

GUIDE TO FIELDWORK TECHNIQUES – PART 1

FIELD-WALKING

INTRODUCTION

North Duffield Conservation and Local History Society stepped into the world of archaeology in 2008 after many years researching the history of the village.

The first faltering steps were a massive learning curve in terms of the technology and methodology of archaeology. But, with considerable help from professionals of York Archaeological Trust and York University and an interested IT specialist we have developed into a successful and forward-looking community group.

Whilst I found the gathering of knowledge and expertise both exhilarating and rewarding, I felt that other groups in a similar position might welcome some guidelines to take the fear and mystique out of the equation of forming a community archaeology group and managing the projects that arise.

This article is the first in a series that aims to address some of the many common field-work projects in terms that I can understand and, with luck, so will the reader. I will attempt to explain the process of **field-walking**. In a separate article (Part 2) I will cover a **Test Pit survey**. These two basic functions of any archaeology project are really excellent at bonding together a group of individuals which is really the starting point. Yes, there are other things you can do prior to these activities, but these are perhaps the first, true, archaeological undertakings that will drive the project forward.

Community archaeology is rewarding, exciting and interesting and will bring your community together and, in particular, will entrance the children. Before you know it, they will be digging holes all over your garden, so be warned.

Perhaps I should explain, briefly, how we started to give an idea of the process. A good starting point is discovering whether your landscape has any hidden features which aerial photography has revealed. Sometimes you can find out by looking at Google Earth overhead images of your area when crop marks can sometimes be seen. Otherwise contact North Yorkshire County Council to obtain the crop mark transitions: you will need to give them the coordinates for the north east and south west corners of your area of interest. This will give you a first impression of what the professionals consider to be evidence of human activity and whether they have any antiquity: they examine the aerial photographs and interpret them with their expert knowledge.

You can also use old field-names which might give a clue of what the field was once used for: Chapel Close, Mill Hill, Fisher Croft, Spring Field and similar names can give a clue. Finally, ask around, speak to the elders of the village, are there any 'legends' associated with your area, have local

landowners turned up strange things or lots of pottery, for example, when working the fields.

North Duffield, of course, is situated in a rural farming landscape but your area might be urban. Don't be disappointed if you cannot do field-walking as test pitting in peoples gardens can be hugely rewarding and most informative to find what has happened on that site in the past. If it is a good place to live now, it probably always has been.

FIELD-WALKING: AN INTRODUCTION

Long before bin wagons and refuse collections what did people do with their rubbish? Well, in rural areas, the answer is 'night-soiling': collecting all the human and animal waste, broken pottery unwanted clothes and detritus of living on a big heap and then spreading it on the fields to 'lighten' the soil and add nutrients – often called manuring. This has gone on for thousands of years, in fact, ever since man ceased to be hunter-gatherers and took up a more agriculturally-based lifestyle.

This material was then ploughed-in over generation after generation and thoroughly mixed up, but, also became quite 'abraded' by being constantly agitated by the plough. This created a 'soup' of dating material, completely out of context and yet telling the investigator who might have inhabited that landscape, what they were using and the way they were living in the past. The 'plough soil' is simply the depth of soil that has been worked by the plough over time. From horse/oxen to huge, modern tracked tractors, the ploughing has got ever deeper destroying any archaeological features and damaging the archaeology down to a current depth of around 35cm- even more with sub-soiling. Any features that are deeper than that, may still be visible under certain circumstances and have been protected, since they were created, by the 'over-burden' of the plough-soil. It is these features that influence the way the crop grows and can, in many cases, be seen as 'crop-marks' or 'soil parch marks.

Do not worry if your area does not appear to have any crop-marks as many areas have a soil or geology that does not readily give up its secrets. Weather conditions can also play an important part. Evidence has told us that, in our part of the Vale of York, a field might show crop-marks but that is not the complete picture. Geophysical survey or drone wizardry can discover much more complex features not visible as crop or soil parch marks and excavation frequently finds even more: absence of evidence is not necessarily evidence of absence is one of the three Rules of Archaeology. The other two are; the feature you are looking for is under the spoil heap and you don't find that elusive feature until the last hour of the last day of the dig.

Firstly, get yourself a group of like-minded volunteers who are prepared to work hard, for no pay, are not fed and watered and be out in all conditions but who have a shared passion for archaeology or just trying something different.

Then speak to local landowners to find out if they are aware of anything unusual turning up when they are ploughing-they might have collected some interesting stuff over the years, but also ask if they are prepared to allow your group onto their land to field-walk.

Field-walking is best done after the field has been ploughed, harrowed and drilled: this used to be after harvest in July/August but climate change has tended to change farmers' habits and, due to wet autumns, they have started working the fields in February or March. Once the field is prepared it needs a sharp downpour of rain followed by a dry period. This washes the surface deposits and then allows the soil to dry a little so you don't damage the crop or get your footwear clogged with mud. You may be allowed to field-walk until the growing crop starts to reduce the 'visibility' of the surface of the soil as most growing crops are resilient when very young and no damage will be caused. Remember, if you get it wrong and field-walk at the wrong time and upset the farmer your chances of getting his future permission or that of any other local farmer is zilch!

EQUIPMENT

The basic equipment you will need for field-walking is quite a large number of garden canes, a minimum of 4 tape measures- 2x 50m and 2x 100m is ample, supply of strong plastic bags to hold the 'finds' with write-on panels and an indelible marker pen. It helps to go to your local fruit shop or supermarket and scrounge some wooden or plastic produce trays: lined with three layers of newspaper, these are ideal for storing and drying washed finds. Ask your volunteers to save all their old toothbrushes and plastic meat trays as these are ideal for washing the finds in due course. You are now equipped to carry out your first field-walk. Don't worry if you do not have the funds to purchase these items as CBA Yorkshire may very well be able to help and lend you some from one of the other groups.

METHOD

Field-walking involves collecting anything lying upon the surface of the 'plough soil' for later washing and identification. The purpose of this is to understand the chronology of occupation as pottery relative to different historical periods is, in many cases, readily identified as such. A degree of caution is needed here as, just because Roman pottery turns up in the plough soil or in someone's garden, it does not necessarily mean that the Romans were actually there 2000 years ago. It is possible that the soil containing the pottery was brought in as infill much later in time. However, further pottery elsewhere might confirm a Roman presence and clusters of pottery might indicate a settlement rather than simply night-soiling.

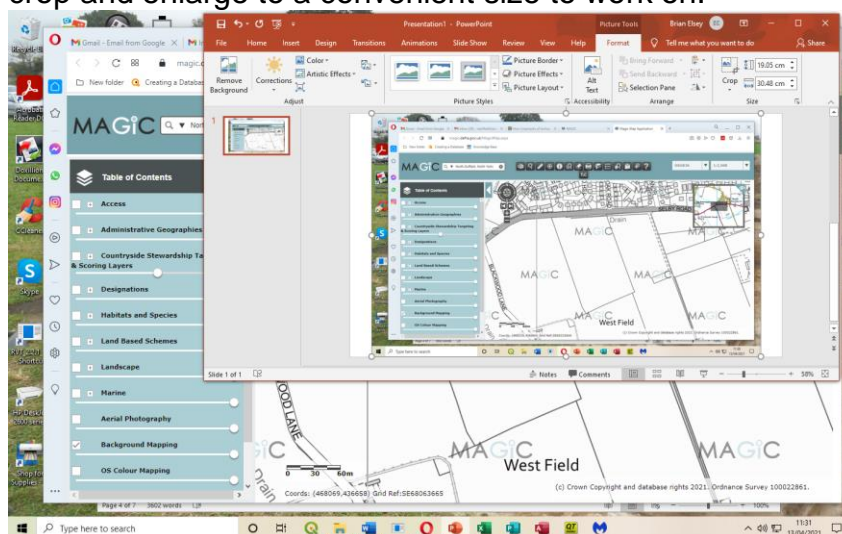
At this point I need to stress that you **MUST** have the landowners' permission and that of the farmer if that is somebody different. It is also important to remember that we are not treasure hunters. Everything that we find belongs to the landowner and that is both good news and bad news. There are rules about 'treasure' and were you lucky enough to find something really important

it might need to go before the Coroner to establish ownership. It is a good idea to go to your local museum and enquire about the Portable Antiquities Scheme(PAS) or go to the British Museum on line where much useful information concerning 'finds' and Treasure Trove can be found. The museum is also a useful resource to discover what other things have turned up in your locale from metal detectorist activity by searching the PAS website. Much information can be found and often downloaded from the Web. But, equally, you will find lots and lots of broken pottery and whilst that is really important to you in your quest the landowner is very unlikely to want anything to do with it.

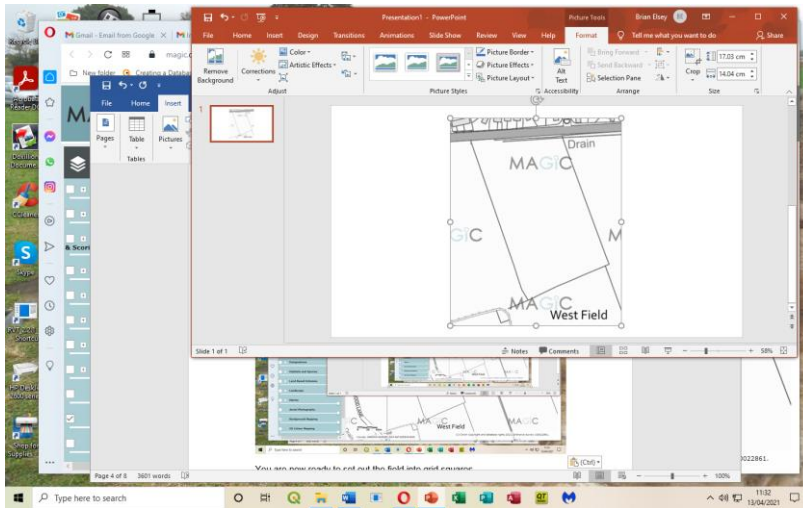
In order to properly understand the artefacts that you recover and whereabouts in the field they were found, it is necessary to mark out the field or area in grids. These can either be 10x10 or 20x20 meters or any other dimension that you choose. I suggest the default grid size is 20x20m.

I found it best to select one side of the field/area with the straightest edge and use that as the 'datum line'- the line from which all the measurements are made and all the grids are based. It is then prudent to 'fix' each end of the datum line by taking and recording the distance to a known and **permanent** feature in the landscape such as gatepost, tree, telegraph pole etc. If possible, two or even three fixed points should be used to fix each end of the datum line. The purpose of this is to allow you to reset the datum line at any point in the future and thereby allowing you to reset the grid pattern to identify any hotspot that materialises as a result of the identification process. Draw a sketch plan of the site and carefully record the points and the distances involved for future reference.

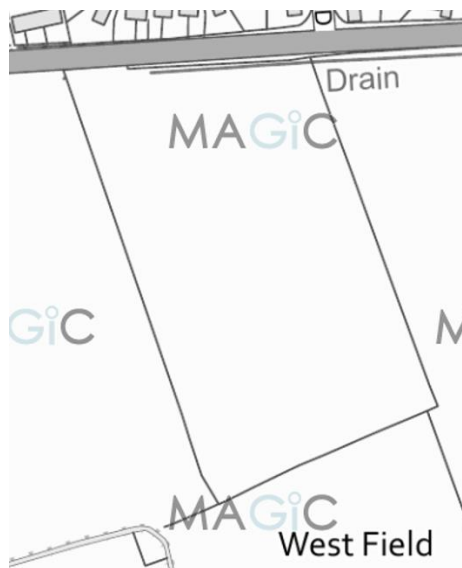
I found it useful to download a map of the field in which you plan to work. Go to <https://magic.defra.gov.uk> click on Get Started and then enter your area into the search box. You can now enlarge and select your field, take a screen shot and then paste it into either a Power Point slide or a Word document and crop and enlarge to a convenient size to work on.



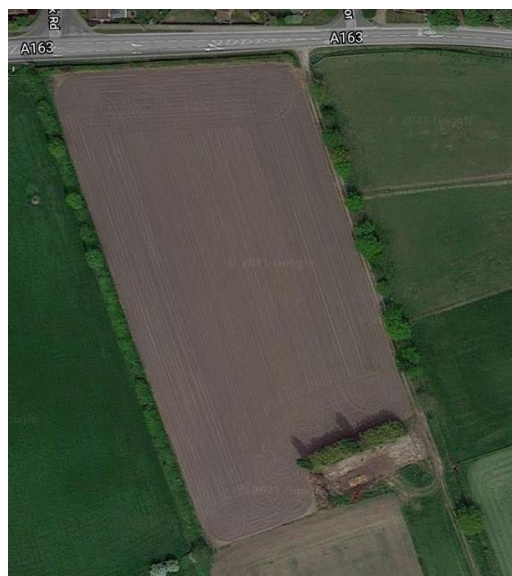
Screenshot of site



Cropped image

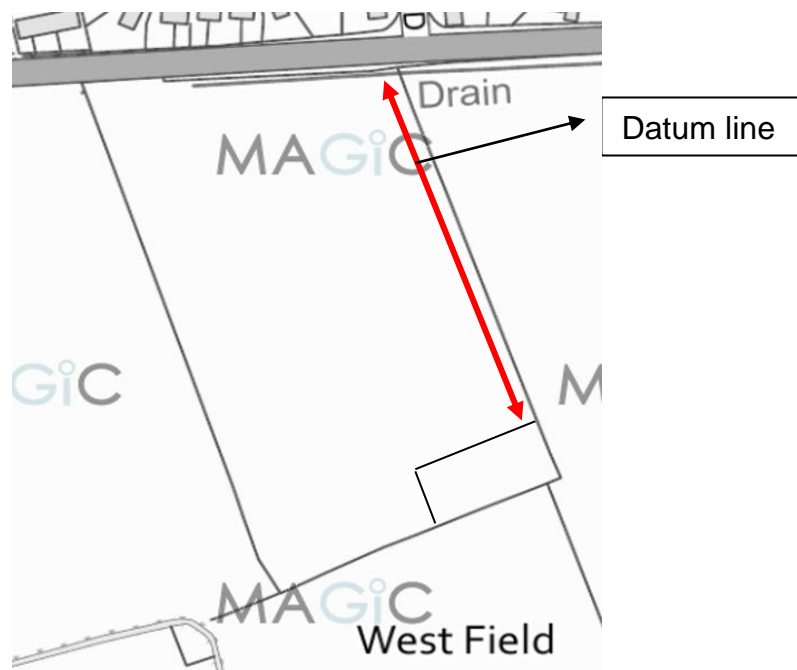


Final image

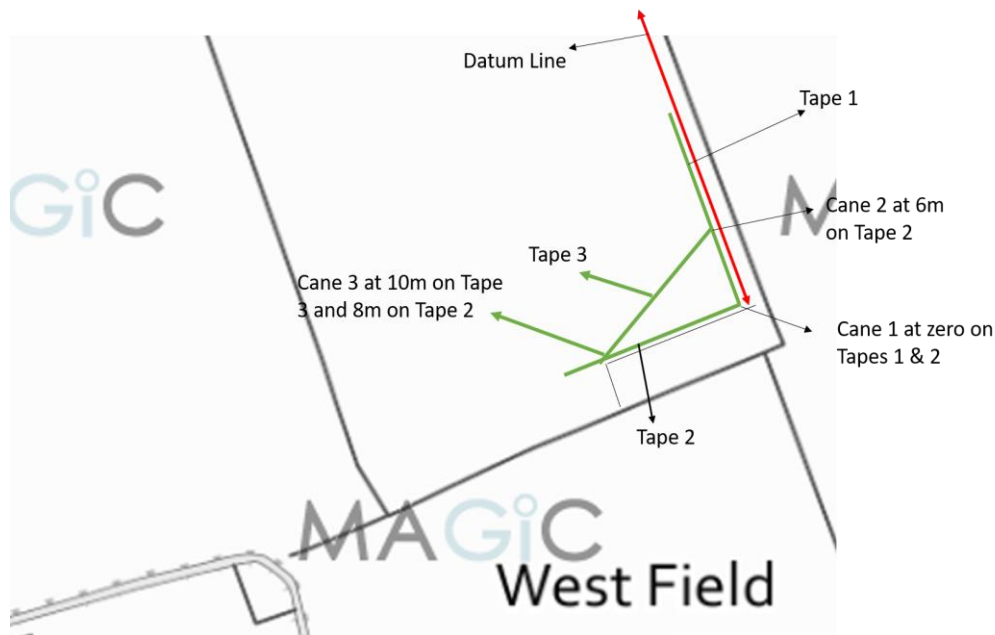


Here is Google map view of the field which shows a rectangular area intruding into the field at the bottom

You are now ready to set out the field into grid squares. It is suggested that you invite Mr Pythagoras to help you. His '3-4-5' system will allow you to create a 90 degree offset from the 'datum' or base line originally identified. Firstly, using your longest tape measure, (see below) run the tape along the datum or baseline as far as it will go starting, perhaps, in the bottom left-hand corner of the field. In other words, mark a point at one end of your datum line where the first grid will start and place Cane 1 through the loop of the tape into the ground. Ensure the tape is as straight as you can make it. Measure 3m along the baseline and place Cane 2. Attach one end of a second tape measure to Cane 1 and another end of another tape measure to Cane 2. Now walk into the field away from Cane 1 as near to a right angle as possible taking both of these two tapes with you until you reach the 4m point on that Tape 2. Now make sure the tape from Cane 2 measures 5m and where the 4m and 5m points meet is a right-angle so place Cane 3. You have now created a right- angled triangle- the 4m tape is at right angles to the datum line. Now extend Tape 2 lining up Canes 1 and 3 to the 20m mark and place a cane. Now you can extend the tape across the field using line-of-sight on the canes. In order to increase the accuracy, multiply 3-4-5 by two ie 6-8-10 or even 3 ie 9-12-15.

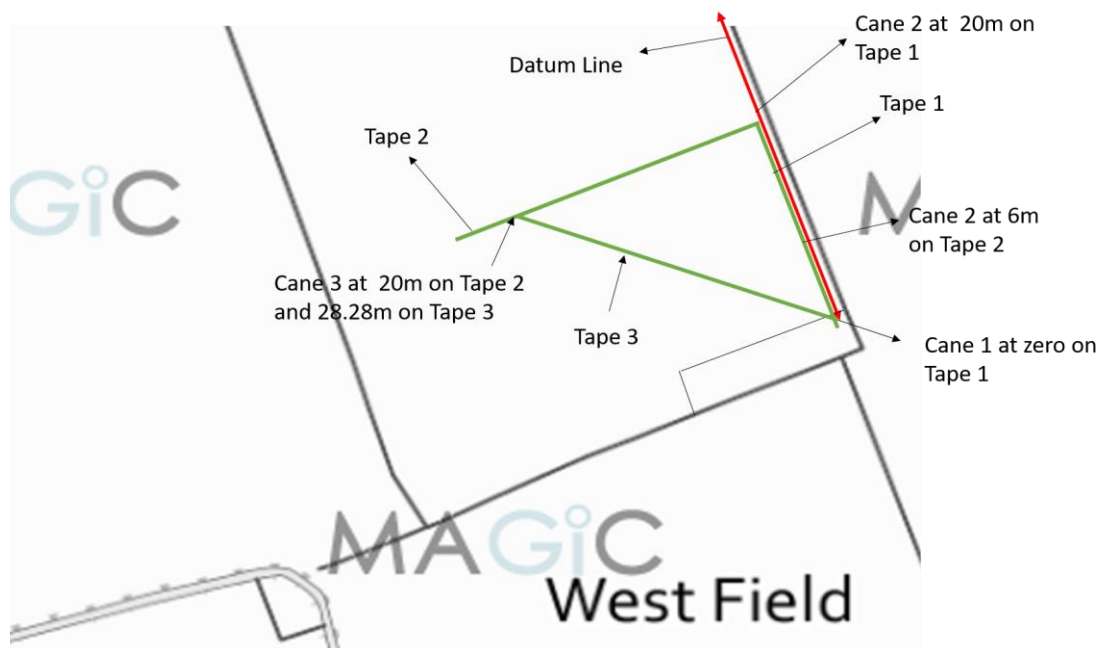


Final image with Datum Line inserted



This is the set up to achieve a 90 degree offset

There is a second method which you may find easier and is a good way to check your accuracy as you extend further into the field. Once again, set up your datum line and place Cane 1 through loop at the '0' end. Place a second cane at the 20m point on the baseline tape and attach a second tape and then walk away from the baseline with that tape for 20m. Now attach a third tape to Cane 1 on the baseline and the measurement to cane 3 should 28.28m. You can now place canes at all four corners of your 20x20m grid. Finally use line-of-sight and place canes every 20m across the field in both directions filling in the canes to mark out 20x20m grids as you go.



Set up for the alternative method

Make sure you maintain a tight and straight line of the tape you are extending otherwise accuracy will suffer. Check frequently to ensure each line of grids is 20m across.

Next you need to use a readily understandable means of giving each grid square a unique reference eg number the rows with letters of the alphabet in one direction and numbers in the other direction eg A1, A2, B1, B2 and so on. It is also a good idea to give the field a unique reference number as well. I used the initials of the Society (so that it was readily recognisable to anyone else), year of the field-walk followed by the initial of the landowner and the number of his/her field in the programme. Therefore, a grid square would have a unique reference number which would look something like 'ND21/S6/B67- North Duffield, year 2021, Smith- Field 6, grid B67.

You can, of course, use any system of numbering that works for you and that allows you, in the future to return to the site and pin-point any particular grid square within it that is of interest and that, hopefully, is in exactly the same place.

I found it easiest to take the 'finds' bags and an indelible marker pen and walk along the lines in the direction you are going to walk during the survey dropping a bag suitably marked with the unique number at the far end of each grid square to receive any finds from that square in the direction you are walking. You may need to weight the bags with stones or soil as field-walking seems to be always in a windy field, so be warned! It is much easier to remember which bag you last numbered when you do it like this rather than trying to remember after every grid. I suggest that when you get to the end of that row of grids you just turn through 180 degrees and walk back along the next row in the opposite direction and therefore zig-zag across the survey area.

There are two accepted ways to 'walk' a grid square; one is to gather sufficient people to be able to walk in a straight line slowly forwards without having to cover too much ground to either side of you. It is important to try to maintain the straight line-of-walk. The second system is to allot a certain amount of 'search' time to each square and randomly walk-over the ground within that grid for that length of time-no more - no less. This latter system is more useful when staff are short in number.

Whichever method you choose, stick to it as any change WILL affect the end result and you are aiming for a consistent sampling process. You may also wish to lay down some ground rules-for example, if there is lots of natural stone or broken field-drain, you might want to take samples of them but ignore them in the collection process. This is entirely up to the Project Director just remember that whatever you do, don't change it mid-way through. You might, however, be well advised to collect ALL the flint you find for later expert analysis and anything that looks interesting even if it is material you have chosen to not sample.

So now, it is away you go. Walk one grid square at a time, place everything that your team finds in a separate bag for each square that has been correctly marked and move on to the next square.

At this point logistics come into play. There are only so many grids that can reasonably be marked out given the amount of canes needed and only so many grids that can be walked given the volunteers available. Sooner or later you will need to set out more of the field thus moving the tape measures and canes and collecting up the full finds bags.

Field-walking is an immensely satisfying community-based occupation. Not only will you almost certainly find some really interesting 'stuff' but it is the opportunity to interact and discuss finds with other team members and, dare I say, 'show off' exceptional finds. Children are admirably suited to this sort of field-work as they are generally nearer to the ground, their eyesight is wonderful, their enthusiasm infectious and their energy limitless. Do not overwork your volunteers- this is a tiring and demanding activity.

At the end of your allotted work period, collect up all the bags and make sure no equipment is left about in an unsightly manner. If you plan to return to the site to continue on another day, leave sufficient canes in place so that you know where you left off. Do not leave equipment, litter or canes unnecessarily in the field!!!

It is important to record the following:

The position and fixing features and measurements of your datum line;

The field/grid reference system that you used;

The local name for the field, if it has one, the farmer will tell you;

A National Grid co-ordinate point on say, the SW corner or similar;

The weather conditions during the walk;

The visibility given any crop-growth at the time of the walk. That means-how well could you view the surface of the soil through any crop growth.

Any protocol applied such as walk-over or timed grid search, any items not collected and any observations about inclusions in the plough-soil (might be natural stone, clay nodules, field-dressing etc).

Wherever possible, I suggest you employ the field-walkers you used on the walk, to wash what they found. Do not miss the opportunity to invite older or disabled people who might not be up to field-walking but who, nevertheless, can benefit from being part of the project. Not only does this increase your workforce but it is also improving 'inclusivity' which is ticking boxes for any future application for funding that you might consider making. For this you will need water containers (I reused supermarket plastic meat trays) old tooth-brushes, loads of old newspaper and assorted bits of wire for cleaning hollow items such as clay pipe stems etc. You will also need lots of wooden or plastic fruit trays mentioned earlier.

It is important to ensure 'continuity' in identification of the finds. Remember they are placed into a uniquely numbered bag to start with but once they have been taken out of the bags for washing a very strict protocol must be

maintained to ensure that you know exactly which grid every single item came from. One way to do that is for each washer to be responsible for the contents one bag at a time making sure that ALL the items in the bag are washed and kept together and nothing is left lurking in the dirty water in the washing tray. It is acceptable to place more than the contents of one bag in a wooden tray for drying providing clear demarcation prevents them mixing with contents of another bag. In order to ensure accurate labelling of the contents of each bag, the correct archaeological practice is to complete two 'Tyvek' labels to accompany the finds at all times. The labels will be marked with the same legend that appeared on the finds bags. Tyvek labels are waterproof and written upon in indelible pen. These labels are expensive to buy and therefore, unless you have funding for the project, you may have to compromise. Either make sure that the original finds bag remains with the contents at all times by placing it in the drying tray in such a position as makes it clear which contents refer to which bag.

I usually place the wooden trays with the finds for drying in the garage -the fruit trays easily stack with gaps between them to assist drying. Whatever you decide to do with them make sure they cannot fall over and get accidentally knocked to disturb the contents. You can leave them outside in the open air but make sure they cannot be knocked over or rained on or blown about by the wind.

The final part of the process, once the finds have dried, is to go through each grid square finds and record what you have found on a Finds Sheet. Unless you are an expert or know someone who can assist you, there will inevitably be a lot of 'unknowns'. Generally speaking flint can be 'worked' or 'natural', ceramic items can be glazed(probably after 12th C, not earlier but unglazed pot is not necessarily pre 12th C, glass and metal is hard to date, clay pipe is 16th to 20th C. Pottery is a good 'dating' material: very often the colour or nature of the glaze or the type of material it is made from gives a good indication of when and/or where it was made. The Society maintains a Reference Collection of typical ceramic material that has been professionally analysed and is displayed in labelled boxes to enable identification. Please email me at nduffieldhistry@gmail.com for more information.

Finally, field-walking is not only enjoyable and rewarding but is also a serious and accepted method of conducting archaeological field-work. It is highly unlikely that you will find nothing, much more likely that you will establish details of who was living in your landscape, over what period and the things they were doing and making. This is ideal step in the landscape investigation process which could well lead on to test-pit surveying, geophysical surveys and, ultimately, excavation.

Helpful Tips

Unless you have funding or sufficient funds to purchase the equipment you need, a compromise can be made in terms of equipment. You will quickly find that you never have enough canes or tape measures.

For the former, I suggest you speak to your volunteers and ask to borrow any they have got-most people have a stash of garden canes. For the latter, buy some cheap plastic coated washing lines and mark them off, using coloured insulation tape, at 1m intervals. I used a different colour at 5m intervals- just helps to work out where you are in distance terms.

A friend made me a 'brogger'- a length of steel bar with a 'T' handle welded to one end and the other end sharpened to a point. Almost essential for making the holes for the canes in hard ground otherwise wear gloves and be prepared for blisters!

Get all your team to save old toothbrushes, meat trays and newspapers. Scrounge old meat trays from recycling boxes(with the householders permission of course).

Take photographs at all stages of the process to use in promoting your work or advertising for volunteers.

If you need advice on identification there are plenty of people around who can help so just ask. Contact CBA Yorkshire who will definitely be able to point you in the right direction for many of the things you will need and the experts to identify your finds.
Good hunting.

Polite Request – please mention North Duffield Conservation and Local History Society in any reports that result from your work as being the source of these Guidelines. Thank you.

Brian Elsey, Archaeology Co-Ordinator.
North Duffield Conservation and Local History Society. April 2021