. While the Archaic makes up 60% of that record by time, only 13% of the 570 page volume was devoted to it. Moreover, Ellis was also involved in 2009 in writing a more recent synthesis of the southern Ontario Archaic and found that very little had changed in term of our knowledge of Archaic aged peoples despite the intervening 19 years (Ellis et al. 2009:790-791)! There are, of course, several practical reasons why archaeologists have given short shrift to this earlier First Nations’ Archaic history.
Table 1: Major Archaeological Subdivisions of Pre-Contact History

<table>
<thead>
<tr>
<th>Construct</th>
<th>Age (C-14 years ago)</th>
<th>Age (Calendar Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paleoindian</td>
<td>11,000-10,000</td>
<td>11,000 - 9500 BC</td>
</tr>
<tr>
<td>Archaic</td>
<td>10,000-2800</td>
<td>9500 - 1000 BC</td>
</tr>
<tr>
<td>Woodland</td>
<td>2800-350</td>
<td>1000 BC – AD 1650</td>
</tr>
</tbody>
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One reason is simply that the older something is the more it has been subject to vagaries of time and the less there is to find. For example, it is rare to find any organic matter, such as the bones of the animals being hunted or the medicinal and food plants people collected, preserved on any site over about 1000 years old; one get largely stone artifacts and debris from their manufacture or use, as those items preserve indefinitely. Another reason is that unlike their Archaic ancestors more recent groups had larger populations and relied on agriculture. Hence, the later Woodland agricultural peoples tended (not absolutes) to live in generally more sedentary communities of a large size with more substantial structures. In contrast, earlier peoples tended to live in smaller groups and did not practice agriculture, instead relying exclusively on hunting and gathering wild plant and animal resources. Ontario Archaic peoples were largely non-agriculturalists who made a living by hunting and gathering or foraging for “natural” foodstuffs. As such, necessary foodstuffs are rarely all found in one geographic location and in the same seasons. Thus, these hunting and gathering peoples generally tended to move from one location to another throughout the year to be in the locations at different seasons where different resources were available; at fish runs in the early spring, at places where abundant acorns and nuts were available in the fall, and so on. They had a mobile instead of settled or sedentary lifestyle and tended to live in smaller groups than later agriculturalists. Overall, this kind of lifestyle results in a tendency on average for the earlier sites to be smaller and harder to find and document – it is fairly easy to recognize a large village covering several hectares with millions of artifacts but not the small scatters of handfuls of stone tools and debris that predominate in earlier times.

Another reason for the neglect of the earlier sites is not so self-evident. In order to investigate later large agricultural villages requires a large crew including mainly students and students who get drawn to archaeology tend to get interested in the sites where they first get exposed to fieldwork. If they get that experience on large later villages such as Iroquoian ones dating after 1000 AD, this area is the one in which those who go on to pursue graduate study want to do
research -- so there is more interest in those sites from the student side. Moreover, it is possible that modern First Nations communities feel stronger ties to their more recent and hence, closer in time, ancestors (see McNiven 2016:32). Still another practical reason for the focus on later sites is that prior to 3000 years ago, artifacts distinctive of particular time periods are much less common. For example, Archaic people did not make the pottery seen fairly commonly on sites after 3000 years ago (the Woodland) which, even if present as a few potsherds, make it easier to assign sites to a particular time period. On earlier sites, and especially Archaic ones, nondescript debris from making stone tools dominates and it is very difficult to find the rare stone artifacts of styles that are characteristic of specific ages such as stone hunting weapon tips; so it is hard to get a handle on the specific age of a given Archaic site versus later dating ones.

So there are many practical reasons why earlier sites are neglected and so poorly known. There are however, reasons that go beyond the practical for this neglect. To mention one, from a theoretical perspective anthropologists have long considered the adoption of agriculture, a more sedentary village life and the development of what has often been considered more “socially complex” societies to be major transitions in human history on the way to getting to how we live today. Therefore, they have tended to focus on the later time periods (e.g. the Woodland) where such characteristic are thought to appear. Archaeologists have found earlier and presumed, quote, “simpler” societies of less interest.

Although that view is most certainly changing for the earlier societies, and especially for the Archaic (see Emerson and McElrath 2009), nonetheless, there has been a tendency to view these societies as somehow uniformly “simpler,” as being essentially, small, mobile, unsophisticated and relatively unchanging. In fact, beginning in the 1950s and increasingly into the 1960s, archaeologists in eastern North America tended to employ a “progress” view of long-term changes amongst Canadian First Nations and Native American peoples. In terms of the Paleoindian, Archaic and Woodland model, people started out 13,000 years ago as small, residentially mobile groups of hunter-gatherers exploiting large areas annually and gradually began to settle down and be less mobile with fewer camp moves and exploiting smaller areas by the end of the Archaic (see Table 2) – the oft not stated, questionable, underlying assumption here is that a settled life is somehow “better” or more “modern” and thus, equals “progress.” Nonetheless, a real sedentary life, with full year occupation in one location, or nearly so, is seen as a Woodland phenomenon in the traditional model. It is possible this greater sedentism occurred in the Middle Woodland (e.g., Wilson 1990), only about 2000 years ago, and before maize agriculture became the major subsistence focus whereas others, as we read their work, continue to believe a sedentary life did not come about until the Late Woodland when maize became a more major staple and produced a surfeit of stored surpluses (e.g., Smith and Crawford 1999:28).
If the truth be told however, a lot of these ideas, often presented as fact, are simply expectations of the underlying “progress” model and they have not been widely tested as we have very little hard data, and certainly they have not been tested in Ontario. Indeed, there are many assumptions that underlie such beliefs that relate to older ideas and those have just continued and are often presented as fact because we think they simply fit the preconceptions; no one has seriously evaluated them. For example, one popular view of hunter-gatherers or non-agriculturalists, and especially ones living at lower population densities, is that they prefer to be mobile and live more day to day as that is more advantageous; mobility allows them to maintain a wide range of social contacts or directly monitor the abundance of natural resources over wide areas (e.g., Binford 1980:19, 1983:204). The corollary of this view, as noted above, is that agriculture provides abundant resources and allows people to settle down. We do not doubt that more agricultural-based societies were sedentary and more hunter-gatherers were mobile but archaeological work since the mid-1980s shows there are many exceptions. For example, recent work has shown that some later Woodland peoples in Ontario who relied heavily on maize agriculture did not live year round in villages, preferring to maintain some mobility (Watts et al. 2012). At the opposite extreme, work on Archaic sites in areas such as the American Midwest and Southeast has shown people were much less mobile than the traditional stereotype, moving infrequently during the year and maybe even living year round in the same locations as long ago as 8000 years ago in some areas (Sassaman 2010). Of course, why such exceptions occur is much debated and needs to be documented, explored and explained. It is at this point where the research reported here finally enters the picture.
Investigators have long suggested people tended in southern Ontario to move less often throughout the year in the Late Archaic. Ellis (e.g., Ellis et al. 1990) had the suspicion this idea was correct but found it was hard to actually evaluate that idea with real site data. To go a step farther, Ellis also had the sneaking suspicion based on the large size of some Archaic sites he knew about that at least some of these peoples were moving as infrequently as Woodland peoples of the subsequent 1000 BC to 400 AD period (that is some Archaic peoples “invented” in a sense a more stable lifeway; not their descendants) despite the fact they were for all intents and purposes, hunter-gatherers or non-agriculturalists. So for some years Ellis searched for Late Archaic sites that would provide the data to: explore such ideas, actually test these gut feelings, and truly evaluate existing models. To accomplish this end, what was especially needed was excavations at sites that meet at least two criteria.

First, they had to have organic preservation – they had to have the remains of animals and plants that made up the Archaic diets. Such remains are essential to understanding when a site was occupied. For example, nuts such as black walnut and butternut can be taken in quantity and are available in the fall and can be an indicator of fall occupations. However, as noted earlier, it is not easy to find any sites over 1000 years old, never mind over 3000 years old, with such preservation. Second, it was necessary to find some sites that were undisturbed by ploughing. Most sites, even ancient ones thousands of years old, are at the modern surface in southern Ontario and, with few exceptions, in agricultural fields. Over time, factors such as surface wind erosion and larger, more powerful, agricultural machinery, means the plow bites deeper and deeper and can remove or greatly alter many of the underlying features such as pits, surface garbage dumps, house remnants and so on that can also inform us about how often people are moving or even the season a site was occupied. In addition, most sites in long ploughed fields, including Davidson, have been subject to many years of deprivation by relic hunters who have not kept track of the locations of their finds nor reported on them. In such circumstances, it is often difficult to know exactly what has been removed from the site, confounding interpretations of site age and activities. As a result of these problems, Ellis began looking for potential undisturbed Late Archaic sites with better preservation in 2000.

SEARCHING FOR LATE ARCHAIC PEOPLES IN THE AUSABLE RIVER AREA

In the quest to find suitable sites that could tell us more about Late Archaic peoples and their lifestyles, Ellis was drawn to the lower segment of the Ausable River extending south and inland from modern Grand Bend on Lake Huron, and notably to the area between the modern towns of Thedford and Parkhill (Figure 1). This area was attractive because earlier research had suggested the presence in that area of a number of sites of that age and particularly, sites associated with what have come to be called the Broad Point and Small Point Archaic traditions (see, for example, Deller 1980; Deller et al. 1986; Fisher 1997, Kenyon 1980b).
As hinted earlier, prior to the introduction of pottery, the most distinctive and time sensitive artifacts are the stone points that tipped hunting weapons, or which were used as knife blades. One can recognize during the Late Archaic at least three time-sequential groupings of points called Narrowpoints, Broadpoints and Smallpoints¹ (Figure 2), only the latter two of which are of interest when dealing with Davidson.

Broadpoints are large stemmed forms that often resemble “Christmas trees” in outline (Figures 2, 3 and 4). A diversity of Broadpoint styles or types are noted of which Adder Orchard and Genesee are the best known and which the few radiocarbon dates we had pre-2008 indicated an age of around 2500 to 1600 BC in southwestern Ontario or about 4000 years ago. In other words,

¹ The term Broad Point (or Small Point) is used by archaeologists as a convenient shorthand to refer to the specific Archaic cultures (although stone point forms are certainly not a culture!) but Broadpoint or Smallpoint is used to refer to the stone points themselves.
Figure 2: Late Archaic Point Types/Styles. Revised from Ellis et al. (1990).
they are quite ancient and slightly older than the pyramids (way older than King Tut! -- although Ellis has often reflected on the fact he has worked on much earlier archaeological sites in the Parkhill, Ontario area that were already 9000 years old when Broad Point sites were occupied!). Broadpoints and related styles of points are actually found throughout much of eastern North America (Figure 5) and clearly indicate ties between the Davidson site users and peoples to the east and southeast. The style seems to originate in the southeastern United States sometime just before 2500 BC at famous sites such as Stallings Island, Georgia (Claflin 1931). Archaeologists have argued for years about whether the spread of the use of these points represents actual migrations of peoples into the more northern areas or simply the spread of a technology or combinations of these processes (e.g., Pagoulatos 2010; Sassaman 2010:49; Turnbaugh 1975).

The Small Point Archaic (also called the Terminal Archaic) is characterized by an apparent rapid shift from the large stemmed points to, as the name implies, often a much smaller series of
notched stone point tips sometime around 1600-1400 BC (Figure 2). Use of such points continues up until the introduction of pottery, which signals the end of the Archaic and beginning of the Woodland at ca. 1000 BC. These smaller points are often relatively triangular in overall outline and have bases demarcated by notches placed at the corners or sides of the base (specific point styles include what are called Crawford Knoll and Hind points) or in some cases, forms with narrow and expanding stems called Innes or Ace-of Spades (Figure 6). Some evidence suggests this shift to smaller points represents the introduction of the bow and arrow as a partial replacement for the earlier spear or dart launched with a stick with a small hook at one end called an atlatl or simply spear thrower (see Ellis 2013b: Figure 2.2; Snarey and Ellis 2010). Others argue that the Broadpoints are not weapon tips at all but instead knives used in various tasks and that those peoples did not use stone tips but instead weapon tips made of antler and bone (e.g., Sassaman 2006:121-128). However, experiments by Kaitlyn Malleau (2015) using modern replicas as spear tips, and comparing the damage to the archeological examples, leaves little doubt they were used as weapon tips and that they would be very effective in hunting larger game such as deer. In fact, historically stone point tips were always used on large game – they
are more lethal and using them on smaller game was overkill (Ellis 1997). Regardless, the styles of Smallpoints are not only very different from the preceding Broadpoints, but they also indicate cultural ties to the west and southwest rather than east to southeast as in Genesee Broad Point times. Very similar, small points have been found at many well-dated sites in western areas such as at Riverton, Illinois (Winters 1969) and Durst Rockshelter, Wisconsin (Wittry 1959; see Figure 7). Again, whether the spread in use of such points into Ontario represent a spread of people or a technology is unknown.

**Figure 5: Distribution of Broad Point Sites in Eastern North America.**

Work prior to this project had suggested sites of both kinds of Late Archaic occupations were present in the lower Ausable River area. Ellis was especially drawn to finding sites of the Broad Point Archaic as he had long been fascinated by the question of why these large points were adopted over such a vast area of North America. He began examining reports of Broad Point sites in the Ausable River area and began investigations as far back as 2003 by testing an
undisturbed site in a woodlot overlooking the Ausable just southeast of Thedford. At that site a colleague, Dr. Brian Deller, who owns the property, had accidentally uncovered a Broadpoint in his modern campfire pit in the early 1980s. That site work proved to have a predominant Small Point Archaic occupation and although some features like pits were present, we were unable to find any evidence that floral and faunal materials were preserved (Ellis 2005, 2006a, 2007a; Pearce and Ellis 2008). Hence, in 2005 Ellis’ interest shifted to investigating the Davidson site.

Figure 6: Late Archaic Small Points. A-D: Hind Points; E: Innes Point; F-H: Crawford Knoll and Related Forms. Artifacts are on Onondaga (A-B) and Kettle Point (C-H) Cherts.
Figure 7: Distribution of Small Point Archaic Sites in Eastern North America.

THE DAVIDSON SITE

Site Location and Initial Investigations

The Davidson site is situated on the east side of the Ausable, some 12 km inland from the modern Lake Huron shore (Figure 1). It is bordered just to the east/southeast by the high and today dry shoreline of the Nipissing Phase (see Figures 1 & 8), a high water phase in the Lakes Huron/Michigan/Superior basins that had flooded the site area from around 3200-2800 BC (Karrow 1980; Larsen 1985). As a result, the land where the site is located was not available for human occupation at that time or until after about 2800 BC when Nipissing began to drain down.
towards more modern lake levels. Just to the north of the site the Ausable enters an extensive, low lying, wetland area bordering Lake Huron that included a large marsh (Thedford Marsh) surrounding what was called Lake Burwell. Partial drainage of that lake by European settlers in the late 1800's, created three smaller lakes called Burwell, George and Smith. Today, due to continuing European land alterations, including diverting the Ausable drainage and reclaiming land for farming, this wetland and associated lakes do not exist.

![Nipissing Shore Bluff](image)

**Figure 8: View of Larry Nielsen and Jim Keron Surface Collecting at Davidson Site Looking East from Ausable River. Note shore bluff of Nipissing Phase Great Lake in background left with barn on top of bluff.**

The Davidson has been known to relic hunters and local residents since part of the land, mainly the southern half of the site, was first cleared and ploughed in the late 1940s. However, it was the late Ian Kenyon (1978, 1979, 1980a, 1980b) who first reported on the Davidson site to a professional archaeological audience. He also documented a number of other sites of this type in the area exposed in ploughed fields including one on the farm just south of Davidson. During a canoe survey along the Ausable River in the fall of 1977, Ian discovered in an exposed river bank lining the Davidson farm a "black humic" layer or old buried former land surface (called an "A" soil horizon [essentially the topsoil section] – such old buried soils as a whole are referred to as “paleosols”). That surface had been sealed and buried by subsequent post-European contact.
period sands left by overbank flooding of the adjacent river. The old land surface had been exposed in profile in the river bank by a major erosional event of the time in the vicinity of what turns out to have been the central part of the site. The erosional event cut into the bank and extended east into an adjacent cultivated field, removing a ca. 5-8 m wide wooded area that previously had separated the field from the river (Figures 9 & 10).

![Image of Davidson Site Showing Area of 1970s Bank Erosion]

*Figure 9: Aerial View of Southern part of Davidson Site Showing Area of 1970s Bank Erosion.*

The old buried ground surface was as deep as 1.5+ meters closer to the river but gradually sloped up away from the river such that it was partially or completely encompassed in the modern ploughzone out into the cultivated field. The buried layer contained Broad Point artifacts and several cultural features, such as pits dug by the site inhabitants, one of which contained wood charcoal that was subsequently radiocarbon dated to ca. 2300 BC (Kenyon 1980a). Kenyon (1979) also reported some unspecified, later dating, diagnostic artifacts out in a small area of the
ploughed field where the paleosol had been all or partially encompassed in the tilled surface north to northeast of the eroded bank section in what he called Area B. Kenyon (1979) returned to the site in 1978 and found further erosion was damaging the site in that area. So he excavated a small linear area along the edge of the river bank and exposed a number of other features including a pit containing a very badly preserved dog burial represented largely by the teeth and parts of the adjacent jaw (Kenyon 1979, 1980a). Subsequent to Kenyon’s work, the eroded area of the riverbank was covered with large concrete pieces and a pile of other debris by the landowner, which sealed that exposed area and has prevented further erosion. Kenyon (1979) also produced a surface map of the site and noted the presence of artifacts back from the river on the ploughed northern part of the site adjacent to a linear depression (encircled by dashed line on Figure 10 – right map). However, these finds were much less widespread and common than they are today in that northern sector. It is suspected that continued ploughing since 1980 has cut deeper and begun to expose more materials on the ground surface closer to the river and in adjacent areas to the north.

Figure 10: Kenyon’s (1979) Topographic Map and Figure Showing Location of 1978 Eroded Bank Excavations.
In the spring of 2005, and with the kind permission of the landowners, Rick and Marlene Davidson, Ellis examined the site with Dr. Brian Deller. Brian had spent many years, going back to the 1960s, documenting and reporting sites in the area and had been informed about artifacts in the Davidson field through his interviews with local relic collectors. At the time of the first visit the surface of the site had been freshly ploughed and weathered and Deller and Ellis could see footprints indicating at least one relic hunter (and his dog!) had been on the site already. They examined the areas adjacent to the river/edge of ploughed field just to the north of the eroded bank where Kenyon had worked, noting that there was nothing on the surface in that area. However, as one moved east out into the field, artifacts began to appear on the site surface. As noted, Kenyon’s (1978, 1979) work to the south had shown that the old buried ground surface was deep at the river but gradually sloped up into the field to the east where it became encompassed in the ploughzone. Therefore, Deller and Ellis believed that this accounted for the lack of surface finds of artifacts closer to the river on the ploughed surface just to the north of Kenyon’s work -- the old ground surface was still deeply buried in that area. They also noted that the material on the surface back from the river covered a much larger area than Kenyon had implied and extended north and south from where he had excavated. As noted above, it is suspected the greater extent of surface finds is due to deeper ploughing since the 1970s.

In order to test the idea that there was a buried intact surface in the area just north of Kenyon’s work, Ellis returned to the site in June of 2006. With a volunteer crew, four separate one metre square or one by two metre units were excavated just off the current ploughed field in the intact linear wooded area that separates the field from the river spaced at five metre intervals in north-south line (see Figures 11 & 12). These excavations revealed that indeed, there is an old buried ground surface in those areas. We also encountered artifacts in all of our test units in that black humic surface including: stone flaking debris from making and maintaining tools; fire-cracked rock (FCR for short) resulting from burning in hearths, stone boiling and other activities; charred wood, seeds and nutshell; faunal remains including turtle, fish, bear and deer bone; and some other tools. The other tools included stone ones and notably several large stemmed Broadpoints or fragments thereof as well as even two fragmentary bone tools including a fishing harpoon tip and the end of another piece of fishing equipment, a bipointed implement called a gorge that would have been used in line fishing. The floral materials seemed well preserved and as is typical on older sites they are still preserved because they have all been burned and charred. Uncharred floral materials last for only very short periods of time. The bone materials were less well preserved but included both burned and unburned items. Of note, our 2006 test excavations also encountered several cultural features, all apparently storage and other forms of pits, one of which seemed to be about one metre deep.

The test excavations indicated that Davidson was what Ellis had been looking for: a large site that was intact and undisturbed over a significant area and that had a large artifact assemblage of
Broadpoint age and included preserved floral and faunal remains as well as intact features. Plans were made to develop a full scale work including excavation at the site and which would involve not only university students, but also, with the assistance of Greg George and the band council, First Nations High school students from nearby Kettle and Stony Point First Nation. In addition, the work would involve help from several specialists in geology and related fields who would help to unravel the geological and environmental history of the site. An application for funding support was made to the Social Sciences and Humanities Research Council of Canada. It was granted in 2007 and full scale work began in June of 2008.

Figure 11: 2006 Test Excavations in Progress Along Field Edge Looking South Towards Area where Kenyon Excavated in 1970s (Area in bush behind central distant screen support is old eroded bank area). Excavators include London Chapter Members/volunteers Chris Dalton, Elise Dalton, Robert Pearce, Nancy Van Sas, Jim Keron and Darryl Dann.
Figure 12: Map of Main Excavation Units at the Davidson Site and the Years Investigated. See Figure 13 for the location of these excavated units.

Determining Overall Site Size and Extent of the Buried Deposits

Since 2006 substantial efforts have been made every year to determine the extent of the whole site and the intact buried surface. In addition to creating a surface topographic map of the site, in 2007 we began intensively collecting and mapping artifacts on the ploughed field. The field over the area back from the current river is literally covered with hundreds of thousands of artifacts.
most of which are simply nondescript chunks, chips and flakes from making flaked stone artifacts and the fire-broken rock or FCR mentioned earlier. As it would be impossible to individually map every artifact, we have only collected, and individually mapped (using a digital surveying instrument called a total station) artifacts that are tools or tools broken in manufacture and items that are distinctive or diagnostic of particular time periods of occupation. The distinctive tools of course include stone weapon tips mentioned above but they also include stone flakes or chips detached in tool manufacture that are of a distinctive coarser-grained rock called sub-greywacke. Most pre-contact flintknappers used finer-grained, more glossy/glassy, stone materials like cherts or flints for making stone tools like the points. A commonly used material in the Ausable vicinity is Kettle Point chert that originates on the point of that name just 25 km to the northeast of the site at the Lake Huron shore within the boundaries of Kettle and Stony Point First Nation (Figure 1). However, the large Broadpoints are difficult to make on Kettle Point as that chert tends to occur in small pieces and have flaws. As a result, Broadpoint-making peoples often used coarser-grained materials, notably sub-greywacke (Figure 4). Although it is more difficult to flake, it does occur in large pieces and can be used to make the large points relatively easily. Therefore, that material, even if present simply a chip or flake from tool manufacture is, with minor exceptions, diagnostic/distinctive of use of the site in Broad Point Archaic times. The specific sources of the coarser-grained rocks employed is not known but we have made comparable finds of materials (albeit rare overall) in a canoe survey of several cobble deposits along the Ausable upriver, extending from just north of the County Road #7 bridge south to Hungry Hollow. Although surface visibility on the Davidson field was not always ideal, we have managed to do 14 surface collections and mapping of the site as of the spring of 2015. Figure 13 shows the location of surface items we have individually mapped to date (>1300 items).

Of course, we recognize that just plotting tools and diagnostics ignores the large amounts of other material at the site such as fire-broken rocks used in stone boiling and in lining hearths and chert flakes from stone tool making and repair. That material could be distributed differently and indicate as well, spatial variation in where specific activities were carried out. In order to evaluate that idea, in the spring of 2015 we carried out a surface collection of every artifact on the surface on the southern half of the site. The southern half was chosen because, as will be described below, it has only Broad Point Archaic materials whereas on the north half the two Archaic components are somewhat mixed up and there is so much material such as fire-cracked rock that Ellis’ university lab could not hold it all! As it would be time prohibitive to shoot in every artifact with the surveying equipment, the 2015 work involved gridding the whole southern half of the site into over 240 squares of a 5 by 5 m size and bagging all material from the cultivated surface of each such square. Then we could compare the density of these materials to the individually mapped tools and diagnostics to see if they clustered in the same areas. This activity was actually a massive undertaking in itself as we collected and had to wash, weigh and
Figure 13: Map of All Individually Plotted Surface Finds Including Diagnostics and Tools/Preforms.
Figure 14: Using Oakfield Soil Probe to Locate Buried Deposits. A: Darryl Dann and Ed Eastaugh using probe on north part of site. B: Soil Core showing undisturbed black topsoil of palesol (left side inside probe) found below lighter grey overlying ploughzone (right side inside probe).
count over 3500 artifacts from that one surface collection including almost 112 kg of fire-cracked rock alone!

In addition to surface collection of artifacts, other site activities that began prior to the major excavations and continued alongside the excavations have included: a) coring and b) surveying the site area with geophysical equipment, specifically ground-penetrating radar (GPR), a gradiometer and a magnetic susceptibility meter. We have taken some larger, several meter deep, soil cores for geological studies but most coring has been carried out with a small Oakfield soil probe (Figure 14). This probe removes about a 1.5 cm diameter core of earth and with repeated insertions can reach down to about a metre deep. The small diameter of the core means it does not do too much damage to the archaeological deposits and it provides a very quick way of determining the presence of the buried black humic/occupation layer at the site. It can also help in determining if archaeological materials are present in the buried paleosols if the organic deposits prove to be quite thick (because they have been augmented by human activities) or if one luckily hits in the core a very small artifact such as a fire-cracked rock or a waste flake from making stone tools.

The GPR uses radio pulses to derive images of subsurface features. The pulses are sent into the ground and reflected back to the equipment in varying ways depending upon the specific structure of such features. Under the direction of Roger Phillips and Joe Desloges (Geography, University of Toronto) several transects were made across the northern site half at right angles to and parallel to the river as shown on Figure 15. Mapping of the results shows that there are deposits mantling the whole area that were laid down vertically/horizontally by the European age overbank flooding of the adjacent river. However, these vertically laid down deposits were very shallow in the southern part of the area surveyed as revealed in the surveys of Lines 12 and 14 (area in lighter colour on Figure 15). In that area, extending north from the eroded bank area (compare to Figure 9), the shallow, vertically accreted deposits are underlain by river deposits. These deposits that were laid down laterally/sideways moving from east to west as the former river moved at some time in the past towards its current channel area. These lateral deposits formed the land surface upon which the Archaic occupants subsequently set up their habitations.

The “gradiometer” is a special kind of magnetometer, an instrument that measures minute differences (anomalies) in the earth’s magnetic field caused by buried archaeological features of a different magnetic strength such as refuse pits or piles of the fire-cracked rocks. For example, when rocks are heated this causes the iron in the rock to increase their magnetism. The gradiometer survey is very labour intensive\(^2\) and has been carried out under the direction of Edward Eastaugh, archaeological technician in Western’s Department of Anthropology. Heavy

\(^2\) It took 86 hours employing 2-3 people to survey the whole site!
vegetation cover limits use of the device to open areas, which included largely the ploughed field area and its immediate edge at Davidson. The survey was conducted within 20 x 20 m grid blocks. One walks along suspending the device just above the ground on well-defined parallel transects spaced 0.25 m apart and the devices automatically take readings at 0.125 m intervals along those traverses. The raw data from the gradiometer can then be downloaded into a computer mapping program where they can be processed and converted into maps. Areas with positive magnetism show up on the maps as darker patches, whereas negative anomalies show as light grays to white.

Initially, in the spring of 2008, we covered an area of ca. 40m by 60m parallel to the river with the gradiometer survey. A small area at the southwest corner of this area in one of the 20 by 20 m blocks could not be surveyed.
That area corresponds to the location of the large concrete blocks and garbage deposited to stabilize the eroded river bank in the late 1970s to early 1980s where Kenyon (1978, 1979) had excavated. However, we have expanded and continue to expand the area surveyed so that the resulting mapped area now covers some 15,500 m² (see Figure 16). The sensitivity of the equipment is evident in the fact that the linear plough furrows can be seen in the plotted data (faint diagonal parallel lines from northwest to southeast on east side of plotted area) as even the topsoil has a natural magnetism and the amount varies with the depth of the plough furrows. Of more importance, the gradiometer survey revealed that a large number of substantial, positive, darker coloured magnetic anomalies were present in a wide belt or band roughly paralleling the river, some of which are quite large (at least a few metres across). In areas to the south and back from the river, such anomalies are relatively rare as can be seen on our original plot (Figure 16), as well as a site aerial photo where the anomalies have been superimposed (Figure 17a). Our subsequent excavations in the south end area of the “anomaly band” have shown that all of these anomalies are actually significant Archaic age cultural features such as hearths or clusters of overlapping storage pits and/or earth ovens as well as actual built structures (Eastaugh et al. 2013), the nature of which we will discuss below. As well in 2014, we test excavated the areas of some of the rarer and smaller anomalies in the ploughed southern half of the site (see Figures 16, 17a) and these also proved to be cultural features such as hearths and pits.

This intense band of anomalies covers about 140 m north to south and is consistently about 25 m wide (ca. 3500 m²). It begins close to the existing river at the south end but then gradually moves east from the river as one moves north. Of significance, this dense band corresponds exactly to the area of laterally accreted river deposits revealed in the GPR as discussed above (compare Figures 15, 16 and 17a). It is notable that there are also few artifacts on the surface between the gradiometer anomaly band and the existing river as one moves north (Figures 16 and 17a). The area with few artifacts corresponds to the deeper vertically accreted river deposits in that same area (Figure 15) and also follows a linear surface feature: a southwest to northeast oriented depression (see Figures 10 and 13). It is possible that this depression and lack of artifacts represents scouring by European-aged river flooding. Yet, it is more plausible that the river itself and its floodplain did not follow exactly its present course some 4500 to 3000 years ago. Rather, it ran more to the east as one moves north such that the dense anomaly and artifact band is actually paralleling the old river course as represented by the area of few artifacts and the linear depression. Since the time of the site occupations the river bank has moved primarily west-northwest in the area adjacent to the northern part of the site until it has become restricted to its current position. The area between the occupation site area and the modern river has become filled in with vertically laid down, coarser river sediment in the form of in-channel bar deposits as well as finer sediment laid down by overbank flooding. Such a view is consistent with the not surprising idea that people tended to camp right by the river more than areas back from it and particularly the 25 m wide swath beside the river of the time. This area was the more easily
accessible one when reached using watercraft. Significantly, comparable patterns of feature clusters, but excavated rather than inferred from gradiometer anomalies, that form bands of ca. 25-30 m wide lining watercourses or waterbodies, are reported at other Archaic sites (e.g., Evans 2001:127; Fortier 1984).

**Figure 16: Gradiometer Survey Map (area in darker grey) Superimposed on Site Contour Map. Magnetic anomalies (small black and white blobs dotting the darker grey background) represent largely buried Pre-Contact cultural features. Note dense band of anomalies lining the old apparent river course near northwest margin of site that extend diagonally north from the excavated area.**

In the spring of 2013 we introduced use of a different piece of geophysical surveying equipment, a magnetic susceptibility meter (“mag sus”). Edward Eastaugh and Lisa Hodgetts (Department of Anthropology, University of Western Ontario) surveyed the whole site over a single day, taking readings every 10 m along east-west traverses spaced approximately 20 m apart north to south. This approach allowed the western half of the field, an area covering over 6.5 hectares and extending well beyond the formal Davidson site itself, to be surveyed in
two hours with two people. As the term implies, the mag sus measures the susceptibility of the deposits to becoming magnetized in response to an applied magnetic field. Various factors affect this susceptibility but three are of note here. First is variation in the grain size of sediments that form the site (clay, silt and sand). Second is precipitation of natural [organic] iron in the soil. These factors may reflect both natural, geological processes as well as cultural processes (Dalan 2006). Third, burning or firing – a common human activity – can enhance the susceptibility of deposits to magnetism.

Figure 17: Gradiometer (A) and Magnetic Susceptibility (B) Survey Results Superimposed on Site Aerial Photos. Black marks on (A) show positive magnetic anomalies. Whiter area on B represents east edge of area of increasing magnetic susceptibility which peaks to west in circular black areas corresponding to dense magnetic anomaly band and the underlying laterally accreted deposits.

Details of cultural features are not as clearly resolved using the mag sus, compared to the results of the magnetometer surveys. In particular, the large survey interval – the distance between survey transects within which readings/measurements were taken – contributes to the coarser
results. Regardless, the resulting survey data is very notable in two respects (Figure 17b). First, all of the western part of the area surveyed, beginning with the area outlined in a whiter colour on the survey map, has a higher susceptibility than areas to the east. Notably this area corresponds to the area where portions of the site are buried by the European-aged flood deposits as these deposits have a different susceptibility than the older underlying deposits which only come to the surface farther east out in the field (darker areas to east on Figure 17b). In short, this technique allows us to more precisely map the extent of those more recently laid down sand deposits resulting from flooding. Second, there is a major area of a very high susceptibility in the south central part of the site (progressively darker area to centered circular “blackest” area on the plot corresponding to increasing susceptibility, Figure 17b) that corresponds exactly to the laterally accreted deposits, magnetic anomaly band and the densest site artifact concentrations revealed in the gradiometer survey (compare Figures 13, 15, 16, 17a). These data reinforce the conclusion that there is a major and significant concentration of underlying cultural features and debris in that area situated on top of the old laterally laid down deposits and adjacent to the filled in former river course. Hearth building and use and other activities have greatly enhanced the magnetic susceptibility in that site area.

Based upon the 2006 to 2015 artifact surface collection and mapping, subsoil probing/coring, GPR/gradiometer/magnetic susceptibility surveys, and excavations, we have determined that the site as a whole is much larger than any earlier estimates. In all, the site covers at least 1.9 ha (ca. 3.5 acres) placing it amongst the largest Ontario Archaic sites ever reported. Based on the number of gradiometer anomalies encountered, and extrapolating from how many features were found in the excavated areas, it is estimated that over 8000 cultural features are present at the site, most of which are concentrated in the anomaly band on the northwest site margin lining the old river course (Eastaugh et al. 2013). The fieldwork has also demonstrated that the buried portion of the site extended over a substantial area north of where Kenyon (1978, 1979) had examined the eroding bank and that the buried deposit itself is actually much larger than was initially suspected. While the old ground surface is completely buried closer to the river, use of the soil probe in areas extending a much as 30-40 m into the field encountered a partially preserved “bottom” of the black humic layer, immediately abutting the bottom of the ploughed zone (e.g. Figure 14b). In short, the ploughing has cut down into the top of the old buried soil surface but it has not cut through it completely. We suspect this area farther back from the river was also subjected to overbank flooding and the resulting deposits of sands on the ground surface, conclusions reinforced by the GPR and mag sus results described above. However, as higher ground, the amount of flood deposits left was thinner lining the river. Nonetheless, these vertically laid down deposits have mantled and capped the old ground surface with the Archaic occupation debris enough such that the plough has not been able to bite deep enough to remove it completely.
Overall, our work indicates the buried black layer containing archaeological deposits is fully or partially (e.g. only its very top has been disturbed by ploughing) intact over a very large area, probably in excess of 3600 m² closer to and paralleling the old river course. Based on use of soil probes in 2014, we know that a buried paleosol also occurs along the river at the southwestern edge of the site in areas south of the eroded bank area discovered by Ian Kenyon. However, we have not yet been able to excavate in this area to determine if there is actual evidence of pre-European human use of the buried surface in that locality. In 2014 we also managed to excavate some test units at the very southern edge of the site in a wooded and unploughed area that separates the Davidson farm from that of a neighbor. The recovery of artifacts in most central test units in the edge of area indicates unploughed deposits are present in the northern part of the southern wooded location.

The Excavations, 2008-2010

The main excavations at the Davidson site totaled 33 weeks and were concentrated in the areas surrounding the area where initial test-pitting, gradiometer surveys and soil probes suggested complex features and abundant artifact assemblages were buried and completely intact (Figures 12, 13). In addition, we purposefully opened up three slightly separate excavation areas in that vicinity (called the North-South Trench and Anomaly Areas I and II; Figure 12). The North-South (and East-West) trenches were opened up to trace the exact depth and distribution of the buried soil surface while the Anomaly Area were excavated to investigate two large magnetic anomalies revealed by the magnetometer surveys. The excavations were carried out primarily in the summers of 2008 and 2009 although we returned to the site briefly for a two week period in 2010 to complete excavation of part of a very complex feature (Block Unit C Extension; see Figure 12) Also, as noted above, we targeted some magnetic anomalies in two small areas in the south field area in 2014 to see if these were also cultural features. Despite the length of time devoted to excavating the site, and by a relatively large crew supplemented by numerous volunteers, in our main work area we were only able to excavate an area of some 84 m² or only about 0.5% of the whole site or 2.6% of the area that is known to be wholly/partially buried (e.g., Figure 13). Only a small area could be excavated as it took a considerable time to excavate and record the complex information and large amount of material uncovered. In fact, to date we have filled over 100 banker’s boxes with artifacts, largely stone ones such as FCR or debris from making stone tools.

The basic stratigraphy, or the sequence of major deposits in buried areas of the site, can be summarized as follows. As indicated above, the old ground surface or paleosol occupied during Late Archaic times is buried by overbank flood deposits closer to and paralleling the river, including almost all the units we excavated. As a whole, these overlying deposits included the modern organic soil layer of ploughed zone or topsoil (Ap) and underlying sterile (B1, B2)
unmodified flood deposits (Figure 18). As noted, these deposits can be as much as 1.5 m thick closer to the river although in most of the excavated units in the area the overlying deposits were less than about 80 cm thick. All indications are that these sediments were laid down by flooding of the river since the land in the general area began to be cleared for agriculture in the 1800s. Although floods undoubtedly occurred earlier, removal for agricultural purposes of the forest/natural vegetation cover resulted in lots more sediments/soil being eroded into the river. When the river overflowed its banks and slowed down, the suspended sediments/soil particles were able to settle down and were left mantling the site and burying the original ground surface. Flooding of the site was especially problematic in this area in the 1800s. A local resident informed us that when the area was first settled the lower area of the Ausable was called “Little Egypt” because it flooded every spring. In the 1800s this flooding was in a large part due to European built dams in the area. It also was partially due to the fact the Ausable formed a large bend (the “Grand Bend”) from south flowing towards the west just inland from Lake Huron. Such a bend was due to blockage of a direct route to the lake by sand dunes and deposited silts lining the lake shore. The bend impeded or slowed down flow in the river mouth area and could easily back up water. In 1875 a cut was made to Lake Huron just above the Davidson site that diverting water from the lower Ausable and linked it to the lake well west of Grand Bend at Port Franks, Ontario (Figure 1). This resulted in the site area being flooded less often and indeed the current owner, Rick Davidson, can only remember the Davidson field flooding a couple of times in the last 40-50 years. However, it is possible it flooded more often in precontact times and especially after the formation of the grand bend itself – more frequent flooding may have begun after about 3000 years ago and this flooding made the Davidson site less attractive to occupation by First Nations groups from that time onward – however, that interpretation is just a guess.

The paleosol underlying the flood deposits is topped by a black, loamy sand, Ab horizon (e.g., Figure 18). This topsoil layer is the buried “black humic layer” of Kenyon (1978). It represents what was the old land surface prior to the predominantly European age floods that buried that surface. This black humic layer contains the archaeological occupations. In the areas investigated this “layer” varied from 10 cm to as much as a 30-35 cm thick. The thicker deposits seem to be due to intensive human activities and surface refuse disposal so it might be better regarded in those cases as an ‘anthrosol’ or humanly created, or certainly enhanced, layer. In sum, it includes not just naturally occurring organic matter but is also substantially augmented by organic material or debris left by the site inhabitants. Underlying the paleosol/anthrosol “Ab horizon” is a medium to fine sand, pale brown, Bb horizon of about 10 cm thick that has been chemically altered by natural leeching from the overlying Ab soil horizon (Figure 18). In turn, this Bb horizon is underlain by the unaltered light yellowish brown, fine to medium sand, C1 horizon or parent sand upon which the soil had developed. The parent sediments from the Bb horizon down are the laterally laid down riverine deposits emplaced in fast flowing water prior to the occupations, one presumes before or after flooding by the Nipissing Phase (Kenyon 1978:3).
We established an imaginary grid of north-south and east-west baselines over the whole site area to assist in guiding and placing our excavation squares. Each east-west trending line was referred to by its position north of an arbitrary 0 metres north line. Each north-south line was referred to by its location east of an arbitrary 0 metres east line. The intersection of these two sets of lines right beside the area to be excavated was arbitrarily designated 200N/200E (see Figure 12) and we used the intersection coordinates at the southwest corner of each one metre square delimited in this grid system to designate that square for referencing purposes. For example, the one metre square that had a southwest corner at the intersection of the 202N and 204E grid lines was called 202N/204E and so on.

The excavation procedure involved first removing the capping of the sterile flood deposits to expose the old paleosol surface in each one metre unit to be excavated. However, in the initial units excavated we did screen with ¼” mesh the modern surface soil in each unit above these flood-laid deposits to confirm few or no artifacts were present. Then we began the paleosol or
buried surface excavations. Each one metre unit was subdivided into four 50 cm squares or quads, and each quad was excavated separately (Figure 18). The quads were referred to by their relative position in the one metre square unit. Hence, the northwest 50 cm quad in square 200N/199E would be referred to as 200N/199E-NW, the southwest as 200N/199E-SW, etc.

Figure 19: Matt Seguin Excavating in Buried Paleosol West Half of Block Unit A, 2010. Small wooden pins outline 50 cm quadrants.

Based on past experience we knew it was difficult to see where the topsoil of the paloesol ended and the underlying dark, organically rich, cultural features began. Hence, the paloesol was excavated down by trowelling and use of finer tools like bamboo sticks in 5 cm arbitrary levels to try and recognize and expose as soon as possible the outlines of underlying cultural features such as pits or hearths. All trowelled soil was also screened through 1/4" mesh and in one 50 cm quad in each unit large soil samples were taken to be processed by “flotation” to recover a sample of smaller materials (see description of this process below in the cultural feature discussion). Usually, two to four such arbitrary 5 cm paloesol levels (or a 10-20 cm layer thickness overall) needed to be removed to see the sterile underlying subsoil or the outlines of features/subsoil disturbances. In addition to drawing detailed plan and profile drawings of
features and the site layers, we used the total station (TSt) to record in three dimensions ("piece-plotted") as many artifacts as possible and also to record the locations of cultural features, posts, site layers and so on. All tools, preforms, sub-greywacke and other thinning flakes/flaking debris on coarser-grained rocks and faunal remains found in place had their exact locations recorded using the TSt. In addition, all individual pieces of FCR and stone waste flakes over 3 cm in any dimension (see Ellis [2010:12] for the rationale behind this size selection) were shot in with the TSt. All piece-plotted items were then each placed in a separate bag (plastic for inorganics and paper for organics) along with a form recording data on the artifact including the sequential number automatically assigned to each location by the TSt. All other materials were simply collected and placed in the main unit level/feature bags. Materials such as bone, charcoal and nutshell, piece-plotted or not, were wrapped in aluminium foil prior to bagging.

Digital photographs were often taken of diagnostic or other important artifacts in place (e.g., Figure 20) as well as of pit and house features, general views of the excavations and so on. As soon as possible, copies of the photos and other computer field records were burned to CDs and other media. In all, 6605 digital photos of the excavations and other fieldwork have been taken from 2007-2015. Washing, labelling, cataloguing and sorting of all the recovered artifacts was carried out by university students and volunteers. They have now managed to wash and catalogue every artifact recovered at the site since 2007. In addition, while thousands of smaller flakes and FCR pieces were retained in bags simply by 50 cm² excavation unit or cultural feature and 5 cm deep excavation level, all of the individually plotted artifacts from the surface collections and excavations (to date totalling over 12,500 items) have been individually labelled with their appropriate catalogue numbers. These items have also begun to be sorted into different artifact categories such as FCR, or animal remains, or stone tool type, or kind of waste flake/debris. After removing the topsoil of the paleosol, the subsoil was examined carefully for features and they were outlined, plan-mapped, digitally photographed, measured and then excavated. In all eighty-four separate features were recorded in the small main area excavated. Another four features were documented in the 2014 fieldwork in the southern part of the ploughed field. In addition, we encountered 53 stains left where decayed posts had been inserted in the ground in house and other constructions. These were all measured and mapped and many were photoed. Hundreds of pages of written field notes as well as numerous standardized forms used for recording features complete the information record on the site.

Notably, from almost every feature we took large, several litre in size soil samples and often, many samples were taken from such features. These samples were then subjected to a process called “flotation.” Flotation involves pouring the sediment into a large container of water and agitating the sample to separate the soil sediments themselves from the artifacts. Heavier artifacts such as small stone flakes and pieces of FCR sink to the bottom where they are collected in fine mesh screens. The lighter materials, such as small animal bones, pieces of charred nutshell, seeds
Figure 19: Artifacts in Place as Uncovered in Excavations. A: Subgreywacke point tip; B: Subgreywacke pentagonal preform; C: Subgreywacke rubbed biface tip; D: Onondaga chert Hind Point with broken base. All shown are in topsoil of paleosol in Block Unit C except “A,” which is in a midden in the Feature #17 Extension Area.
and so on, float to the surface where they are collected with very fine mesh strainers. It is only by such means that one can recover very small items and delicate ones such as the floral remains and fish bones, which are almost invisible to the naked eye and hard to recover by hand excavation, especially undamaged. As noted above, we also consistently took such samples and floated them from the paleosol itself to recover smaller items. Overall, we took and floated over 600 such samples totalling thousands of litres of soil. The recoveries from many of these have now been sorted and the laborious process of identifying the important floral and faunal material and artifact types they contain is now underway.

Much remains to be done in terms of cataloguing and checking the site records before detailed analyses can proceed. Nonetheless, even at this early date it is possible to summarize some preliminary conclusions about the use of the site by First Nations peoples. We provide these conclusions in Part II of this summary report.

to be continued in the next Kewa (14 [7-8])....

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