The Adam Park Project

Metal Detector Survey Report No.15

7 Adam Park
7th - 11th Jan 2013

Index

Introduction

The Adam Park Project (TAPP) officially finished in February 2012 with an exhibition of artefacts entitled 'Four Days in February' staged at the National Library. The display introduced the Singaporean public to the wartime heritage of the estate and in particular its defence in 1942 by the 1st Battalion, Cambridgeshire Regiment. However there were a number of important areas of the estate's wartime story still to be investigated and presented. This ongoing work has been collectively packaged under the colloquial title 'TAPP 2'. In January 2013 the 'Big Dig 2' was carried out on site which included excavations, aerial surveys and metal detecting.

No.7 Adam was one of these important outstanding sites chosen for metal detecting. It is the only house on the estate officially recognised in terms of heritage protection. A notice board at the entry to the estate tells of the occupation of the house by the 1st Battalion Cambridgeshires and their HQ Company. The board does not mention the occupation of the house by 250 POWs for 9 months in 1942.

The military documentation and published works from which the text of the board is taken describes how Lt Col GG Carpenter chose the house as his HQ after setting up initially on the far side of the road from Adam Park in what was the old RASC camp. The house was far more substantial than the wooden huts and was on the reverse slope from the direction of the approaching Japanese. This ensured in the early hours of the action the house was not accurately bombed as it could not be seen by enemy observers on Bukit Timah Hill. Later on however once the Japanese had worked around to the east of the estate the house was targeted. Notably and aerial bomb was dropped a mere 25 yds from the property causing limited damage but threatening to take out the entire battalion command structure in one explosion. It is noted in the accounts that the HQ Company, consisting of Sappers, Communications, Medical and AA personnel dug in around the house making good use of existing ARP trenches and drains. The trenches were in turn covered in camouflage tarpaulin and shielded behind sandbags revetments.

It was noted by a number of observers that Lt Col Carpenter moved inside the house and into 'the cellar' (the enclosed area amidst the supporting pillars) at least for the final days fighting. The decision to surrender the Battalion was taken in this room.

Carpenter then mustered the remains of his command, around 600 men, on the bank at the back of the house and addressed them from the terracing of the tennis court in the front garden of house No.9. After a faltering start he gave a short speech announcing his award of a DCM and wished all the men the best of luck. The officers were then taken to a nearby house and the OR's filed away to spend four days imprisoned in a nearby tennis court.

The primary objective of the survey was to look for evidence of this reported occupation of the house by the Battalion HQ personnel. The house was also used by the POW's in the following 10 months after the fighting. In this case the house was used as the accommodation for members of the Australian's 8th Division Signals. It was hoped evidence of this occupation would also be found in the artefacts collected on site.

Fig 1 – No 7 Adam Park was originally used as the 'Bachelor's Mess' for the government officials housing four unmarried Municipal Council Officers. In more recent times it has been used as the National University of Singapore's Guild house, a Japanese restaurant and is currently an Art Gallery and Bistro. The picture on the right was taken by a Municipal Council worker, Mr Des McDermott, in the 1950's during his tenancy of the property. It would appear little has changed over the intervening years.

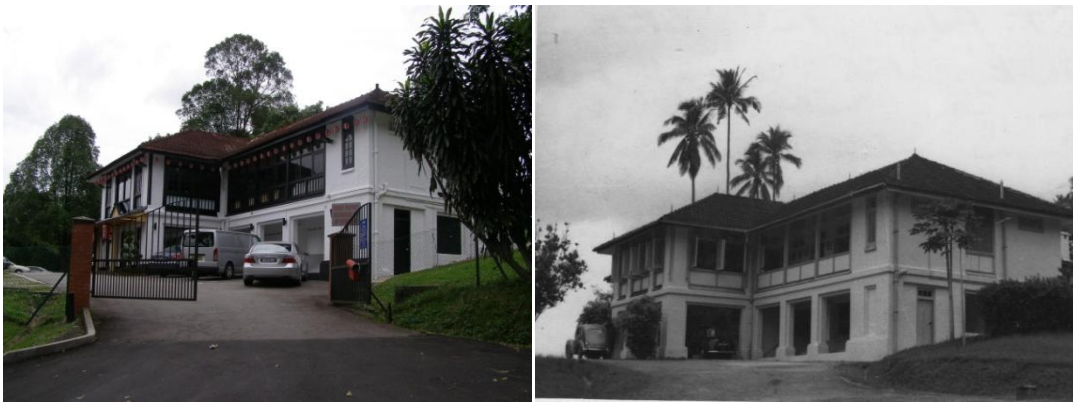

Fig 2 – A similar comparison can be made from these two images of the house again the 1950's view is taken from Mr McDermott's collection. Note the door on the first floor on the side of the building. This gives access to rooms under main accommodation area which were used by Lt Col Carpenter as his HQ.

The Survey Criteria and Area of Interest

Twenty transects each 2m wide of lengths between 18 and 30 metres long and were set out in three areas of the garden - Areas 1 to 3. A 'prospecting' survey was organised for Prospecting Areas (PA's) 1 to 3 in which a number of artefacts were recovered. The position of the artefacts found in PA 1- 3 was not recorded.

Fig 3 – The Google Earth image of the site showing the location of the four areas in the garden of 7 Adam Park that were surveyed by the metal detectorists in the course of the survey. 'Prospecting Areas 1 – 3' were the subject of field walking and 'prospecting' metal detector surveys.

A field walk was carried out across the site at the start of the survey but no pertinent items were found on the surface.

Fig 4 – Area 1 under survey was setup immediately to the rear of the kitchen block at No.7 Adam Park. T1 was set immediately along the boundary fence and a great deal of modern detritus and fence wiring was unearthed. Military equipment was most prevalent further away from the accommodation and to the right of this shot.

Typically for this urban environment an initial metal detector sweep of the transects was carried out using the 'all ferrous' setting on the metal detector and a multitude of returns were registered. A full survey of all ferrous returns was deemed to be inappropriate given the time constraints and available manpower. It was thought that the artefacts indicating the occupation and combat would primarily be made of non-ferrous metals.

Two White's Prizm Mk 6T metal detectors were used as the preferred machines. Both machines were set to maximum sensitivity but the discrimination function was set to exclude ferrous materials and smaller non ferrous items (1st two settings muted). The operators had difficulty discerning between non-ferrous and ferrous hits as the artefacts were often masked by the presence of larger ferrous material. Tonal ID was not used as the constant pitch changes across a small area confused and annoyed the operators. Depth indicator was checked against the first isolated finds but as most fines were found in the unstable topsoil and interference by abundant ferrous material meant that the depth readings became inaccurate. Large ferrous items lying deeper in the earth tended to return a cluster of 'non ferrous' readings or masked the returns from smaller non ferrous material on the surface. This meant that a number of sweeps of the areas were undertaken, laterally along the transect, in both directions and then across the transects to ensure as many of the relevant artefacts as possible were recovered.

Good use was made of two hand held Garrett Pro-pointer pinpointers. As many of the artefacts were found to be on or very near the surface excavators found it easier to follow the signals given on the hand held pinpointer rather than using the larger and bulkier Prizm 6T. This however did mean that a number of ferrous items were recovered as the pinpointer does not discern between metals. Having two pinpointers drastically speeded up the recovery of items. However having two detectors was somewhat limited by having only one skilled operator. Volunteers were shown how to operate the equipment but the effectiveness was somewhat curtailed by lack of experience.

Fig 5 – Volunteers being shown the basic principles of the metal detector. Lack of experience meant an extra machine could not always be put to good use.

The survey areas were in an urban garden with a covering of 'tropical broad leaved grass' which was easy to uproot. In some places the grass had been washed away by the rain runoff. The turf covered a layer of black / dark brown topsoil up to 15cms deep in parts. There was some ingress of roots from neighbouring plants and trees. The topsoil was laid on top of an orange clay layer. Notably the vast majority of the finds were in the topsoil although not stratified within this layer. Sections of areas 3 and 4 were overgrown and on a slope which made detecting difficult. These areas had also attracted 'fly tippers' who had dumped a considerable amount of modern cans and bottles. These areas were not surveyed.

Prospecting Surveys were carried out to look for areas of high concentrations of pertinent returns in order to direct the dig teams into areas of high density and relevant finds. This process entailed field walking the site with the metal detector excavating only clear and notable hits. This allowed the team to get a feel for the

typology of finds around the rest of the site and to sample them. It was hoped that this would reveal any overlooked major concentrations of finds as discovered in earlier surveys at No.17 and 8 Adam Park. The drawback of this methodology is that the location of the artefacts recovered is not accurately recorded and only the approximate coordinates are taken. Those items that were collected were listed under 'T13' in the back garden and'T22' in the area directly in front of the house. No other concentrations of finds were identified outwith the areas surveyed.

The survey areas at the back of the house were found to be intersected by subterranean utility pipes which left a significant magnetic signal on the surface which masked readings up to 50cms either side. These pipelines were marked with yellow flags and avoided.

Recovery of subsurface artefacts was done by trowel and as there was a need to restore the garden to its original condition where possible after each recovery care was taken to remove the sod of turf on the surface and return it after the artefact had been removed. However some of the area was devoid of turf and strewn with building material. This made restoring the ground problematical. Location of the finds was recorded to within 5cms by measuring tape.

Fig 6 – Volunteer diggers worked in teams of two; as one dug the other sorted the spoil and used the pinpointer. More experienced members dug on their own.

The weather was fairly hot for most of the time on site with the chance of afternoon rain showers however one particularly heavy squall on the fourth day brought down a tree in the area on Transects 1 - 4. Luckily the team was already moving in towards shelter when the wind got up and the tree cracked and there were no injuries. The

practice of taking shelter as the squall and rain hits and having an awareness of the dangers of tree falls and lightning strikes has been encouraged throughout the surveys and on this occasion paid dividends

Fig 7 – The tree fell directly into Transects 2 but fortunately all the dig teams were moving to shelter at the time and no one was hurt

The team worked from 9.30am until 4.00pm on weekdays only to ensure minimal disturbance for the tenants. The staff at *No.7 Adam Park* were particularly helpful and genuinely interested in the work being undertaken.

The Location of Transects

TAPP Finds Log for the survey is shown at Appendix 1 and a Sketch Map of the Site at Appendix 2

Areas 1 and 2 were chosen in order to expose artefacts relates to the gathering of troops on the 15th February to hear Lt Col Carpenter's speech and possibly disposing of unwanted kit, ammunition and weapons in the immediate area. It was hoped concentrations of dumped kit would reveal the location of the trenches dug into the lawns. Similarly areas 3 and 4 at the front of the house were chosen in an attempt to reveal ARP and slit trenches dug as part of the Battalion HQ deployment.

It was noted that the Geophysical survey that took place in April 2010 found no indication of the slit trenches at the front of the house. It was hoped concentrations of abandoned WW2 material may disclose the whereabouts of these illusive features.

Area 1 directly to the rear of the kitchen block covered approximately 264 m^2 over gently rising close cropped lawn. An area immediately next to the chain linked fence line was scattered with ferrous waste and small bits of fencing as well as the expected tin cans, bottle tops and ring pulls

Fig 8 – T1 showing the state of the lawn at this point. The fenceline was strewn with modern detritus including a reel of electrical cabling and junction boxes for outdoor lighting.

Transects 7 to 12 (approximately 270 m^2) were set along the length of the NW fence line and designed to cover the old slightly sloping ground down onto a relatively new platform. The platform had recently been excavated when the restaurant was lately upgraded. It was assumed any artefacts that were in situ had been pushed down the slope to the edge of the platform. However the discovery of a single cartridge on the platform during the prospecting survey prompted a proper survey of the area.

Fig 9 – Area 2 consisted of five transects running along parallel to the north-westerly fence line, down the old sloping ground on the right and onto the 'new' platform. Area 1 is in the background.

Fig 10 – An image of the back of No.7 Adam Park showing the major extension and re-landscaping of the area directly behind the main accommodation. Unfortunately this platform was excavated before any survey could take place thus destroying the archaeological record.

Transects 13 to 21 (246 m^2) were located at the front of No.7 along two platforms directly at the bottom of the steep bank immediately adjacent to the carpark. The bank itself was overgrown and strewn with beer cans and bottles, making metal detecting

very difficult. The platforms had been recently cut and as prospecting had shown a number of potentially interesting hits.

Fig 11 – The mown area in front of house No.7 became the location for the remaining transects 14 to 21. The overgrown bank immediately adjacent to the car park platform was strewn with metallic refuge from the restaurant and guildhouse that made metal detecting very difficult.

Fig 12– The lower platform photographed from both ends showing the extent of the area surveyed.

Summary of Artefact Catalogue

A fair proportion of the relevant finds was either bullets, cartridges, shell fragments or webbing accoutrements. Other items which may have seemed unrelated when excavated have proven to be dateable to the 1940's. There follows a summary of the items revealed and a full **Finds Log** can be found at Appendix 1.

180 artefacts were recovered across the site of which 27 could be immediately associated with the war years (15%). This included 2 bullets, 10 full rounds, 2 pieces of shell fragment, 5 cartridges and a small collection of webbing accoutrements and buttons.

The Cartridges

There were five cartridges found during the survey of which all were in some way deformed or broken.

Transect	Item Number	Description	Location	Headstamp	Rim Dia	Base Dia	Manu
2	2	.303 Cartridge (Not Fired)	11.88m x 0.14m	R↑L 1941 VII	13.7mm	11.6mm	Woolwich Arsenal
2	3	.303 Cartridge (Not Fired)	12.40m x 0.65m	R↑L	13.8mm	11.6mm	Woolwich Arsenal
2	5b	.303 Cartridge (Not Fired)	14.40m x 0.14m	In charger	Not Known	Not Known	Not Known
6	11	.303 Cartridge (Not Fired)	17.10m x 0.90m	None Showing	13.3mm	11.7mm	Not Known
19	1	.303 Cartridge (Not Fired)	3.20m x 0.76m	R↑L 41 VII	13.6mm	11.6mm	Woolwich Arsenal

Ten full rounds were also found:

Transect	Item Number	Description	Location	Headstamp	Rim Dia	Base Dia	Manu
2	5a	.303 Cartridge (Not Fired)	14.40m x 0.14m	VII K39	13.4mm	11.6mm	Kynoch
2	6	.303 Cartridge (Not Fired)	13.15m x 1.47m	R↑L 28 VII	13.6mm	11.6mm	Woolwich Arsenal
2	6a	.303 Cartridge (Not Fired)	13.15m x 1.47m	K 40 VII	13.7mm	11.7mm	Kynoch
2	6b	.303 Cartridge	13.15m x 1.47m	GB 33 VII	13.5mm	12.3mm	Greenwood & Batley

		(Not Fired)					
3	10	.303 Cartridge (Not Fired)	14.50m x 0.77m	R↑L 27 VII	13.7mm	11.6mm	Woolwich Arsenal
3	17	.303 Cartridge (Not Fired)	18.15m x 1.83m	R↑L 3 VII	13.6mm	11.5mm	Woolwich Arsenal
4	6	.303 Cartridge (Not Fired)	14.49m x 1.30m	No base stamp	13.3mm	11.6mm	Not Known
5	6	.45 ACP Cartridge (Not Fired)	6.29m x 1.09m	.45ACP	12.0mm	12.0mm	
6	10	.303 Cartridge (Not Fired)	16.65m x 1.17m	GB 1940 VII	11.6mm	13.3mm	Greenwood & Batley
12	2	.303 Cartridge (Not Fired)	20.29m x 1.38m	No base stamp	13.4mm	11.6mm	Not Known

The cartridges were cleaned and the heads of each round were examined to ascertain details of the head stamp. The head stamps were in part only partially decipherable but it would appear that the .303 cartridges came from 3 separate arsenals[1]:

The Woolwich Arsenal in Kent
Woolwich Arsenal, of which the Royal Laboratory was only a part, is situated in South East London on the River Thames. The Arsenal dates from 1670 and has manufactured many different items of warlike stores for the armed forces. Ammunition was made at Woolwich long before the adoption of the .303 cartridge in 1889. Ammunition production ceased completely at Woolwich in 1957, the last known production of .303 Ammunition there being Mk 7 Ball in 1957

Kynoch & Co, Witton, Birmingham, UK. This firm was first formed by George Kynoch at Witton in 1862 as a manufacturer of percussion caps. It was changed to a limited company in 1884 as G. Kynoch & Co Ltd and by then was manufacturing metallic Ammunition. A further reorganisation and expansion followed in 1889 when George Kynoch was ousted from the management and this then culminated in a further change of title to Kynoch Ltd in 1897. During the period ending with the 1914-18 war Kynoch, which by then was the largest of the British commercial Ammunition manufacturers, owned rolling mills at Witton, at Lodge Road, Birmingham and at Eyre Street, Birmingham. At various times it had propellant factories at Arklow, County Durham, making cordite, at Warsboro Dale, Yorkshire, making black powder and at Kynochtown, Stanford Le Hope, Essex, making smokeless powder. In addition to these plants the original cap production was maintained at Witton. Later, effective tracer and incendiary composition operations were also carried out at Witton. After the war in 1918 Kynoch Ltd, in common with most other British small arms Ammunition manufacturers, was merged into Explosives Trades Ltd, later to become Nobel Industries. In 1926 when Nobel

[1] All information on the arsenals has been taken from http://www.dave-cushman.net/shot/303headstamps.html

Industries became part of the new Imperial Chemical Industries, the old Kynoch factory at Witton was retained as the Ammunition centre as part of the Metal Group within ICI. The propellant interests being concentrated mainly at Ardeer within the Nobel Division of ICI. In 1962 the Metals Division of ICI was reorganised as a separate company known as Imperial Metal Industries (Kynoch) Ltd. During WW1 Kynoch produced in excess of 2,373 million .303 cartridges.

Greenwood and Batley, Leeds, UK. This company manufactured Ammunition from an early stage, finally ceasing production in the late 1950s. They had a filling factory at Abbey Wood and later during the 1939-45 war a filling factory at Farnham. The headstamp code G, denoting manufacturer, should not be confused with G as in GIV indicating a tracer cartridge. During WW1 Greenwood & Batley are known to have produced in excess of 705 million .303 Mk 7 cartridges. They also manufactured .303 cartridges in Ball, Black powder Mk 2

Cartridge 07/06/11 was unusual in that it was found with the cardboard tampon still inside. The tampon was located a third of the way up the cartridge unlike the other full rounds and cartridges found on site to date which have the tampon abutting the projectile near the top of the round. Underneath the cardboard were flakes of what best could be described as a substance similar to bees wax.

Fig 13 – Cartridge 07/06/11 with its cardboard plug removed and contents revealed

The flaked yellow material is most likely *Rifleite* which was a true nitrocellulose powder, composed of soluble and insoluble nitrocellulose, phenyl amidazobense, and volatiles similar to French smokeless powders. Unlike *Cordite*, *Riflelite* was a flake powder, and contained no nitroglycerine

Distribution of Ordnance

The most impressive ordnance artefact found on site at No.7 Adam Park was a full charger of .303 ammunition (item 07/02/06) which was the centre of a cluster of bullets, rounds and cartridges found two thirds up T2 (See Sketch Map 1 at Appendix 2).

The .303 charger held five bullets and was inserted into the breech mechanism during the loading process. An entry from the 1937 Small Arms Training Volume 1 Pamphlet No.3[2] provides more detail:

1. To load.—

i. Push forward safety-catch.
ii. Pull out cut-off.
iii. Open breech by pulling bolt back to its full extent.
iv. Take a charger between thumb and first two fingers of right hand, and place it vertically in guides.
v. Place ball of the thumb on top cartridge immediately in front of charger, hook forefinger under cut-off, force cartridges down with a firm and continuous pressure until top cartridge is clear of charger and has engaged in magazine. If there is no cut-off, hook fingers under woodwork.
vi. Force bolt sharply home with thumb and forefinger, turning knob fully down, and with forefinger of right hand turn safety-catch completely to rear, ensuring at the same time, by means of the remaining fingers, that bolt-lever is fully down. Button up pouch.

Fig 14 – A modern day re-enactor displaying his ammunition pouch full of SMLE chargers

An infantry section of 6 to 8 men would be expected to carry 800 rounds of .303 in 160 chargers either in their ammunition pouches on their webbing or in cotton bandoliers along with 21 x 30 round Bren gun magazines. This means each man would carry in access of 100 rounds (20 chargers) each.

Fig 15 – A charger with 5x .303 rounds inserted.

[2] http://www.weapons.org.uk/smallarmstraining/index.htm

Fig 16 – The charger unit (07/02/06) and rounds that were found in the immediate vicinity.

All the items were British and unfired suggesting they were abandoned at the same time possibly by the one man. There is a range of manufacturers represented in the collection suggesting this soldier had collected ammunition from a number of different batches or sources during his time in Singapore.

The discovery of 8 similar charger units just along the road at No. 8 Adam Park (Survey Report 8) many with cartridges still held inside was believed to be indicative of the disposal of ammunition across the site after the fighting. The troops would have had pouches full of ammunition and charger units immediately before the surrender and the Japanese demanded that all ammunition was removed before the Cambridgeshires were marched into the tennis court for their initial period of captivity.

Bullets

Notwithstanding the three projectiles associated with the dropped rounds only two more bullets were found on site.

Transit	Item No.	Description	Location	Weight	Length	Width	Notes
2	6c	bullet	13.15m x 1.47m	11.4g	32.8mm	8.1mm	Unfired with collar
11	3	bullet	10.10m x 1.34m	5.5g	3.1.1mm	8.0mm	Base deformed

The two bullets recovered appeared not to have been fired and could be associated with the disposal of ammunition at the end of the fighting. Item 07/02/06 still had the brass collar from the cartridge attached to it; something that would have been lost in firing.

Shell Fragments

Surprisingly for a position that was known to have been effectively targeted throughout the final hours of the battle there was only two recognisable shell fragments recovered.

Transit	Item Number	Description	Location	Notes
3	5	shell fragment	4.64m x 1.00m	20mm x 25mm piece of rotating band
13	2	shell fragment	N 1°19.783 x E105°48.831	22mm x 22mm piece of rotating band

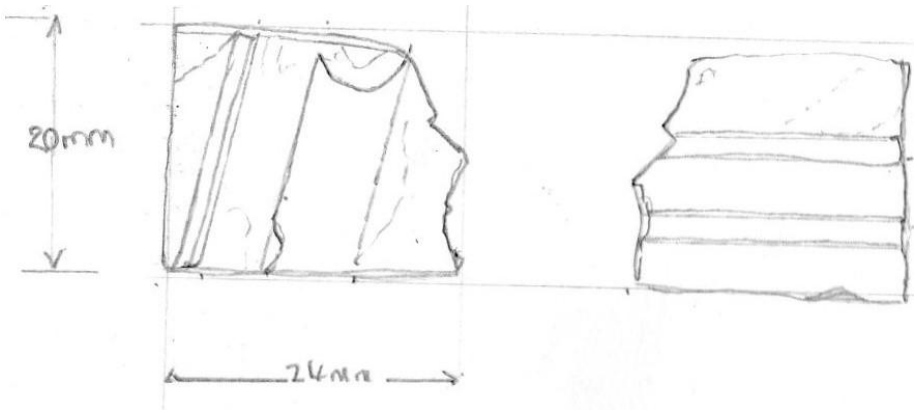

Fig 14 Sketch of item 07/03/05 is a typical piece showing broad diagonal grooves on one side and a narrow lateral grooving on the other. Many of the shell fragments found across the estate carried these distinguishing features.

It is possible to tell a fired from an unfired shell by whether the copper driving band is smooth or gouged. Many experts suggest that the patterns of feathering and the gouging caused during the firing of the shell are nationally distinctive and often different for different types of shells. Therefore they may provide more information about which side was firing into the garden at No.7. Unfortunately no data was available to the project at this time.

Webbing Buckles

There were 6 buckles recovered of which two were definitely off the British Type 37 Webbing.

Line Number	Transit	Item Number	Description	Location	Notes
8	1	8	buckle	5.35m x 0.95m	
36	2	4	Webbing Buckle	12.55m x 0.33m	One bar open
57	3	8	Webbing Buckle	9.25m x 0.15m	Notable
81	5	6a	Buckle	13.90m x 0.93m	broken
82	5	7	Webbing	16.46m x	One bar open

			Buckle	1.10m	
111	9	4	Belt Buckle	16.63 x 1.67m	non military 14mm belt width

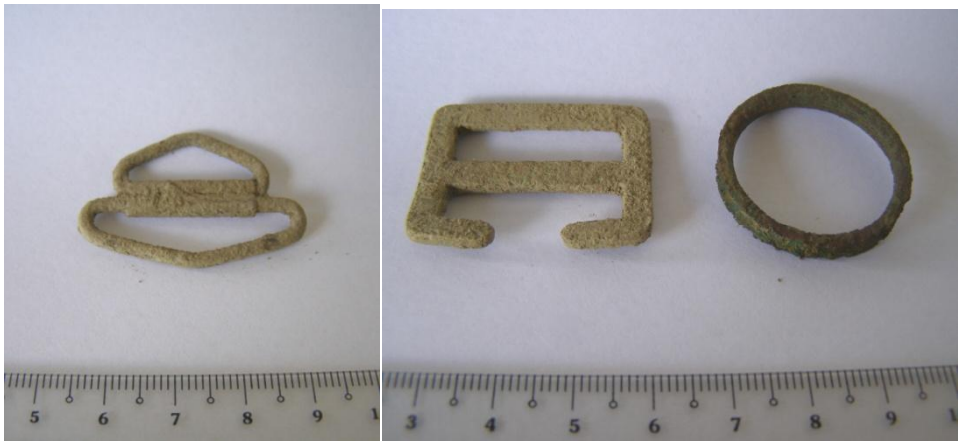

Fig 17a (left) – 07/03/08 connects a 30mm strap to a 20mm. As to whether this is military is still to be ascertained
Fig 17b (centre) – Items under 07/02/04 include a brass single bar open webbing buckle and a 31mm diameter brass fitting with a screw thread on the inner face.

Although not found is any great quantities compared to other locations where kit had appeared to have been abandoned after the fighting, this collection is reminiscent of other areas of fighting where individuals have lost single items of kit perhaps in an attempt to get rid of unnecessary equipment in combat.

Buttons

Three buttons were found on site. All three were military and were found within a metre of each other at around the 17.0m mark of T1 and T2. Each button was annotated with the word ‘London’ on the reverse as well as another word, most likely the name of the manufacturer of which the letter ‘FIR’ and possibly ‘MJ N’ could be made out

Transit	Item Number	Description	Location	Notes
2	10	Button	18.85m x 1.55m	Brass 17.5mm diameter four holes No wording discernable
3	14	Button	17.00m x 1.34m	Brass 17.5mm diameter four holes. Annotated with the word ‘London’
3	15	Button	17.83m x 1.51m	Brass 17.5mm diameter four holes. Annotated with the word ‘London’

Fig 18 – Three brass military buttons were found very close to each other in T2 and T3. This suggests it came from the same item of clothing.

These items are very similar to British military buttons found in previous surveys. Two similar general issue stamped brass buttons were found on site at 8 Adam Park. Item 8/2/75b was engraved with the letters 'BHAM' most likely referring to the place of manufacture in Birmingham. However no date was noted.

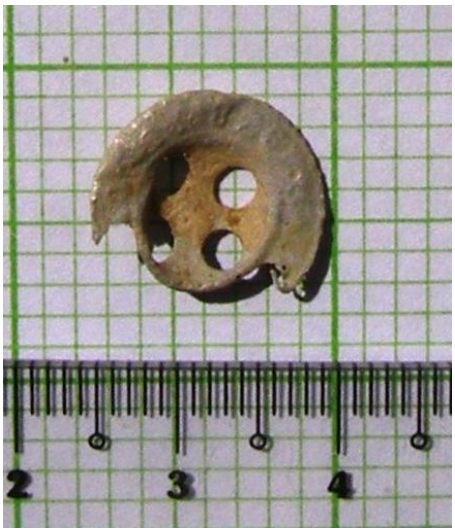

Fig 19 –The shirt button found at 8 Adam Park is clearly stamped with the letters BHAM and can be compared to the buttons from London found at No.7 Adam Park.

Coins

Line Number	Transit	Item Number	Description	Location	Notes
73	4	7	Coin	14.97m x 1.92m	
84	6	2	Coin	4.61m x 0.86m	1 Dollar
85	6	3	Coin	6.30m x 1.22m	50 cents
109	9	2	Coin	0.60m x 1.38m	
132	14	5	Coin	2.24m x 1.49m	
140	15	8	Coin	1.59m x 0.74m	
145	16	5	Coin	5.74m x 0.63m	
150	17	5	Coin	2.35m x 1.40m	

Out of the small collection of coins only one was of any interest.

The Straits Settlement coin, item 07/16/05, is interesting as it predates the invasion by a year; it is dated 1941

Fig 20 - Item 07/16/05 is dated 1941

Other Related Artifacts

The Cigarette Tin

This cigarette tin is in a pretty fragile condition however its size 85mm x 70mm and the faded writing on the side suggest it housed twenty cigarettes.
The inscription on the side states ‘Old Bond Street London W’ and ‘Made in England’ with a gold and red colour scheme. The left side of the container states ‘Twenty C…’ presumably ‘cigarettes’and has a black and gold colouring. The right side also is coloured gold and black but you can only make out the first two letters ‘TH… the statement ends in an exclamation mark. The gold and black colour scheme is also on the bottom of the tin and there is a four figure number stamped in the bottom but it is impossible to make it out in full.

Fig 21 – the Cigarette tin is pretty beaten up but still shows some writing and colouration

Fig 22 – One possible match is the Benson & Hedges brand popular through the 30's to the 60's and produced at times for export, airlines and the NAAFI. The BEA example here clearly shows the colour scheme and the stamp in the base of the box. NAAFI cigarette tins will have a stamp at the bottom declaring they are for NAAFI sale only.

Japanese coveted the British tobacco tins as there were of stronger metal sealed well and could be used to carry the ashes of their dead comrades, keeping them dry and ptotected.

Erasmic Hair Oil

The Erasmic brand is perhaps best known for the production of shaving cream and male bathroom cosmetics. However this cap 5cm in diameter does not appear to be a mainstream product. Instead the closest match was with the Erasmic Hair Oil product.

Fig 23 - This unusual screw thread bottle top was tracked down to an Indonesian source. Erasmic hair oil was very popular over 40 years ago. It came in a glass bottle as seen on the left

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Fig 24 – An Indonesian poster advertising the benefits of the Erasmic Hair Oil

Fuse Safety Cap

It was clear from the outset that this item was of military use simply by the words 'Remove Before Firing' stamped into the top of the cap. Judging by its size (5cm in diameter) the safety cap belonged to a 3" mortar round. These facts tallies with the battalion history that states Sgt Pike and Sgt Reeves's mortars were located at No.7 on the 12th February and that the house was used as an ammunition store during the fighting where mortar rounds were made ready for firing.

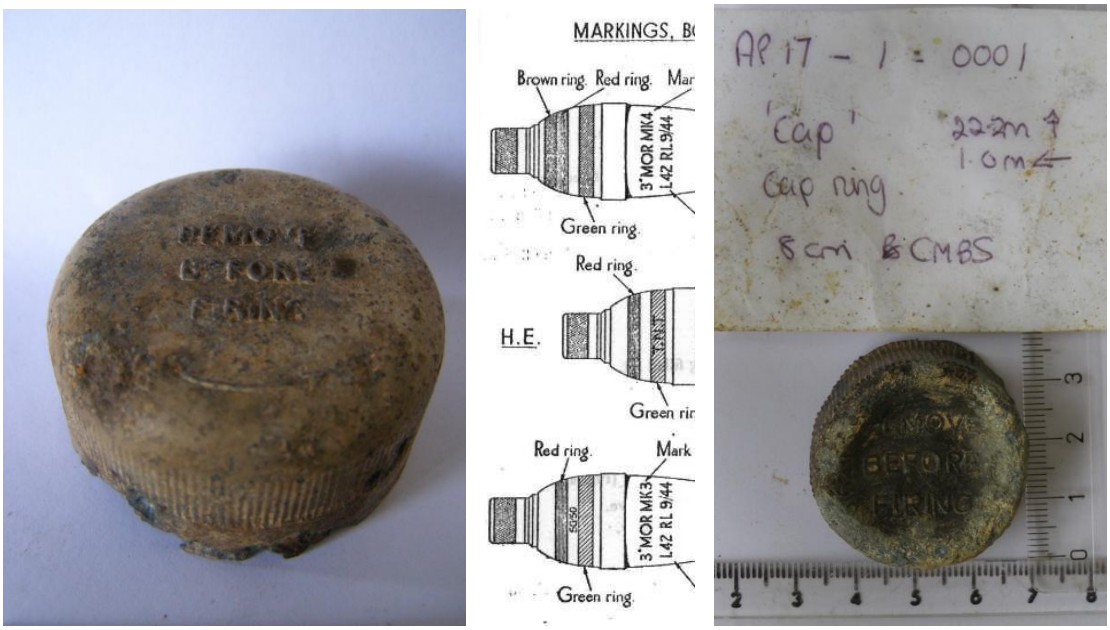


Fig 25 - Item 07/01/32 (left) is clearly annotated 'Remove Before Firing'. It can be seen on the left of the images of primed 3" mortar rounds shown in the War Office instructions pamphlet (centre). A similar fuse cap for a 2" mortar was found at No. 17 Adam Park (right)

‘Good Luck’ Paper Clip

Item 07/15/07 was found in two pieces and folded in on itself. It was initially thought to be yet another tin can but careful cleaning revealed and intriguing good luck message. The item was also dated ‘1901’ and ‘England’ presumably referring to the country of manufacture. The item was posted on line in the project’s Facebook page and was very quickly identified from an antique site as being a ‘paper clip’ made by M Myer & Son.

Fig 26 – The carefully reconstructed ‘Good Luck’ horseshoe plaque found at 7 Adam Park can be compared with a similar item in better condition on the left.

The clip is finished in brass and would have been used to clip to hold papers, hang on a wall or as a money clip. It measures approximately 4" tall and 2 1/2 inches wide. In the write up on the site the seller advises that the item was brought from his home ‘back East’ suggesting this item was also purchased in SE Asia.

Fig 27 - Myers’s posters showing the range of their products

The business was founded by **Meyer Myers**, and was initially based at 8 Newhall Street. After trading on his own account for a while he entered a partnership with Philip Phillips, who in the early to mid 1840s had his own business at 2 Newhall Street, but Phillips dropped out after a few years. In 1854 the firm moved to a purpose built works in Charlotte Street where it started manufacturing pens. It became a public company in 1914 and by 1922 it was selling a range of stationery products such as Metal Pens, Customers' Imprint Pens a Speciality; Carded Penholders and Carded Novelties; School Compasses and Children's Mathematical Sets; Letter Clips, Fold-Back and Bull Dog Clips; Paper Perforators, Ticket Clips and Suspenders; Card Display Stands. (Stand No. K.74). In 1939 the firm moved again, this time to Langley Green, Oldbury. The company, which remained throughout in the control of the **Myers family**, made corkscrews, drawing instruments and office supplies, including the famous bulldog clips, as well as pens. In common with Brandauer and Baker and Finnemore, they successfully diversified into precision pressings. In 1961 Manufacturers of office requisites, writing instruments, mathematical instruments, display appliances, small metal pressings and importers. 600 employees. The company was sold to an American label company, Avery International, in 1985 who wanted to expand their European office stationery business. The old **Myers** directors quickly retired and the business transformed virtually overnight from a typically English family firm to part of an international conglomerate, which sold the factory and its land in Langley Green, and like many other long established British companies, it is now a housing estate.

It is possible that 07/15/07 was being used as a good luck charm with the date referring to a special year to the owner; date of birth for example. On the other hand it is most likely the item was purchased in Singapore for its primary role.

Homemade Lovers Brooch

This handmade lover's token, made of brass, particularly caught the eye for its crudity and simplicity. Previous excavations at No.18 Adam Park had revealed evidence of POW's creating metalwork from scrap metal. This piece has no obvious means of securing it to the wearer; there are no signs of pins or clips having been added to the reverse and no loop to allow it to hang from a chain again suggesting this was not manufactured or retailed. The head of the arrow appears to be inscribed with the letters 'K_ILY', a possible clue as to the name of the lost love.

Fig 28 - The 'Lover's Token' may have been made as a token by a POW.

Cambridgeshire Cap Badge

The collection of cap badges continues to grow. Item 07/06/12 is the third Cambridgeshire badge to be found on site. This particular cap badge in the best condition to date without any of the attachments missing however much of the gilding has worn away. The badge measures 40mm x 35mm not including the rear slider which is used to attach the badge to the cap, side cap or beret. The badge depicts the keep at Bury St Edmunds and the coat of arms of the town in the centre. The scroll at the bottom is embellished with the words 'The Cambridgeshire Regt'.

Fig 29 – The badge is revealed by the volunteers after 70 years in the ground. Although covered in dirt it is instantly recognisable.

Fig 30 – Item 07/06/12 (left) after cleaning is not in pristine condition as the collector's example to the right

This is the seventh military badge to be found at Adam Park; the third from the Cambridgeshires. It would appear that there was a concerted effort to dispose of military insignia by the soldiers across the estate. This may be in response to an order to get rid of all insignia that may link an individual with a unit prior to capture as prisoners were not obliged to give up any more information that name rank and number. Veterans when questioned about the use of badges say that they were not allowed to wear badges in combat for this very reason but the order was widely ignored.

Conclusion

The survey at No.7 on its own could be described as a little disappointing. The location, which is the centre stage of much of the published works and accounts of the fighting and which is the only house recognised by the authorities as a having any heritage potential at all, gave up very few WW2 items[3]. Much of the area covered proved to be barren and the only crumb of comfort is that we now know much of the area around No.7 has been stripped of artefacts. There was no indication as to the presence of ARP trenches or other fieldworks despite the fact the histories state the lawns around the house were criss-crossed with defences. No.7 remains an enigma.

However the artefacts that were recovered were spectacular in themselves; in particular the latest Cambridgeshire Cap badge was a stunning discovery. The concentration of bullets and the mortar fuse cap found in close proximity to each other and the hedgerow bordering with No.9 indicated that there may be more items beyond the fence. It was decided that Survey No. 16 would continue to search the immediate area from the adjacent property.

The survey was a first in a number of other aspects. It was the first time two metal detectors and two pinpointers had been employed and there was a regular turn out of eight volunteer students to ensure the maximum acreage could be covered in the few days on site. The only drawback being the effort required for the one experienced metal detectorist to keep ahead of the dig teams and the 'tagger and baggers'.

Secondly it was the first time aerial photography on site. An AR drone was used to take pictures from and altitude 30 metres[4]. The results were mixed in a garden which was heavily overlooked by trees but the method showed great potential.

Fig 31 – This aerial drone photograph of Transect 1 to 6 from a height of 30 metre was taken amidst the foliage of the overhanging trees. This was taken before the tree in the corner was blown over.

[3] 15% of the items recovered were related to WW2 This has been the fourth smallest percentage to date.

[4] A full report of this survey is available in the project library.

Survey 15 can best be viewed in a wider context. Items found at No.7 added to our understanding of the overall site. Every new round, shell fragment and cartridge adds value to the patterning across the gardens. Every new badge, mortar fuse cap and buckle adds to the growing collections of these rarer and more personal items. And every individual one off item adds to the ever growing richness of the material culture of the Adam Park estate. Survey 15 proves that Adam Park has continues to offer up its amazing heritage but at times will do so only after a lot of hard work.

Appendix 1 - TAPP - Finds Log – 7 Adam Park

Line No	Transect No.	Item No.	Description	Location	Notes
1	1	1	Foil	0.15m x 0.25m	
2	1	2	Large piece of metal	0.60m x 1.00m	
3	1	3	Bolt	1.46m x 1.34m	x2
4	1	4	Cylindrical filter	1.60m x 0.16m	
5	1	5	Hinge	1.90m x 0.78m	nail, bolt, 8 items
6	1	6	Toothpaste Tube	3.30m x 1.05m	
7	1	7	small length of metal tube	3.85m x 0.75m	
8	1	8	buckle	5.35m x 0.95m	
9	1	9	Nail	5.35m x 2.00m	
10	1	10	bottle cap	6.28m x 0.83m	
11	1	11	Hinge	6.28m x 1.75m	
12	1	12	Large piece of metal	8.08m x 0.44m	Triangular
13	1	13	Toothpaste Tube	8.55m x 1.68m	
14	1	14	Foil	9.40m x 0.10m	
15	1	15	Ringpull	10.15m x 0.75m	
16	1	16	Triangular piece of metal	10.80m x 1.65m	
17	1	17	Round concave cap	11.55m x 1.78m	
18	1	18	bottle cap	12.25m x 1.00m	x2
19	1	19	bottle cap	12.47m x 0.15m	
20	1	20	Ringpull	12.94m x 0.36m	
21	1	21	Ringpull	13.05m x 0.70m	
22	1	22	Fence wire	13.20m x 0.18m	
23	1	23	Ringpull	13.30m x 1.95m	
24	1	24	electrical cable	14.05m x 0.85m	Big coil of modern cable
25	1	25	Round cap	14.35m x 0.30m	half circular disc, bolt
26	1	26	metal grille	14.60m x 0.20m	large item
27	1	27	Fence wire	14.60m x 1.50m	bolt
28	1	28	bottle cap	16.80m x 0.10m	
29	1	29	Toothpaste Tube	18.85m x 0.86m	
30	1	30	Hammer head	19.65m x 0.90m	
31	1	31	Toothpaste Tube	19.90m x 2.00m	
32	1	32	Fuse Cap	20.70m x 0.53m	
33	2	1	back of a watch	8.00m x 0.90m	
34	2	2	Cartridge	11.88m x 0.14m	
35	2	3	Cartridge	12.40m x 0.65m	
36	2	4	Webbing Buckle	12.55m x 0.33m	Ring
38	2	5a	Full Round	14.40m x 0.14m	Nail and small piece of metal

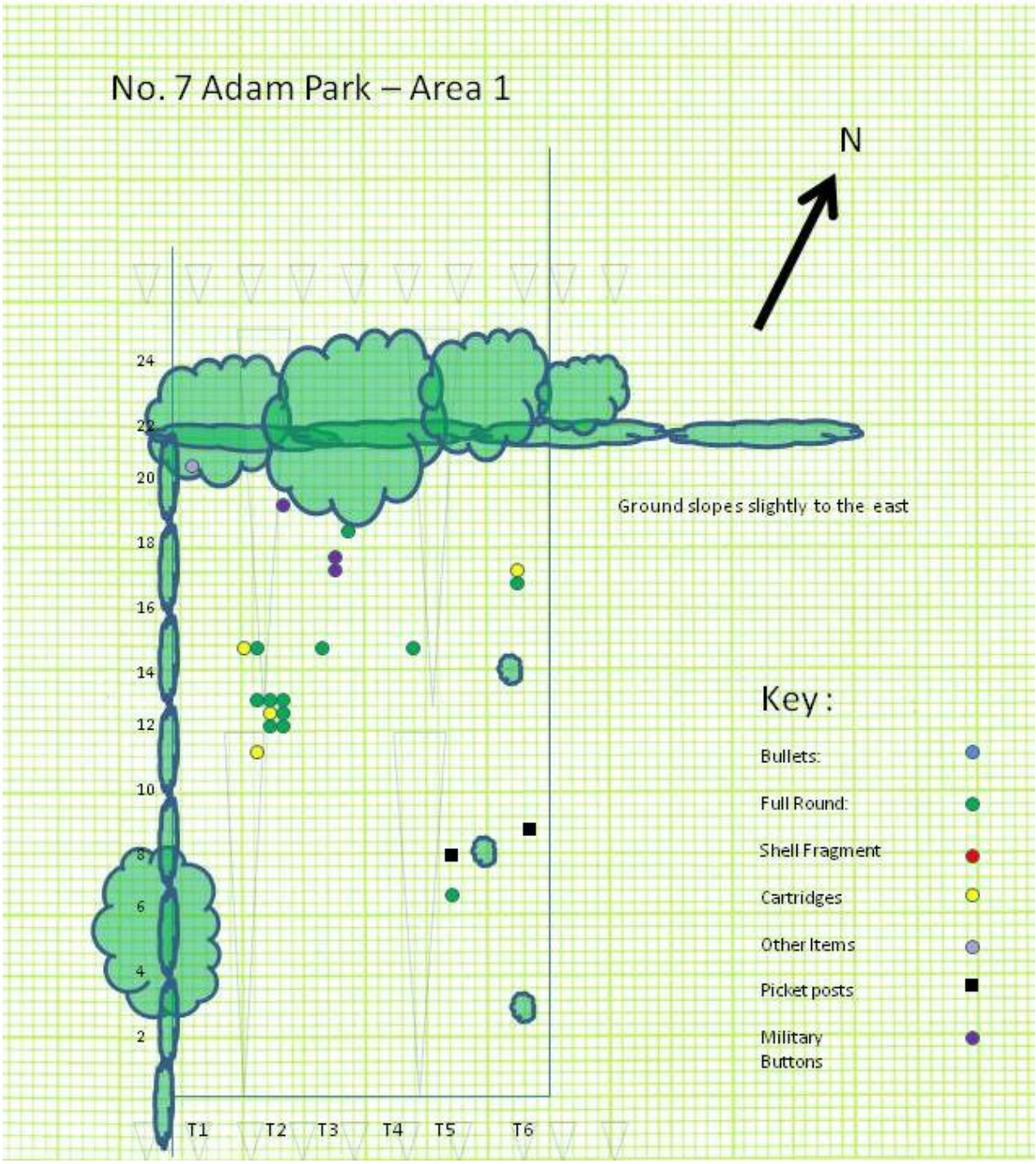
Line No	Transect No.	Item No.	Description	Location	Notes
39	2	5b	Cartridge	14.40m x 0.14m	
40	2	5c	Glass	14.40m x 0.14m	& Neave', 'nard and Sons of London'' 'ING'
41	2	6	Full Round	13.15m x 1.47m	
42	2	6a	Full Round	13.15m x 1.47m	
43	2	6b	Full Round	13.15m x 1.47m	
44	2	6c	Bullet	13.15m x 1.47m	
45	2	6d	Charger & 4 rounds	13.15m x 1.47m	
46	2	7	bottle cap	15.15m x 1.92m	
47	2	8	Bracket	15.65m x 0.68m	
48	2	9	Ringpull	18.85m x 0.13m	
49	2	10	Button	18.85m x 1.55m	Military
50	3	1	Cigarette package	0.10m x 1.88m	
51	3	2	Folded metal sheet	0.40m x 1.10m	
52	3	3	Toothpaste Tube	0.75m x 1.27m	
53	3	4	screw	3.20m x 0.82m	
54	3	5	Shell Fragment	4.64m x 1.00m	
55	3	6	Cap	6.64m x 1.45m	Screw
56	3	7	nail	6.80m x 0.65m	
57	3	8	Webbing Buckle	9.25m x 0.15m	Notable
58	3	9	pieces of metal can	13.73m x 1.11m	
59	3	10	Full Round	14.50m x 0.77m	
60	3	11	cap	15.00m x 0.90m	Refuse can if seal is broken'
61	3	12	Nut	15.37m x 1.48m	Round headed
62	3	13	Section of brass pipe	16.13m x 1.03m	
63	3	14	Button	17.00m x 1.34m	
64	3	15	Button	17.83m x 1.51m	military
65	3	16	Fence wire	17.88m x 0.69m	
66	3	17	Full Round	18.15m x 1.83m	
67	4	1	Door Hinge	0.50m x 1.54m	
68	4	2	Chair leg	3.65m x 0.12m	
69	4	3	Metal Slab	5.22m x 0.65m	White glass
70	4	4	Sheet metal plate with two holes	10.40m x 1.60m	
71	4	5	Toothpaste Tube	13.42m x 0.50m	
72	4	6	Full Round	14.49m x 1.30m	
73	4	7	Coin	14.97m x 1.92m	
74	4	8	Toothpaste Tube	17.23m x 1.93m	
75	5	1	badge	1.90m x 0.25m	Coach
76	5	2	bottle cap	2.08m x 0.50m	
77	5	3	small metal square piece	2.63m x 1.22m	roughly cut

Line No	Transect No.	Item No.	Description	Location	Notes
78	5	4	spoon	5.05m x 0.79m	
79	5	5	spoon	10.33m x 0.67m	
80	5	6	Full Round	6.29m 1.09m	0.45 acp
81	5	6a	Webbing Buckle	13.90m x 0.93m	broken
82	5	7	Webbing Buckle	16.46m x 1.10m	
83	6	1	cap	2.52m x 1.60m	
84	6	2	coin	4.61m x 0.86m	1 Dollar
85	6	3	coin	6.30m x 1.22m	50 cents
86	6	4	small length of metal tube	11.10m x 1.65m	brass
87	6	5	Oval Lock fitting (YALE)	12.03m x 1.25m	Wire and terminal piece
88	6	6	bottle top	12.43m x 0.55m	
89	6	7	cap	13.80m x 0.81m	Erasmic' shaving cream
90	6	8	Toothpaste Tube	14.96m x 0.90m	
91	6	9	metal plate with hole	16.60m x 1.02m	0.303
92	6	10	Full Round	16.65m x 1.17m	0.303
93	6	11	Cartridge	17.10m x 0.90m	0.303
94	6	12	cap badge	17.24m x 1.48m	Cambridgeshire
95	6	13	screw	17.32m x 0.65m	
96	6	14	metal plate with hole	17.67m x 1.13m	same as 9
97	6	15	battery terminal heavy duty	19.78m x 0.98m	
98	7	1	rectangular tin	0.18m x 0.71m	Old Bond Street' 'Twenty Cigarettes' The …. Life!
99	7	2	bottle top		
100	7	3	small round metal tin with lid	2.05m x 0.43m	Fraser and Neave' botle tops Toothpaste tube, Pieces of leather
101	7	4	Bottle Top	2.49m - 0.67m	
102	7	5	Fork shaped hinge	5.85m x 1.84m	
103	8	1	Arrow and Heart badge	0.42m x 1.57m	
104	8	2	Small cap	4.02m x 1.43m	Corroded bottle top
105	8	3	Door Hinge	6.30m x 0.68m	
106	8	4	cap	7.28m x 1.67m	perfume bottle brass colouring
107	8	5	small length of metal tube	18.19m x 1.15m	
108	9	1	aliminium foil	0.49m x 1.08m	
109	9	2	Coin	0.60m x 1.38m	
110	9	3	Red Foil	7.55m x 0.18m	wine bottle top
111	9	4	Belt Buckle	16.63 x 1.67m	non military 14mm

Line No	Transect No.	Item No.	Description	Location	Notes
					belt width
112	9	5	twisted metal piece	17.91m x 0.35m	
113	10	1	square block of metal with round knob	0.81m x 1.15m	
114	10	2	Large bracket	9.95m x 0.10m	
115	10	3	small metal bolt	11.24m x 0.53m	
116	11	1	Coat Hanger Hook	8.45m x 0.62m	
117	11	2	molten piece of metal	9.06m x 0.83m	
118	11	3	Bullet	10.10m x 1.31m	
119	12	1	Cabinet fitting possibly clock	18.20m x 0.83m	annotated 'loofy' 'No.2 ' 'Wind This Way'
120	12	2	Cartridge	20.29m x 1.38m	
121	12	3	wire and small piece of molten metal	22.31m x 1.79m	
122	13	1	small lenghth of piping with rounded end	N1'19'.787 x E103'48.828	
123	13	2	Shell Fragment	N1'19'.783 x E103'48.838	
124	13	3	Metal fitting	N1'19'.777 x E103'48.830	
125	13	4	Coat Hanger Hook	N1'19'.781 x E103'48.832	
126	13	5	Toothpaste Tube	N1'19'.777 x E103'48.837	Bottle caps
127	13	6	Toothpaste Tube	N1'19'.776 x E103'48.840	
128	14	1	bottle cap	10.44m x 168.5m	
129	14	2	bottle cap	5.59m x 1.99m	
130	14	3	Thin Foil packet	3.84m x 0.85m	
131	14	4	Blind attachment	2.89m x 0.50m	
132	14	5	Coin	2.24m x 1.49m	
133	15	1	Toothpaste Tube	18.14m x 0.96m	
134	15	2	Tin Can	17.74m x 0.70m	Crushed
135	15	3	Toothpaste Tube	15.44m x 1.10m	
136	15	4	Small piece of metal	13.06m x 1.85m	
137	15	5	Small piece of metal	11.74m x 0.63m	
138	15	6	Full Round	6.29m x 1.09m	
139	15	7	Good Luck Badge	2.69m x 0.23m	part only, made in England and dated 1901
140	15	8	Coin	1.59m x 0.74m	
141	16	1	Glass shard	12.64m x 1.43m	Bottle cap Pharmaceutical Industries

Line No	Transect No.	Item No.	Description	Location	Notes
142	16	2	Small	11.54m x 0.91m	
143	16	3	keyhole plate	10.79m x 0.65m	
144	16	4	foil	8.64m x 1.72m	
145	16	5	coin	5.74m x 0.63m	
146	17	1	bottle cap	13.90m x 0.54m	
147	17	2	bottle cap	12.30m x 1.88m	
148	17	3	Smaill pieces of metal	11.02m x 1.67m	worked strips possibly POW manufacture
149	17	4	Smaill pieces of metal	6.90m x 0.79m	2x
150	17	5	Coin	2.35m x 1.40m	
151	18	1	Medical Cream Tube	10.01cm x 1.25m	May & Baker, Dagenham, 'ANTHISAM'
152	18	2	section of pipe	3.85m x 0.07	20mm dia
153	19	1	Cartridge	3.20m x 0.76m	
154	19	2	pieces of metal can	Found outside transect	
155	20	1	Part of metal tin	1.70m x 0.97m	
156	20	2	Tin Can	4.20m x -0.12m	
157	20	3	Tin Can	10.75m x 0.01m	
158	20	4	Tin Can	26.43m x 0.08m	
159	20	5	pieces of metal can	27.25m x 0.71m	
160	21	1	Modern aluminium pipe	0.23m x 0.09m	
161	21	2	Triangular piece of metal	7.13m x 1.40m	
162	21	3	Large ferrous pieces	19.85m x 0.72m	possible lawnmower blade
163	21	4	wire	20.52m x 1.33m	
164	21	5	Tin Can	24.33m x 1.10m	
165	22	1	Casio Watch	Not recorded	
166	22	2	plug fitting	Not recorded	
167	22	3	Small length of brass piping	Not recorded	25mm dia
168	22	4	Badge Shield	Not recorded	YAMEI
169	22	5	Rim of metal pan	Not recorded	
170	22	6	Coat Hanger Hook	Not recorded	
171	22	7	Toothpaste Tube	Not recorded	
172	22	8	Small length of brass piping	Not recorded	9.5mm
173	22	9	bottle top	Not recorded	

Appendix 2 – Sketch Map Area 1



Appendix 3 – Sketch Map Area 2