Archaeological Test Excavations at the Sites of Hangars One and Two, College Park Airport Maryland

October 2005

by

The International Group for Historic Aircraft Recovery

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Abstract

College Park Airport in Prince Georges County, Maryland is the oldest continuously-operating airport in the world, and has a good claim to being the birthplace of the United States Air Force. Nothing remains above ground of the hangars built there in 1911 for use in training U.S. Army personnel operating the "Wright Military Flyer," but the sites of two of them – Hangars One and Two – can be seen (thanks to their having been lined in brick by College Park Aviation Museum staff) in the open space between the runway area and the Metro tracks.

Figure 1: West End, College Park Airport
(Source: Google Earth)

In October of 2005, The International Group for Historic Aircraft Recovery (TIGHAR) conducted an Aviation Archaeology Field School at the Airport, in cooperation with the Museum and the Maryland Historical Trust. The project had two modest goals: to better understand how the hangars and their contents might be represented today by material left in the ground, and to explore the sites of military tent structures shown in old photographs between and next to the hangars. We excavated five small test pits, each one meter square; two within the hangars, three outside.

[1] Primary author: Thomas F. King, with assistance from Richard Gillespie, Gary Quigg, and Monty Fowler.

Inside the hangars we found debris from the structures themselves, together with bottle fragments and small machine parts – Most of them enigmatic objects that seem to have had some function in controlling electrical conduction. Between the two structures we found less such debris, but quantities of bottle glass generally comparable with the interior locations. This may reflect use of the area between the hangars for military messing and other facilities. One of the most interesting areas, south of Hangar One where a hospital tent apparently stood in the early days of the base, turned out to have been so badly churned up and compacted by landscaping put in when the Metro was constructed that we could not penetrate even the uppermost ground levels using hand tools.

Historical Background

College Park Airport in College Park, Maryland, is the oldest continuously operating airport on earth, and (with some possible competition from Fort Myers, Virginia) is the birthplace of the United States Air Force and more generally of U.S. military aviation. In 1909, only five years after the Wright Brothers' initial flight at Kitty Hawk, the U.S. Army created an aeronautical division and awarded a contract to the Wrights to deliver the nation's first military aircraft and train two army officers to fly them. The Wrights delivered the "Wright Military Flyer" to the Army at Fort Myer, Virginia in August of 1909, but less encumbered space was needed for testing and training, so the Army and the Wrights looked about and settled on College Park. A hangar already stood on an open field at the site, operated by aviation inventor Rex Smith.

The first four Army hangars built on the site – designated Hangars 1, 2, 3, and 4 – are said to have been built following a drawing made by Wilbur Wright on the back of an envelope. Each was 45 feet on a side and stood eleven feet high at the top of its arched roof. The buildings were wood frame, on concrete footings, and were set in a line with the existing Rex Smith hangar. They were ready for use by the middle of 1911, and two additional hangars (Hangars 5 and 6) were constructed in line with them later in the year (Figure 2).

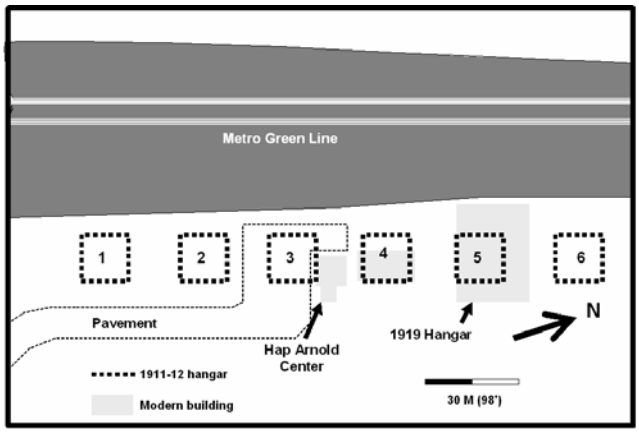

Figure 2: 1911-12 Hangars and Modern Features

Despite Wilbur Wright's death in 1912, the Wrights completed the training for which they had contracted, and College Park was the site of such aviation "firsts" as the first night landing and the first firing of a machine gun from an aircraft. The flying school was short-lived, however, closing in late 1912; its personnel and operations moved to facilities in Georgia and California where year-round flying was more feasible.

Civilian operations and occasional military use of the airport continued, however; in 1918 the U.S. Post Office Department initiated airmail service at College Park, and in 1924 Emile and Henry Berliner made the first controlled helicopter flight from the field. Operations have continued up to the present day, though there was a period of serious decline in the 1940s and 50s, during which the old hangars burned, collapsed, or were demolished. Hangar One apparently burned on December 20, 1944[2], and Hangar Two is said to have collapsed under a heavy snow load around the same time.

In 1973 the Maryland National Capital Park and Planning Commission purchased the airport for purposes of preservation, and it continues in use today[3]. Severe restrictions imposed after September 11, 2001 on civilian flights in the Washington DC area have curtailed but not ended operations. The history of the airport and its role in aviation are interpreted for the public at the College Park Aviation Museum (CPAM), on the airport site[4]. The airport was placed on the National Register of Historic Places in 1977.

Previous Archaeological Work

Archaeological work had been carried out at the airport at least twice before the fieldwork reported here. In 1980, Mid-Atlantic Archaeological Research, Inc. (MAAR) conducted a survey and test excavations to collect data for the Washington Metropolitan Transit Authority (WMATA) contractors assessing the environmental impacts of constructing the Green Line of the Washington Metro in the vicinity. Because it was using U.S. Department of Transportation (DOT) funding, WMATA had to comply with such project review laws as the National Environmental Policy Act and Section 106 of the National Historic Preservation Act. Part of this compliance features locating historic properties that may be affected by a project, so that they can be considered in planning. Although strenuously opposed by local residents and others, the Green Line was eventually built immediately adjacent to the airport, and indeed immediately adjacent to the sites of the original hangars.

[2] "Flames Raze College Park Hangar, Shop." *Washington Post*, December 21, 1944
[3] Historical summary based on Aleshire & Sellers 1976, American Institute of Aeronautics and Astronautics 2003, Beatty 1976.
[4] See http://www.pgparks.com/places/historic/cpam/index.html

MAAR's archaeologists excavated test pits and short trenches in and around the sites of Hangars One, Two, and Three, with limited testing at Hangar Four and other locations. MAAR's work focused on places where footings and foundation structures were likely to be found, based on hangar dimensions and foundation remnants still visible on the surface – in other words, on the hangar perimeters. They documented the overall characteristics of the hangar foundations and described recovered artifacts and other material – for the most part bottle shards and machine parts. They found that the dimensions of the hangars as represented archaeologically were consistent with those recorded historically – some 45 feet (13.7 meters) on a side, 50 feet (15.2 meters) apart[5]. They also concluded that construction of the Metro Green Line along the northwest edge of the site would have no effect on it. This turned out to be a dubious conclusion at best, since relocated utilities ended up passing very close to the northwest ends of the hangar sites and landscaping carried out in the wake of Metro construction disrupted the area southwest of Hangar One.

In 1984, with Metro construction creating fear that the hangars would be lost, College Park Aviation Museum personnel exposed the footings of Hangars One and 2, and marked the hangar perimeters with bricks so they could be avoided during construction and later interpreted for the public. Artifacts from this work are housed at the Museum.

The TIGHAR 2005 Test Excavations

The International Group for Historic Aircraft Recovery is a nonprofit corporation based in Wilmington, Delaware and devoted to aviation-related historic preservation. Periodically TIGHAR puts on a one-week field school in aviation archaeology; successful completion of the class is a standard prerequisite to participation in one of TIGHAR's field research projects. At the suggestion of the College Park Aviation Museum, in 2005 we selected as a field school project test excavations at the sites of Hangars One and Two. The project was carried out over the rainy week of October 10-15, and included excavation of test units, field processing of artifacts, and some research in the compact but rich archives of the museum. Under the overall direction of TIGHAR Executive Director Ric Gillespie, the fieldwork was supervised by TIGHAR archaeologists Thomas F. King, and Gary Quigg. Ten adult students took part in the work.

The Museum has extensive files of historical photographs, which have been used to create a small three-dimensional model of the hangars as they would have looked in their heyday, and which were very helpful in guiding our work. Many of these photographs show structures other than hangars on the site. Early in the life of the hangars these other structures are military-style tents said to have housed messing and medical facilities. Later, the tents were replaced with small wood frame structures. One goal of the TIGHAR project was to test one or more

[5] Basalik 1980.

auxiliary structure sites to see if the structure, or the activities that went on there, had a readily observable archaeological signature.

Figure 3: Model of Hangars and Associated Tents, 1911, In College Park Aviation Museum, Based on Period Photos (Hangar One and Medical Tents in Foreground)

The other purpose of the fieldwork was to better document the character of the hangars themselves, with a particular focus on the nature of their demolition. To do this, in contrast with the MAAR work, which had focused on the hangar perimeters, we placed test units inside each structure.

The Site

As an archaeological site, College Park Airport is designated 18PR200 in the Maryland Historical Trust's site inventory. The specific site of Hangars One and Two is a flat lawn, bordered on the northwest by the Green Line Metro track, which runs on an elevated embankment 6-8 meters high. On the southeast the site is bordered by the access road for a parking lot[6] that borders the site on the northeast, servicing the Hap Arnold Center[7] and the much modified 1919 hangar that occupies the 1911 Hangar Five site. At its southwest end the site merges into a more heavily landscaped area surrounding the airport's identifying sign, a large three-legged steel structure. The landscaping consists of small trees and shrubs.

[6] The parking lot covers whatever remains of Hangar 3; minor testing by MAAR in 1980 revealed that footings for the building still exist.

[7] The Hap Arnold Center, named after the famous Air Force flyer and general who was a student of the Wrights at College Park, occupies part of the site of Hangar 4, which is also covered by other modern airport structures and pavement.

The Hangar One/Two site – which of course is only a remnant of the overall 1911 airfield – is a long, narrow, semi-rectangular area some 60 meters on its northeast-southwest dimension and 25 meters northwest-southeast. The northwest edge of the site is transited by underground utility lines, and a mounded concrete platform occupies the northwest corner of Hangar Two. This platform was associated with one of several small structures without foundations that occupied parts of the site between 1940 and the 1970s.

Figure 4 is a satellite image of the site. Figure 5 is a schematic site map showing the locations of test pits (sizes exaggerated to make them visible on an 8½ x11" page).

Figure 4: Satellite Image of Hangar One/Two Site (Source: Google Earth)

Field Methods

The team first swept the entire site with metal detectors and staked the locations of strong signals. This information was used to help locate test units. The units were then staked, the turf removed over each unit, and excavation began.

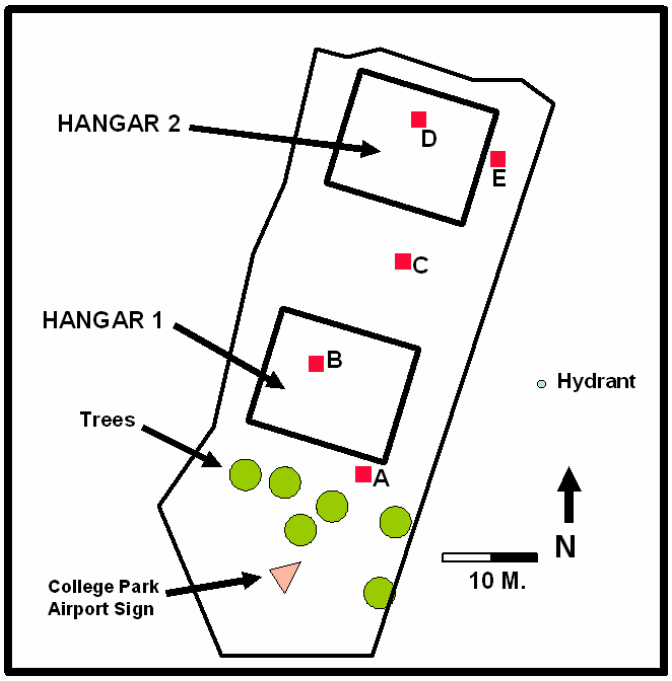

Figure 5: Schematic Site Map

A week with ten people, particularly with an almost constant drizzle and occasional downpours, does not permit large-scale excavation. In all, we excavated five test units in ten centimeter levels, each to a depth of thirty centimeters – at which point the soil became essentially devoid of cultural material. Each test pit was one meter on a side; they were located opportunistically at locations that served our purposes, and located with reference to a fire hydrant on the southeast side of the bordering road. Excavation was by trowel, with soil placed in buckets and carried to large suspended screens on the edge of the parking lot. All soil was passed through ¼ inch hardware cloth screens. Recovered material was recorded and retained by unit, level, in some cases quadrant of level, and in some cases by observable feature (See below). All units were excavated into what appeared to be the original orange-brown clay subsoil. A profile drawing was made of whichever sidewall of each completed unit showed the most diverse stratigraphy. At the end of the project the screened soil was returned to the pits and the surface restored to the extent possible. To aid in their relocation in the event of future excavations at the site, all corners of each unit were marked with aluminum cans before backfilling.

Recovered artifacts were washed, sorted, and given field numbers in the nearby Hap Arnold Center, a small frame building adjacent to our field site that the Airport graciously made available for our use. They were then further examined, characterized, tabulated and catalogued into the Maryland Archaeological Resource Center's artifact management system by the author and Monty Fowler of Huntington, WV.

Excavation unit A was located very near the outside southwest corner of Hangar One. We had hoped to locate it or another unit a little farther to the southwest to better probe the site of one of the auxiliary structures that appears in the aerial photographs, but this proved infeasible. Some aspect of the landscaping around the College Park Airport sign had apparently included the importation of gravelly soil which was then heavily compacted. Excavation among the trees would have required very heavy pickaxe work. Particularly in view of the area's apparent disturbance, we concluded that excavating in other areas would be more rewarding.

Unit B was located inside Hangar One, near its center, at the location of a strong metal detector signal. *Unit C* was approximately midway between Hangars One and Two, at the site of another auxiliary structure. *Unit D* was a little north of the center of Hangar Two at the location of a metal detector signal, and *Unit E* was placed just outside the front door area of Hangar Two

We harbor no illusions that the results of our testing provide a representative picture of the hangar area's archaeology; the sample is far too small, and the excavation units too purposefully selected. Nevertheless, the excavations do give us some basis for generalization.

Stratigraphy

In *Unit A* (See Figure 6), the uppermost 14-15 cm. of soil was a dark gray organic topsoil rich in clay, under which was a stratum of approximately the same kind of soil with a high charcoal content and hence a darker color. This layer was thickest in the southeast corner of the unit, where it was initially isolated as a feature and found to be about 15 cm. thick. Elsewhere in the unit it tailed off to a thickness of 6 cm. or less. It lay atop an orange-brown clay containing few artifacts or other indications of human activity, interpreted as the site's subsoil. At a depth of 4-8 cm. in the southwestern part of the unit was a thin deposit of what we interpret as dried paint, or perhaps melted plaster of some kind – a dense, light-weight, whitish material found in quantity throughout the unit in chunks and lumps. There was also a small concentration of concrete rubble in the SE corner, at the top of the charcoal-rich stratum. Most of Unit A was excavated to 25 cm., the southeast half to 30 cm.

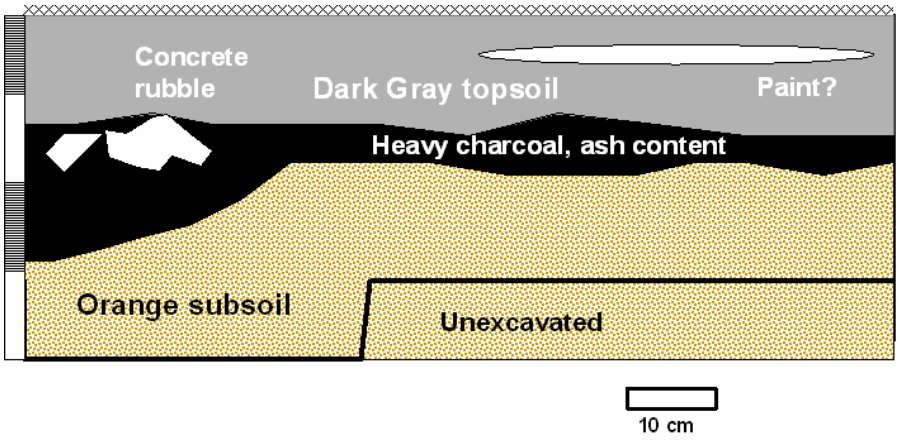

Figure 6: Unit A South wall profile

Unit B (See Figure 7) exhibited a simpler stratigraphy, with 12-13 cm. of dark gray topsoil resting on the orange-brown clay subsoil. What appeared to be a pit feature filled with lighter gray soil occupied the west center of the unit. This unit was excavated to a depth of 23 cm.

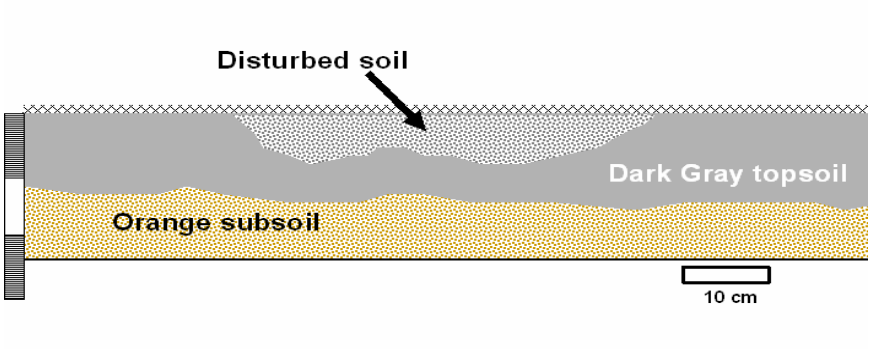

Figure 7: Unit B West Wall Profile

Unit C (Figure 8) was much like Unit B – in this case 14 to 15 cm. of dark gray topsoil lying on the orange-brown clay subsoil, with evidence of two intersecting pits in the eastern part of the unit. A small deposit of burned earth and charcoal lay on the orange subsoil near the northeast corner of the unit. This unit was excavated to 28 cm. depth.

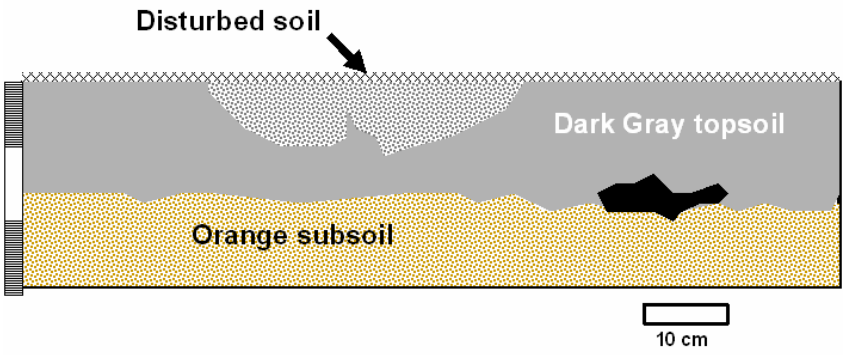

Figure 8: Unit C East Wall Profile

In *Unit D* (Figure 9) the dark gray topsoil was about 12 cm. deep on the east side of the unit, sloping down to about 18 cm. on the west side, resting as usual on orange-brown clay. A deposit of charcoal and burned earth lay on the orange-brown subsoil near the northeast corner. This unit was excavated to a depth of 30 cm.

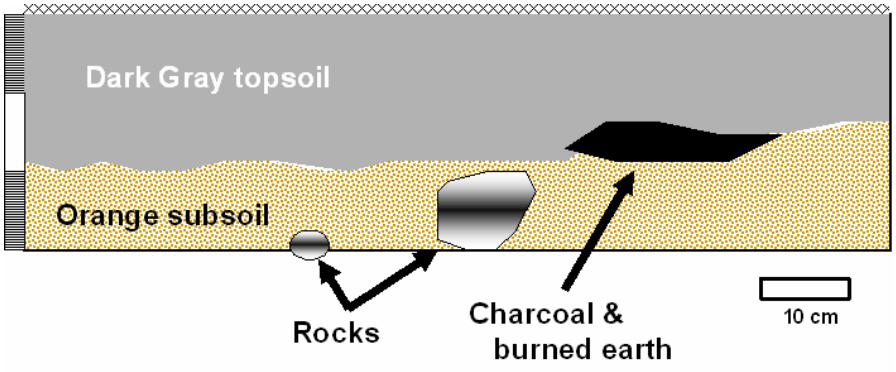

Figure 9: Unit D North Wall Profile

Unit E (Figure 10), like the other units, showed a profile characterized by some 15 cm. of dark gray topsoil overlying orange-brown clay. A deposit of charcoal and burned earth lay in the dark topsoil near the northeast corner, a deposit of ash and charcoal was near the southeast corner, and evidence of a pit or similar disturbance feature was noted just south of the middle of the east wall. This unit was excavated to a depth of 20 cm.

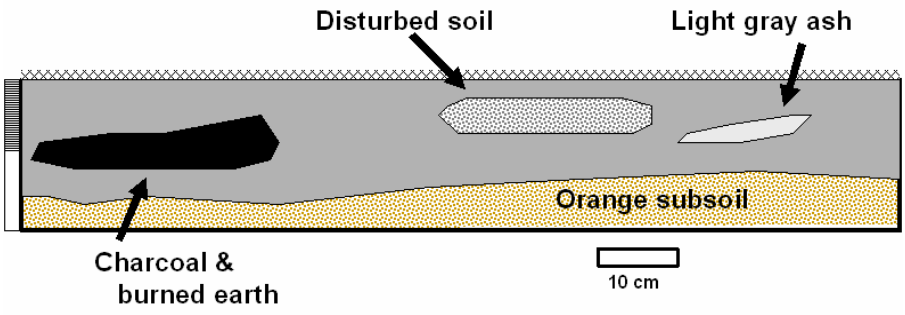

Figure 10: Unit E East Wall Profile

In summary, throughout the site dark gray topsoil extends down to a depth of 12 to 15 cm, with orange-brown clay subsoil below. The topsoil and the topsoil-subsoil interface contain numerous indications of fire and ground disturbance.

Features

"Features," in archaeological parlance, means concentrations of material items and/or distinct soil characteristics thought to have some kind of cultural meaning. A feature may be architectural (a wall, a posthole), structural in some other way (a well, a piling), or neither (a filled-in ditch, a firepit, a cluster of rocks of indeterminate function). At College Park Airport, features were for the most part areas of soil discoloration and/or differential compaction, usually associated with evidence of fire and often with some kind of structural debris.

In *Unit A,* as noted in the discussion of stratigraphy, there was a concentration of material we interpret as dried paint or perhaps plaster in the southwest corner of the unit just under the turf zone at a depth of four to eight centimeters. A similar concentration was noted in the southeast corner, which did not express itself in the stratigraphy of the south sidewall. In the charcoal-rich stratum underlying the dark gray topsoil, features were recorded in the southern quarter and the northeast corner of the unit; both were heavier concentrations of charcoal and burned earth.

In *Unit B,* the apparent pit that became evident in the drying pattern of the sidewall before profiling was not noted during excavation. The only feature recorded was a cluster of fuses/plugs (see below), comprising at least half the entire collection of such objects found in the unit. This cluster was about 25 cm. in diameter and lay in the southeast corner of the 10-20 cm. level.

In *Unit C,* a small (15 cm. diameter) patch of charcoal and burned earth was observed in the southeast corner of the 10-20 cm. level. As in Unit B, apparent pits that became evident as the sidewalls dried were not noted during excavation.

In *Unit D,* a concentration of charcoal and burned earth appeared in the northeast corner of the 20-30 cm. level.

Unit E, which displayed several patches of burned earth and charcoal in its sidewall stratigraphy, revealed three such patches during excavation. All were in the 10-20 cm. level, one near the center of the west sidewall, the other two near the east wall of the unit.

Artifacts and Other Recovered Material

Appendix 1 is a catalogue of material recovered from each unit and level – each of which, together with the contents of each defined feature, was assigned a lot number in the Maryland Historical Trust's artifact catalogue system. The artifact recovered in 1980 by MAAR having been assigned lot numbers 18PR200-1 through 18, we used lot numbers 18PR200-19 through 39.

Most of the recovered material can be efficiently broken down into four categories:

Structural debris includes ferrous nails and spikes, including indeterminate ferrous lumps that probably are pieces of nails or spikes, and flat glass probably from windows. It also includes amorphous material that may represent hardened paint, two brick fragments, and a fragment of marble.

Glass containers are represented by fragments of curved glass as well as bases and necks of bottles. Several subtypes are represented, including obvious Coca-Cola bottles, brown bottles that may have contained beer, and thin glass containers that may have been medicine bottles. A single ceramic sherd is included in this category as well, though it may represent an electrical insulator rather than a container.

Machine parts were found in small numbers; these included a warning plate from a generator, two electrical clips, and a number of enigmatic cylindrical items identified variously as early fuses and the predecessors of spark plugs. A few metal straps were assigned to this category though they could as well be structural debris,

The inevitable *miscellaneous* category, includes a great diversity of material, much of it representing unique items (unique, at least, at this site).

Structural Debris

Nails and spikes are invariably ferrous metal, almost always very highly oxidized and usually broken. “Spikes” are longer and heavier than “nails,” but the exact dividing line between the two is somewhat arbitrary. Many fragments are merely somewhat linear lumps of oxidation product, presumably with residual metal cores. More or less complete “spikes” range in length from about 11 to 17 cm., while “nails” range from about three to six cm. Both types have heads, but they are so oxidized that head form is uncertain.

Flat glass was found in small shards; it is clear (though occasionally smoked from exposure to fire), and for the most part ranges in thickness from two to three mm, though shards as thin as 1.5 mm and as thick as 6 mm. were noted.

What we think is probably *hardened paint* is a light yellow to white substance found in amorphous fist-sized or smaller lumps.

The two *brick fragments* are small pieces of red clay brick; they may date from 1984, when the building sites were outlined in brick. The one and only marble fragment is simply a chip of structural marble.

Glass Containers and ceramic sherd

Glass containers – probably almost all bottles – are represented by small body shards and a few fragmentary necks, lips, and bases. The majority are clear, with a few showing embossed decorations. A large minority are brown, and two shards are green. Collectively they could represent any of a wide variety of soft drink, beer, whiskey, or other beverage containers. Fragments that are demonstrably from Coca-Cola bottles were noted separately; they apparently represent two individual bottles found in Units B and C respectively. A single brownware ceramic sherd may be from an insulator.

Distinct from the other glass container fragments are thin glass shards, ranging from slightly less than one mm. to 1.5 mm thick. All but two brown specimens are clear, and they are usually very small, most likely representing some kind of medicine bottle or medical paraphernalia.

Machine Parts

The most intriguing "machine parts" (though their identity remains uncertain) are thought to be *fuses* of some kind or early *spark plugs* perhaps used in airplane engines. These are small cylindrical objects made of a light-colored ceramic with a dark gray core. Although few are complete and even the complete examples show signs of erosion that makes their original sizes somewhat uncertain, they appear to range in size from about 2.0 to 2.5 cm. long and from .8 to 1 cm. in diameter. The core in all cases is about 2.7 mm. in diameter.

Figure 11: Examples, Fuses/plugs/insulators from Unit B, 10-20 cm. level

Opinions are mixed as to the identity of the cylindrical objects. Specialists at the College Park Aviation Museum's restoration shop thought them most likely to be fuses, and were quite certain they were not sparkplugs[8]. TIGHAR members familiar with antique aircraft engines tended to think they were elements of such an engine's electrical system[9]. Posting a description and photograph on internet discussion fora used by airplane, ship, and automobile scale modelers brought in no opinions from ship or automobile modelers but several from aircraft modelers. The most detailed was the following by Jeff Herne, former Director of the New Jersey Aviation Hall of Fame and Museum.

> *Very early combustion engines didn't have spark plugs as we know them today. These plugs would be inserted into the engine block opening and the spark would result when the piston itself got close enough to the core of wires to arc across. Usually, it was just a hole, and a metal forked clip held the plug down, hence the term "plug". They were generally connected to a crude magneto usually driven by gear or friction drive directly from the crank.*
>
> *Typically, these plugs didn't last long, which is why you'll find them all over the place and in large quantities. As the compressions in engines rose, neither the "plug" method nor the materials used could withstand the pressures, so the spark plug as we know it today, a threaded metal rod encased in ceramic, came along. We have early Curtiss examples dating back to 1909.*
>
> *I'd place the time frame sometime between 1905 and 1910. We have an example of an early Boland engine dated 1908 that has missing plugs. I actually fabricated a pair that look very similar to this, from turned acrylic rod, to fit the engine. The openings are not threaded[10].*

All but one of the cylinders (24 of 25) were found in Unit B, half (12) of these in a cluster some 25 cm. across in the southeast quarter of the 10-20 cm. level and almost all the rest (10 of 12) elsewhere in the same level. This might suggest that they had been kept together in a container (e.g., a bag or box) that has deteriorated. Since most of the specimens appear to have been used, however, and it is difficult to imagine a re-use for them, it is hard to imagine why anyone would have retained them. It may be that the Unit B specimens were lost or otherwise disposed of in the course of a single event. An alternative might be that they reached their resting place simultaneously or at different times via a single route. Hangar One almost certainly had a wood floor[11]. If the objects were plugs of the kind described by Jeff Herne, and had to be changed out

[8] Susan Nolan, CPAM, personal communication 4/13/2006
[9] Skeet Gifford, personal communication 3/14/2006; Gary Quigg, personal communication 3/24/2006
[10] Jeff Herne, personal communication 3/2006 with Monty Fowler.
[11] Cathy Allen, Susan Nolan, CPAM, personal communication 2005; also see Hargrave et al 2001 for detailed analysis of the Wright's 1910 hangar at Huffman Prairie in Ohio, which appears to have been very similar to the College Park hangars and had a wood floor.

frequently, it is easy to imagine them being dropped to the floor and swept into a convenient hole or crack, resulting in a cluster on the ground beneath.

Figure 12: Detail of Fuse/Plug

Five fragments of non-ferrous (probably brass) *sheet metal* are classified as machine parts though they could have been used for a variety of purposes. All appear to be from the edge of the same piece; they exhibit one cleanly finished edge with the rest badly deteriorated as though the remainder of the piece had corroded away. All pieces measure 1-3 cm. wide and four are less than 1 mm thick; the fifth is slightly thicker. There are small holes resembling tack holes along the finished edges of the longer pieces, and some evidence of a sort of corrugation parallel to the edge. They resemble some kind of covering for a small machine or instrument.

Figure 13: Sheet Metal Fragments

One *ferrous strap,* 37 cm. long but with 6 cm. at one end bent back on itself, 1 cm. wide and about 2.5 mm. thick, is also classified as an engine part but could have been used for another purpose.

A single *brass clip* found in Unit B was probably used to clip an electrical wire to some part of a machine. It is inscribed with the letters “CNE.”.

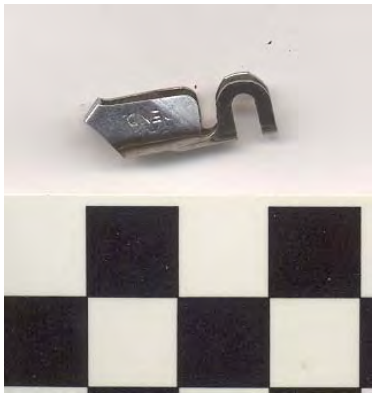

Figure 14: Brass Clip

A *generator warning plate* was found in the same unit. It is made of a non-magnetic metal, 7.5 by 3.3 cm. and less than 1 mm. thick, and bears the words:

WARNING
Operate Blower for ___
Minutes before starting
Engin(e) (G)enerator (Op)eration

Letters shown in brackets are inferred, though obscured.

Figure 15: Warning Plate

Miscellaneous Material

The “miscellaneous” category naturally contains a diversity of items, most of them found in very small numbers.

“Clinkers” are the most common of the miscellaneous items, and were actually found in relatively large numbers. Clinkers are more or less glassy globs and lumps of indeterminate material fused together, probably by heat and melting. Relatively light in weight, dark brown to black in color, they resemble the fused ash clinkers that form in stoves burning fuels like bituminous coal, and this may well be what they are. Some also may represent material that melted and mixed with soil during the burning of the hangars or the debris resulting from their collapse. A single piece of coal found in Unit D suggests that a coal-burning stove was in use at least in Hangar Two.

Plain copper wire, one to two mm in diameter, was found in some quantity in Unit A, and as individual pieces in two other units.

Six lumps of melted clear glass were found in Unit B; such glass was not noted in any other unit.

Three pieces of “miscellaneous ferrous” metal and one piece of “miscellaneous nonferrous” were included in the “miscellaneous” category for want of anything else to do with them. The ferrous pieces are indeterminate lumps of oxidation product (rust), probably formed around a piece of nail or spike shaft. The one piece of nonferrous metal is a tiny sliver of what may be brass.

Two shotgun shells (twelve and twenty gauge) were recovered from Unit B, and six 22-caliber cartridges came from Units B and C.

A ferrous turnbuckle, 44 cm. long fully extended, was found in Unit B.

What appears to be a service pin, apparently made of something like tin in the shape of a pair of wings, was found in Unit E, together with the closure clip off a canteen holder or some similar piece of military gear.

A circular plastic advertising coupon from Unit D, less than one mm. thick and 3.3 cm in diameter displays a four-leaf clover on one side and the words “Gulf – Keeps your car working like a charm” on the other.

A single screw-type electric fuse labeled “Snapit, Pyrex, USA” was found in Unit D.

Several pieces of plastic were recovered, all quite small and mostly of indeterminate origin and use. One piece, however, is clearly the insulating covering of an electric wire, out of which the wire itself has been stripped. One

small piece of rubber of indeterminate function, a tiny piece of cloth, and a piece of finished wood were also found.

Faunal remains include two small pieces of bird bone, one rat bone, one fragment of indeterminate mammal bone, and a very small fragment of mollusk shell. Floral material is limited to a single peach pit.

A modern golf ball and an 80 cm. length of modern grounded outdoor electric cable were recovered but not retained.

Patterns of Artifact Distribution

In such a shallow site, the vertical distribution of artifacts would almost certainly be meaningless, and no patterns were apparent in examining the collection and distribution tables (except for the cluster of fuses/plugs in Unit B, discussed above). Accordingly, although each excavation level is assigned a specific lot number in Appendix I, in this report all levels and features in a unit are lumped for purposes of distributional analysis. Figure 16 graphically displays the distribution of artifact classes across the five excavation units. Although all classes occur in all units, there are some patterns in their distribution.

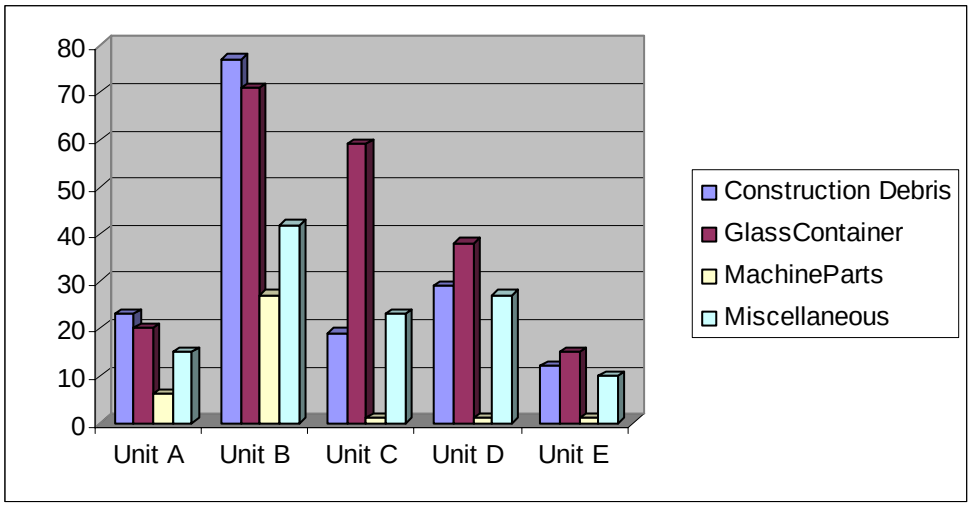

Figure 16: Distribution of Artifact Classes Among Test Units

Unit B, inside Hangar One, obviously produced the most of all classes of artifact, but was particularly rich in structural debris and glass container fragments. The presence of abundant structural debris is consistent with the documented burning and presumed subsequent clean-up of the building in late 1944. The reason for numerous glass containers is less obvious, but they presumably represent domestic use of the hangar at some point in its long life.

The fact that machine parts are common in Unit B is consistent with the storage and maintenance of aircraft and other machinery in the hangar. The near absence of such parts in Unit D – inside Hangar Two – is not consistent with the

storage and maintenance function, and may represent a difference in the way the two hangars were used, though it would be risky in the extreme to hazard any conclusions based on such a tiny sample. If the fuses/plugs that make up most of the machine parts class in Unit B are in fact plugs, it would suggest the maintenance of very early aircraft engines, like those on Wright Flyers, in this hangar.

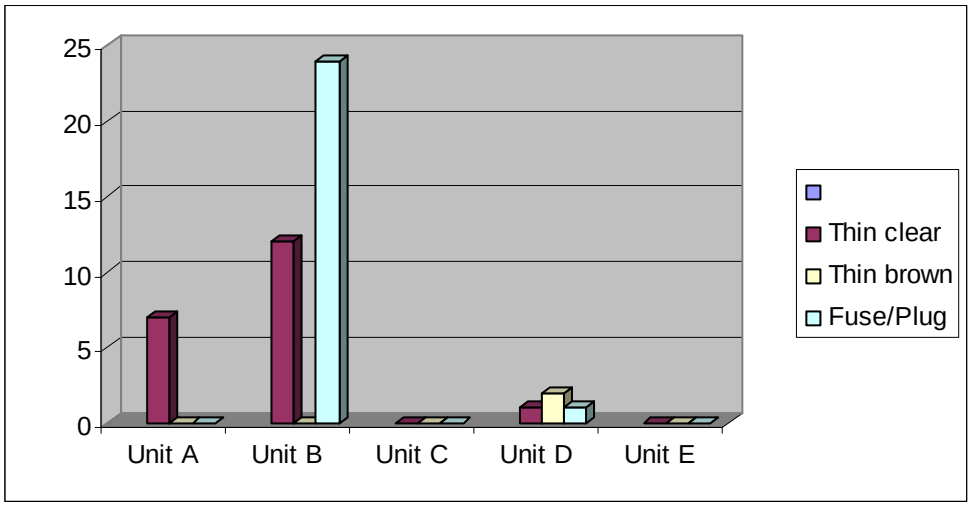

Figure 17: Distribution of Fuses/Plugs and Thin Glass Containers

Figure 17 illustrates the disproportionately strong representation of fuses/plugs in Unit B, together with the distribution of another distinct artifact type – thin glass containers. As with every other class of artifact, more thin glass container shards were found in Unit B than anywhere else, but they were also very well represented in Unit A, the closest unit to the documented site of the medical tent during the earliest phase of the facility's use. This is consistent with the notion that they represent medicine bottles or other items of medical paraphernalia.

The fewest examples of all artifact categories were found in Unit E, outside the "front door" of Hangar Two. This is consistent with a space that was probably kept relatively free of debris by the passage of foot and machine traffic if by nothing else.

Apparently MAAR's results in 1980 were similar to ours. MAAR reports finding wire nails, plate glass window fragments, bottle shards, a few machine parts and two .22 caliber shells in Hangar One, and a similar assemblage in Hangar Two[12]. Interestingly, MAAR reports nothing similar to the fuses/plugs we found in Hangar One. Were it not for the presence of a single such item in Unit D, inside Hangar Two, we would be inclined to think that the cluster in Unit B represented a unique event.

[12] Basalik 1980:III-1 & 2

Conclusions

Most of what we found in Hangar One – that is, in Units A and B – apparently reflects the burning and probable subsequent demolition of the hangar. The abundant concentrations of charcoal and burned earth, and the melted glass in Unit B suggest intense burning, and the many nails, spikes, and shards of flat glass, presumably from windows, are typical of a demolished wood structure. The assemblage we found is quite similar to that reported from the much more extensive study by the U.S. Army Construction Engineering Research Laboratory (CERL) of the 1910 Wright hangar at Huffman Prairie, which was apparently demolished and burned[13].

The less abundant structural debris in Unit D, inside Hangar Two, may indicate a less dramatic ending for that structure – perhaps simple demolition or collapse. The relatively low percentage of structural debris in Unit C is consistent with its location between the two hangars. What was going on in this area remains ambiguous.

The relatively large amount of thin glass container shards in Unit A may reflect the medical facilities that operated in this area, but even more of such shards were found in Unit B, inside Hangar One. Since the actual site of the medical tents seems to have been lost to Metro-related landscaping, it is not likely that the archaeological signature of this early medical facility will ever be documented.

One thing our work documents is the folly of assuming, as WMATA and its consulting partners did when Metro construction through the area was being planned in the 1980s, that "avoiding" an archaeological site as narrowly as the Green Line construction "avoided" the 1911 hangars will actually preserve them. Construction of facilities like the Metro cause impacts well away from their actual rights-of-way – like, in this case, the landscaping that apparently destroyed the medical tent area. We also have to wonder what else may have lain in the area now covered by the Metro embankment. The MAAR survey focused solely on the hangars as structural features, but human activity at College Park Airport in 1911-12 surely did not take place only inside the hangars – or inside the medical tents, for that matter, which were completely ignored in the MAAR survey. We wonder, for instance, where the privies were – privies are often rich repositories of discarded artifacts and hence archaeological data. There have to have been some such facilities at the airport during its use as an Army flying school. Period photographs do not show any, however, nor even any locations where they could be hidden away. It would seem strange to place them within sight of the railroad tracks, but one would not have placed them in front of the hangars either. If they were near the tracks they were either destroyed or deeply buried by Metro construction, and are unavailable for study today.

[13] Hargrave et al 2001.

It is unclear whether further excavations at College Park Airport would be rewarding. If one were inclined to interpret the hangars for the public, it would be worthwhile to expose, stabilize, and display some or all of the footings, and the troughs in which the hangar doors slid (documented in the MAAR report). Some of the artifacts recovered by TIGHAR, MAAR, and the Museum could be used in interpreting the hangars. Whether it would be worthwhile to collect more data through the excavation of more material – most of it simply reflecting the burning and demolition of a wooden building – is questionable. Remote sensing of the sort carried out by CERL at Huffman Prairie might be worth undertaking, and might reveal the locations of privies and other small but important activity areas. Further analysis of the cylindrical fuses or plugs is certainly in order simply to resolve the question of what they are and how they were used.

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