An Archaeological Watching Brief at

The Former Operations Block of

Dunkeswell Airfield

DAF 15



Excavation for the northern arm of the new access road. Looking south-east, down-slope, from the north edge of the field. The Former Operations Block is on the right – background. 1m scale within the trench.

Grid Ref: ST 136 073
Exeter Museum Number - RAMM: 15/40
Devon County Council Planning Reference: 15/0807/FUL

Carried out for: Ms. Fiona Webb and Gary Wright

by Arthur Hollinrake
for Hollinrake Archaeology Co-Operative
Consultant Archaeologists,
12 Bove Town,
Glastonbury,
Somerset BA6 8JE

Telephone/Fax: 01458 833332



Dunkeswell Airfield DAF 15

Table of Contents

Chapter	Contents	Page
-	Summary	1
1.0	Introduction	1
	Topography and geology	
	Archaeological Background, pre- WWII	
	Archaeological Background, post- WWII	
5.0	Historic Maps Discussion	16
	The Watching Brief: Introduction & Methods	
7.0	The Watching Brief: Results	22
	Discussion	
	Acknowledgements	
	Bibliography	
	Dionography	
Appendices		
Appendix 1:	Context List	34
	Finds List	
Appendix 3	Levelling and GPS Information	37
	Site Photographic Gallery	
	Finds Photographs	
11		
Figure no:	Title	Page
	The northern arm of the new access road	frontispiece
1	Specifications for new works	2
2	Location Map	3
	Map of the Blackdown Hills	
4	Geological map	5
5	Local scale site location plan with HER numbers & location	ons 6
	British Geological Survey map	
	Aerial photograph of North Hill Common MDV1150.	
8	1884 - 1 st edition Ordnance Survey map	10
	Ordnance Survey 1:25,000 scale map 1936-1949	
10	Archaeological Background, post- WWII	12
11	Aerial photograph of site 1944	13
	Aerial photograph of Dunkeswell airfield,, 22 April 1944	
	Photograph of the Operations Block	
	General photograph of the site	
	Photograph of LSP1	
	Photograph of LSP 2	
	Trench plan	
18	Photograph of Area A	27
	Plan of Area B	
	Photograph of Area B	
	Photograph of Fe bar in situ	
	Finds distribution plan	
4.1	9DOLHEISHIS	

24	Photograph of the western arm	40
25	Photograph of the 'old track'	40
26	Photograph of the western and northern arms	40
27	Photograph of the northern arm	41
28	Northern arm and landscaping bank	41
29	Photograph of the northern arm	41
30	Photograph of the northern arm	41
31	Panoramic photograph of northern arm	42
32	Panoramic photograph of new track trench	42
33	Photograph of the eastern arm	42
34	Photograph of the eastern arm	42
	Photograph of the eastern arm	
36	Photograph of the copper alloy coin	43
37	Photograph of the copper alloy coin in situ	43
38	Photograph of small slag lumps	44
39	Photograph of slag lumps	44
40	Photograph of slag	44
41	Photograph of iron ore lump	44
42	Photograph of iron ore lump	44
43	Photograph of iron ore lump	44

Summary

The archaeological watching brief monitored the construction of a new access road, approximately 400m long. The excavation was located immediately south and east of Dunkeswell Airfield (alternatively known as the Dunkeswell Aerodrome). The airfield was constructed in 1942, originally as RAF Dunkeswell and subsequently used as an American Navy airbase during WWII. The new road connected the airfield to the Former Operations Block, which was undergoing renovation. Numerous records and contemporary photographs confirm that Dunkeswell Common formed part of the rich, Brendon Hills iron-working area. The ore-bearing Upper Greensand geological horizon was only exposed in small, isolated patches where the shallow stratigraphy was recorded. Approximately one hundred iron ore lumps and nodules were collected, weighing a total of 6.62Kg; these are likely to be associated with iron ore extraction pits, previously recorded within the surrounding area. Six small iron lumps, which might be slag residues from iron working processes, were also identified. One small, abraded copper-alloy coin was recovered, which awaits specialist analysis and finds distribution plans were generated using GPS data.

No other finds or features pre-dating the Post Medieval period were recorded, but this might be due to the shallow scope of the works and the relatively undisturbed character of the ground.

These findings contribute to the emerging picture of iron working within the Blackdown Hills, currently thought to have been mainly active during the Romano-British period.

1.0 Introduction

- 1.1 An application 15/0807/FUL for planning permission for the construction of a new access road to the former, WWII Operations Block, Office Room and Crew Briefing room was submitted to Devon County Council by the owners of the property Ms. Fiona Webb and Mr. Gary Wright.
- **1.2** Planning permission was granted for the renovation of the Former Operations Block at Dunkeswell Airfield, with the following condition:
- 5. No development shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority. The development shall be carried out at all times in strict accordance with the approved scheme, or such other details as may be subsequently agreed in writing by the Local Planning Authority.

<u>J</u>

Reason - To ensure that measures to record archaeological deposits are agreed before intrusive groundworks begin in the interests of securing an appropriate record of archaeological evidence that may be affected by the development and in accordance with Policy EN8 (Proposals Affecting Sites Which May Potentially be of Archaeological and Historic Interest) of the East Devon Local Plan and paragraph 141 of the National Planning Policy Framework (2012).)



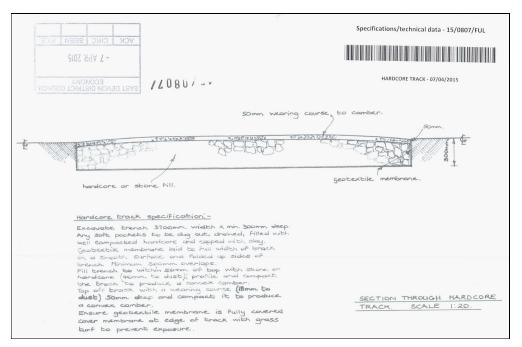


Figure 1. Plan and section of the approved works.



The landowners commissioned consultant archaeologists C. and N. Hollinrake to agree a written scheme of investigation with the Devon County Historic Environment Team in compliance with this condition.

A Brief for Archaeological Monitoring and Recording was compiled for this site by Anne Marie Dick, with further discussions and specifications being undertaken by Stephen Reed.

The site work was carried-out on the 10th, 11th and 12th November 2015 by Arthur Hollinrake and Matt Law.

,	HW	НХ	НҮ	HZ		
NA	NB	NC	ND			
NF	NG	NH	NJ	NK		
NL	NM	NN	NO			
	NR	NS	NT	NU		
4	NW	NX	NY	NZ	OV	
	1	SC	SD	SE	TA	
		SH	SJ	SK	ŢF_	TG
أحالست	SM	SN	ŝo	SP	TLE	TM
	SR	, SS	ST	SU	TQ	TR
SV	SW	SX	SY	SZ	TV	

Figure 2.

National scale. Site location plan.

The site is indicated by the star in ST.

County boundaries illustrate the close proximity of the site to the East Devon / South-West Somerset border.

100km Ordnance Survey grid squares, containing Ordnance Survey reference letters.

Contains Ordnance Survey data and database rights 2016.

- 1.3 The **national grid reference** for the field to the south-east of the Dunkeswell Airfield, where the watching brief was undertaken, centres on **ST 136 073**.
- 1.4 The site code for the project is **DAF 15** (Dunkeswell Airfield 2015).
- **1.5** The reference number for the project assigned by the Royal Albert Memorial Museum, Exeter (**RAMM**) is **RAMM**: 15/40.

AF.

2.0 Topography and Geology

2.1 Topography Dunkeswell Airfield is situated in East Devon, near the border of south-west Somerset, and lies within the Blackdown Hills, which has been designated as an Area of Outstanding Natural Beauty (AONB) since 1991. The Blackdowns are also known to have a long history of iron production¹ with extraction and iron working recorded over a wide area.

The watching brief site was situated at the top of the SE-facing slope of a small valley to the west of Dunkeswell village, and east of Dunkeswell Airfield, which occupies a high, exposed plateau. The field covered by the watching brief is currently used as sheep pasture.

The watching brief trench lies between an elevation of 246mAOD (above Ordnance Datum), and 256mAOD.

2.2 Geology The site lies above the Upper Greenstone Formation, a sedimentary sandstone bedrock which formed in shallow seas during the Cretaceous Period. The superficial deposits consisted of clay with flint, formed by weathering processes during the Quaternary and Neogene Periods. (British Geological Survey 1 : 50 000 scale). ²

The landscape is characterised by broad Upper Greensand outcrops which contain wide, steep sided valleys where the Upper Keuper Marl is exposed.³

Survey results by Griffith and Weddell (1996) "Ironworking in the Blackdown Hills" identified "... over 100 sites or findspots with iron working associations...located within the Blackdown Hills over an area of at least 400sq km." may have been worked since the Roman-British period. They propose that the survey should be "...extended to cover the other neighbouring Green Sand areas, including the southern extension of the ridge towards the coast."

_



¹ Reed, p. 1.

² http://mapapps.bgs.ac.uk/geologyofbritain/home.html

³ Reed, p. 1.

⁴ Griffith and Weddell (1996)

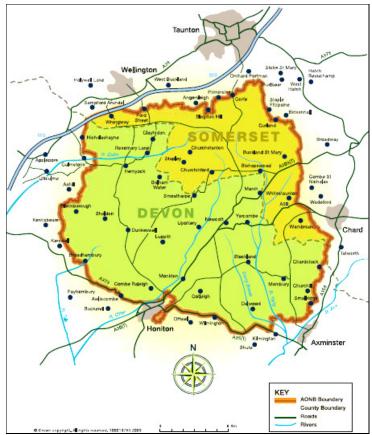


Figure 3. Map of the Blackdown Hills Area of Outstanding Natural Beauty⁵.

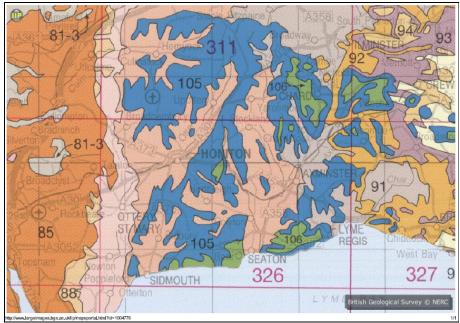


Figure 4. Geological map that demonstrates the correspondence between the Blackdown Hills and the Upper Greensand (marked in blue)⁶.

⁵ Blackdown Hills AONB Management Plan 2009 – 2014, The National Association for AONBs. <u>www.tauntondeane.gov.uk/irj/go/km/docs/CouncilDocuments/TDBC/Documents/Forward%20Planning/Evidence%20Base/BHAONB%20Management%20Plan.pdf</u>
⁶ British Geological Survey.



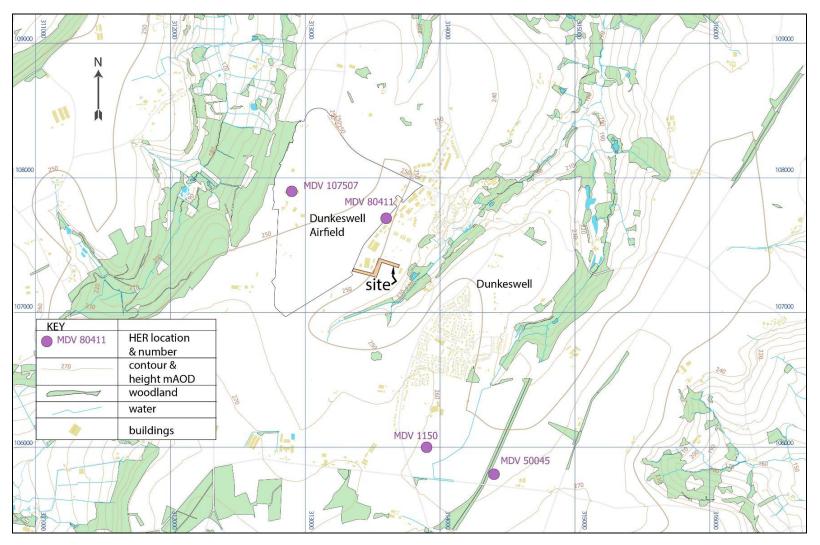


Figure 5. Local scale site location plan with HER numbers & locations. Site marked next to the new access road, shown in orange. 1Km Ordnance Survey grid.Contains Ordnance Survey data and database rights 2016.



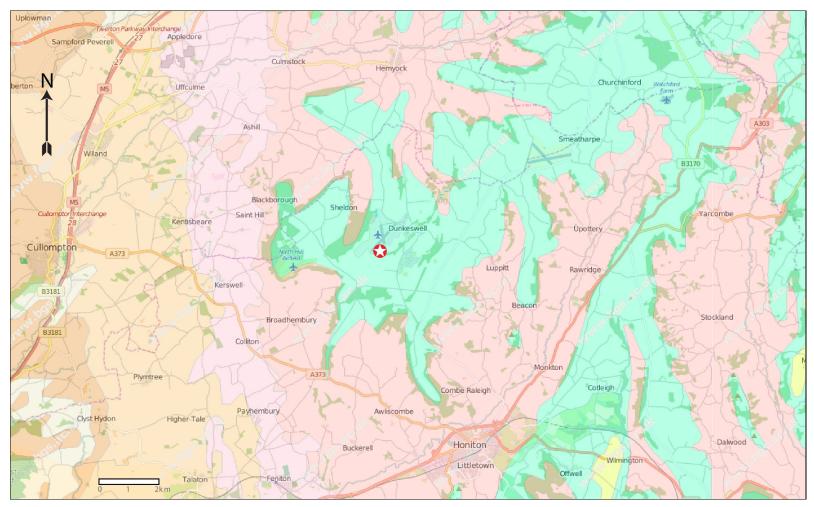


Figure 6

British Geological Survey map of the bedrock deposits, superimposed above a road map @ 1:625,000 scale.

Site location marked by the white star in the red circle.

The map illustrates that the site is positioned within a substantial outcrop of the Upper Greensand Formation, in light green.

Contains British Geological Survey materials © NERC

3.0 Archaeological Background (pre-WWII)

3.1 **Devon and Dartmoor HER**

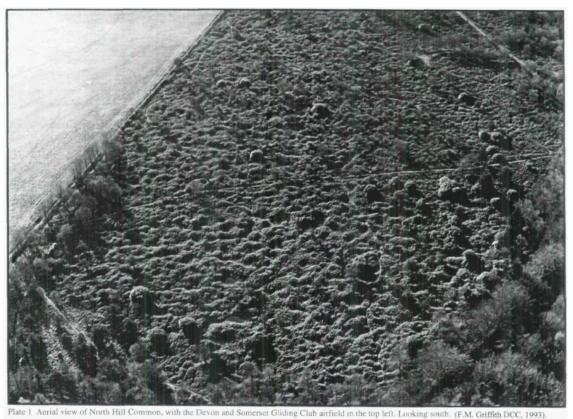


Figure 7. Aerial photograph of North Hill Common MDV1150 prior to WWII levelling...

MDV1150 Iron pits on Dunkeswell Common

grid ref: ST 139 060

Open-cast mine (Unknown date) Iron pits on Dunkeswell Common.

MDV50045 Pits in Dunkeswell parish

grid ref: ST 144 058

Open-cast mine (Unknown date)

Surface irregularities, including water-filled hollows visible on RAF photos.

MDV80411 Possible Extractive pits, Dunkeswell Air Centre

grid ref: ST 136 077

Ten moderately sized, partially intercutting pits, revealed during trench evaluation. Date and function unknown, but possibly related to extraction or quarrying.

MDV107507 Pits, Dunkeswell Airfield

grid ref: ST 129079

Pits exposed during a watching brief at Dunkeswell Airfield. The pits are thought to be iron ore extraction pits.



Kerr-Peterson, K., 07/2014

⁷ Reed, 1997, Plate 1.

⁸ Milby, S., 2010.

3.2 Archaeological Investigations in the vicinity of the site

- Kerr-Peterson, K., 07/2014, New Aircraft Storage Sheds, Dunkeswell Airfield, AC Archaeology.
- Land at Dunkeswell Airfield, Dunkeswell, Devon: Archaeological Strip, Map and Sample Excavation, Cotswold Archaeology, 2015, Archaeological Data Service, collection 2086. http://archaeologydataservice.ac.uk/archives/view/cotswold2_ca14418/
- Milby, S., 2010, Dunkeswell Parachute Club, Dunkeswell air Centre, East Devon, An Archaeological Programme of Works: A Desk-Based Appraisal and Field Evaluation, Context One Archaeological Services Report, C'EVA/10/PDD.
- Reed, S.J., 1997, Blackdown Hills Ironworking Project: Archaeological Recording of an Iron Ore Extraction Pit, Broadhembury, Devon, Exeter Archaeology Report no. 97.38.

3.3 Historic Maps (pre-WWII)

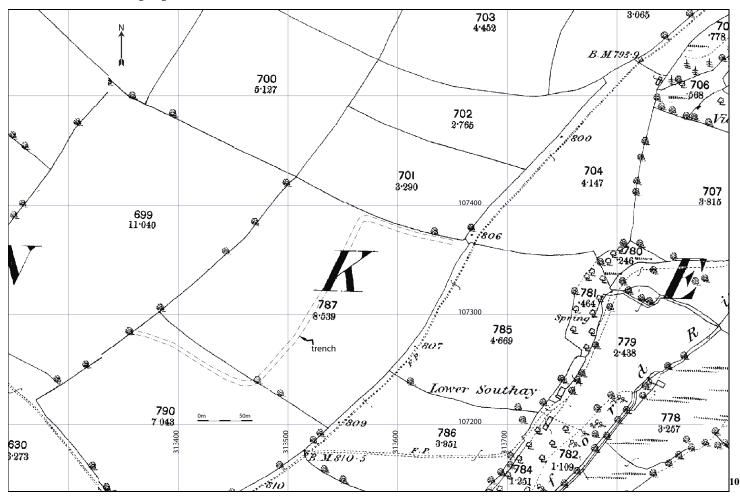


Figure 8.

1884 - 1st edition Ordnance Survey six inch England & Wales. Includes watching brief trench location, and OS grid superimposed.

Contains Ordnance Survey data and database rights 2016.

¹⁰ http://maps.nls.uk/view/101443807



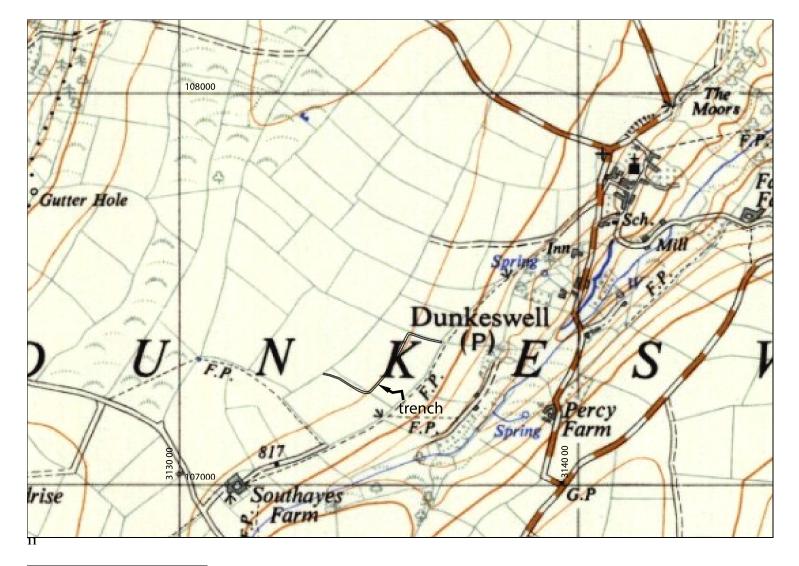


Figure 9.

Ordnance Survey 1:25,000 scale map 1936-1949. Includes watching brief trench location, superimposed.

Contains Ordnance Survey data and database rights 2016.

¹¹http://maps.nls.uk/view/957495



4.0 Archaeological Background, post- WWII

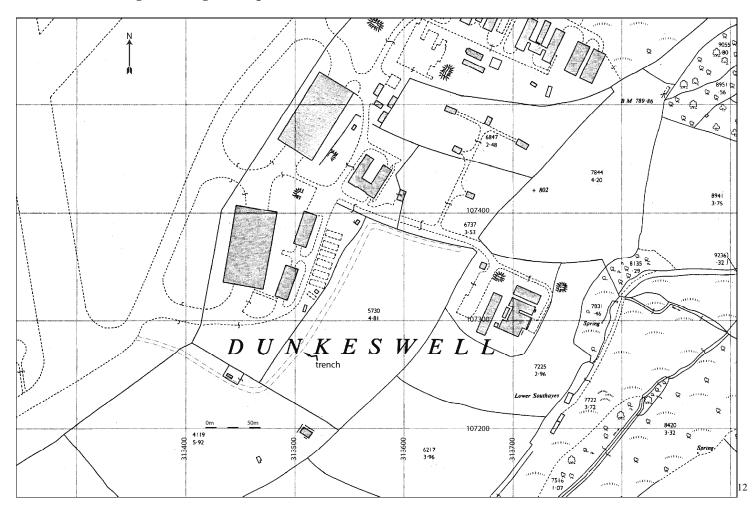


Figure 10.

Archaeological Background, post- WWII.

Includes the watching brief trench location superimposed (between the N and K of DUNKESWELL

Contains Ordnance Survey data and database rights 2016.

¹²http://maps.nls.uk/view/101443807



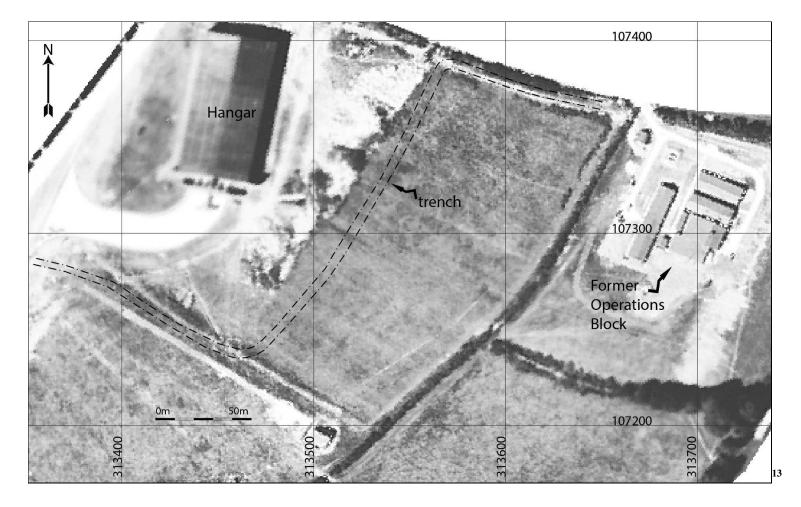


Figure 11.

Aerial photograph of Dunkeswell airfield, 22 April 1944. Photograph taken by the 7th Photographic Reconnaissance Group, sortie number US/7PH/GP/LOC314. English Heritage (USAAF Photography)

Trench location, and OS grid superimposed.

¹³ https://heritagecalling.files.wordpress.com/2013/05/2_dunkeswell-airfield-d.jpeg





Figure 12. 1943 Aerial Photograph of Dunkeswell Airfield. Site marked by the red star. North is at the top of the frame. 14

4.1 **Dunkeswell Airfield HER MDV45090** grid ref: ST 132 076

The bulk of Dunkeswell Airfield has survived as a very rare example of a substantially complete Second World War airfield site. It has retained significant surviving fabric, notably the operations block, a complete hangar and the control tower group.

Dunkeswell is the only British airfield where the US Navy Fleet Air Wing was based during the Second World War, and is the best-preserved of all the sites in the west of Britain associated with the strategically-vital Battle of the Atlantic. 15

https://heritagecalling.files.wordpress.com/2013/05/2_dunkeswell-airfield-d.jpg

¹⁵ Lake, J., 2000, Survey of Military Aviation Sites and Structures: Summary Report: Thematic Listing Programme: English Heritage.

MDV 56527 Operations Block Dunkeswell Airfield (Building)

grid ref: ST 137 072

Operations block with rendered 13.5 inch thick walls supporting a reinforced concrete roof. Listed Building 1067844 (Grade II) including:

Building 166 (Operations Block and Office Annexe) and Building 165 (Crew Briefing Room)

Office Annexe and Crew Briefing Room have rendered 4.5 inch brick walls with piers at 10 feet intervals supporting 28 feet span steel trusses carrying corrugated iron sheeting. Plan: large operations block with smaller rooms for plant, meteorological office, wireless transmission and general communications. In two parallel rectangular-plan ranges to N are the crew briefing room to the N of the office annexe, originally provided with rooms for rest, intelligence officers, interrogation of crews returning from missions, anti-aircraft operations and signals. Ventillation tower to roof.

History: Operations blocks, for the executive control of aircraft within fighter sectors or bomber groups, first appeared in the mid 1920s, at first attached to station headquarters buildings as at Bicester in Oxfordshire. The operations block at Dunkeswell is an unusually well-preserved example of a wartime operations block. It was the nerve centre for US Navy operation in the Bay of Biscay area...The airfield at Dunkeswell, by virtue of its continued use for flying, survives as the pre-eminent example of a purpose-built site associated with this campaign.



Figure 13. The Former Operations Block before renovation. Looking south-east

AL

5.0 Discussion notes on the Historic Maps

5.1 1884 - 1st edition Ordnance Survey six inch England & Wales (Figure 8)

- The access road which flanks the SE edge of the Dunkeswell Airfield follows a field boundary along the SE edges of fields 699 and 700. The northern end of the western track terminated at this point.
- The western arm of the watching brief trench was located within field 790. The main body of the watching brief trench was positioned within the centre and the south-eastern half of field 787.
- The NW-SE aligned boundary between fields 790 and 787 was recorded on site as an earthwork to the SE of the watching brief trench. The boundary line was still extant to the NW of the trench.
- The southern line of an old drove, still extant as an earthwork, is shown as a prominent lane or green-road, which flanks the NW rim of the Lower Southay valley. The lane crosses the illustration from roughly 313900 / 107580 at the NE of the map, meeting with a NW-SE aligned track at 313400 / 107100. An E-W aligned lane, which climbed the eastern slope of the valley, meets up with track at the NW corner of field 786.

Here after, this drove is referred to as 'the old track'.

• The Former Operations Block compound occupies the NW quadrant of field 785.

5.2 Ordnance Survey 1:25,000 scale map of 1936-1949. (Figure 9)

- Published in 1949, but covers the Dunkeswell area before the construction of RAF Dunkeswell in 1943.
- The main, northern arm of the watching brief trench is shown, almost exactly conforming to the 820ft (ca.250m) contour, which accords with the present day heights (see **Figure 9**).

5.3 1943 OS map (Figure 9) and Aerial Photographs (Figures 11 and 12)

- Field 790 (1st ed OS map, Figure 8) was sub-divided to accommodate the Hangar and outbuildings (which survive in good condition) within the NW half of the previous field. The watching brief trench lay between the NW and NE edges of field 5730.
- Much of Dunkeswell Common was graded down during levelling for the construction of the WWII airfield¹⁶. The spoil from these ground works were pushed to the edges of the airfield. Ground works within the adjacent field to the NW, shows that the SE limits of the embanked spoil heaps (here after referred to as 'banks'), have altered little since the creation of the airfield. (**Figure 11**). The watching brief trench was located immediately SE of the limits of these World War II features.
- The NW-SE aligned boundary between fields 787 and 790 (1st ed OS) is still extant between fields 4119 and 5730.
- The main route into the former Operation Block appears is shown to be from the north, although track marks through the field are also visible on the aerial photograph, possibly indicating vehicle movements. The Former Operations Block occupied field 7225.
- The 'old track' is not indicated along the NW edge of fields 6217 or 7225, although the aerial photograph indicates that it was still used. The hedge line to the NW of the 'old track' had been moved SE, to its current position.
- The metalled track, which was exposed by the western arm of the watching brief trench, appears to have been constructed during the second half of the twentieth century.



¹⁶ Stephen Reed, pers. comm..

6.0 The Archaeological Watching Brief: Introduction and Methods

6.1 Introduction The watching brief involved monitoring the removal of the turf and topsoil and the underlying subsoil for the construction of an access road in conjunction with the renovations of the former Operations Block. The track was designed to run from the road which flanks the south-eastern edge of Dunkeswell Airfield (alternatively know as the Dunkeswell Aerodrome), to the northern corner of the Former Operations Block compound.

The weather conditions were characterised by frequent drizzle and hill fog, with some occasional rain, sun and wind.

6.2 Watching Brief Measurements

The excavations areas were between 0.25m and 0.30m deep, and between 3.70m and 4.00m wide.

The new track comprised three linear sections, that were joined by two obliquely angled corners over a distance of ca.300 metres. The terms 'western', 'northern' and 'eastern' trench have been used to refer to these three, joining component parts of the watching brief trench.

- 'The 'western trench' (aligned c.WNW-ESE) measured 125m approximately, and reexcavated a portion of a partly overgrown, metalled track which flanks the western and southern sides of the watching brief field.
- 'The northern trench' (aligned c.SW-NE) measured ca.190m.
- 'The eastern trench' (aligned c.WNW-ESE) measured ca.90m.
- The field where the watching brief was carried out measured approximately 110m NW-SE x 210m SW-NW.
- **6.3 Order of Excavation** The northern trench was excavated first, from SW to NE, commencing @ 313480 / 107250. The eastern track was then excavated continuously from NW to SE. The western trench was excavated from SE to NW, exposing the surface of the partially overgrown, metalled track, and ended where it joined the Dunkeswell Airfield service road.

6.4 The design of the northern trench was modified slightly to avoid the overgrown **WWII spoil heaps**, present beneath the field boundary at the NW edge of the field (see the 1943 aerial photograph, **Figure 11**, and the discussion in chapter 5; **Figure 17** below.) These features have been referred to as 'banks' within the report.

The banks had an average height of 0.80m, and were 2m to 10m wide x c.150m long NE-SW - Figure 23. The bank measurements are included within the Appendix 3 - Levelling and GPS Information.

A large, WWII airplane hangar still occupies the adjacent property to the north of the watching brief field.

- **6.5 The excavations** were carried out using a Kubota KX057-4 mini-digger, with a 1.50m wide grading bucket, driven by Collin Barrow.
- **6.6 Context numbers** for the various deposits and features were allocated, and written descriptions were recorded on *pro-forma* context sheets. The context numbers ran from **101** through to **105**
- **6.7 Archaeological features** were cleaned and numbered. They were recorded using digital photographs, and drawn at a scale of 1:10 for sections and 1:20 for plans.
- **6.8 Locations** of the trench, features, artefacts and topography were planned using a Garmin eTrex H Handheld GPS Navigator.

Global Positioning Survey data (GPS) has been used throughout this report. The data has been processed using **QGIS** (Quantum Geographic Information System) open source software.

- A 12 figure format has been used in this project to record and input the Ordnance Survey grid data into the QGIS software (eg. 313600 / 107300). This format locates its subject within an area of 1m².
- **6.9 Levels** above Ordnance Datum were taken throughout using a Sokkia B40 dumpylevel. The Ordnance Survey benchmark used is sited on a concrete step, at the base of a Nissen hut @ ST 13610E / 76100N, and has a value of 250.01m above mean Ordnance Datum (AOD). All levels have been listed on *pro-forma* level sheets. A day book was kept recording daily events, visitors, observations and etc.

Square	Easting	Northing	Mark type	Description	Height	Order	Datum	Verified year	Levelling year	Metres above ground
ST	1361	7610	RIVET	NBM RIVET STEP BLDG SW FACE 4.0M NW S ANG	250.012	3	N	1968	0	0.20

Table 1. Details of the benchmark from .www.ordnancesurvey.co.uk/benchmarks

6.10 Levelled Section Position, (LSP) (see Figure 17 below for locations) are used to record the stratigraphic sequence. The LSPs are numbered LSP 1 etc. and their positions are recorded using Ordnance Survey co-ordinates and/or site grid references if they have been recorded. The depths of the stratigraphic deposits are then recorded using levels above ordnance datum (AOD). Details regarding the boundaries between the deposits might also be described on the *pro-forma* level sheets. This system is a quick and effective way to record deposits across the site.

6.11 Finds and artefacts recovered during the watching brief were bagged by context or as un-stratified. After the fieldwork had been completed, the finds were washed, dried, sorted and listed. Modern material, including factory-made pottery and modern building rubble were discarded after being listed. In many of the watching brief contexts, modern material, including brick and tile fragments, modern pottery and plastics were noted but were not collected.

6.12 Archive and Finds

The complete archive, including field notes, field plans, recording and levels forms and correspondence will be deposited in the Royal Albert Memorial Museum under the Accession Number – RAMM: 15/40.

<u>Jk</u> 20



Figure 14. The south-eastern edge of the WWII landscaping banks, beneath the NW perimeter of the watching brief field boundary (hedges at left of frame). Matt Law standing @ 313495 / 107282 with level staff (Level No.24). Trench at the centre of the frame, with the Former Operations Block right-background. Looking NE.

6.11 Glossary of Abbreviations & Conventions

Subject	Abbreviation or Convention	Example	Notes
Key to Symbols			
Bench Mark	$\overline{\wedge}$		Number value @ mAOD (meters above ordnance datum)
Deposit or fill context number	(###)	(801)	consecutive numbering system for context numbers, by area, prefixed by the area number
cut numbers	[###]	[899]	consecutive numbering system - prefixed by the area number
Ordnance Survey Grid Co-ordinates	#####E/ #####N	100000 / 100000	eastings/ northings (optional use of compass point)
Glossary			
Above Ordnance Datum	AOD	1.00m AOD	one meter above ordnance datum (occasionally abbreviated to mOD)
Levelled Section Positions	LSP#	LSP1	consecutive numbering system
Temporary Bench Mark	TBM	TBM1	consecutive numbering system
Un-stratified	U/S	Area 8 U/S	short hand used on finds labels

7.0 Results - Summary of the Archaeological Watching Brief

Detailed records of the deposits, features and finds are contained within Appendices 1 & 2.

7.1 Summary of the stratigraphic deposits

The depth of the excavation for the new track, between 0.25m and 0.30m, was dictated by the planning brief. The excavations cut through a shallow, stratigraphic sequence comprising **turf and topsoil 101**, **subsoil 102** throughout, and exposed the **upper geological clay 103**, in some sections of the trench. A deeper stratigraphic sequence was present at the base of the hill-slope, recorded as **colluvium 105**.

7.2 The stratigraphic sequence was recorded at two Levelled Section Positions –LSP1 (at the top of the hill-slope) and LSP 2 (at the base of the hill-slope).

The Levelled Section (LSP) data is presented within Figure 16.

LSP 1 (located at 313570 / 107395; Figures 15 and 17) was positioned at the northeast corner of the watching brief field, at the north-east side of the trench, on the corner between the northern and eastern trenches. The level on the ground surface was recorded as 249.32mAOD at this location, and it represented an example of the shallowest stratigraphic sequence, measuring 0.21m deep, at the top of the hill-slope.

The LSP 1 section consisted of deposits 101 and 102, exposing the surface of geological deposit 103.



Figure 15. South-facing section of LSP 1 @ 313570 / 107395.

The white, Context Labels read (from top to bottom) 101, 102, 103. 0.50m scale.

The white labels do not mark the position of the level readings.



7.3 LSP 2 was located @ 313648 / 107365 (Figure 16). This LSP was positioned towards the SE corner of the watching brief field, on the SW side of the trench (Figure 17).

The surface / ground level was recorded at 246.48mAOD at this location, and it represented an example of the deepest exposed stratigraphic sequence, measuring 0.45m deep, at the base of the hill-slope.

A small sondage c.0.30m x 0.30m x 0.25m deep, was excavated, by hand, against the section to investigate the surface of upper geological clay **103**, which was too deep to be exposed by the base of the trench on this part of the hillslope. The **LSP 2** section consisted of deposits **101** and **102**, and was excavated through colluvial deposit **105**, which was only recordable within this hand-dug sondage. The surface of upper geological clay **103** was then uncovered at the base of the **LSP 2 sondage**.

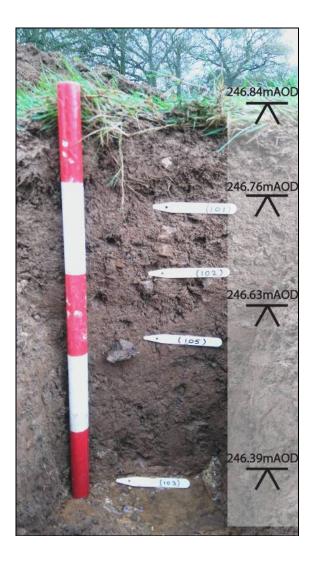


Figure 16.
LSP 2 sondage against the north-east-facing section of the trench
@ 313648 / 107365.
Labels read (from top to bottom)
101, 102, 105, 103.

1 x iron-stone lump present 5cm below the surface of **105**. 0.50m scale.

Section Position No.	1	2
Co-ords (E)	313570	313648
Co-ords (N)	107395	107365
Top of Section / Grass	249.32	246.84
Base of 101	249.19	246.76
Base of 102	249.11 (top of 103)	246.63
Base of 105		246.39 (top of 103)

Levelled Section (LSP) data table.

Levels are in mAOD. The OD heights indicate context boundaries.



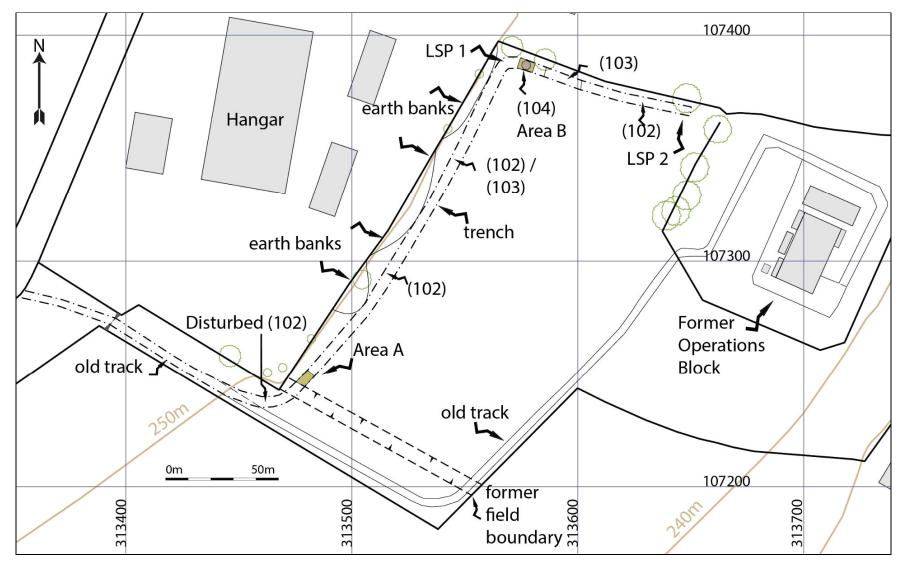


Figure 17. Trench Plan. Includes levelled section position LSP, and designated area locations, contours and context numbers at the base of the trench.



7.4 Turf and topsoil 101 was present, undisturbed, throughout the northern and eastern trenches, as the upper deposits. The 'old track' had removed the turf and topsoil, along the line of the western track.

Deposit **101**, c.0.10m - 0.15m thick, was a moderately compacted to soft, mid-grey-brown humic (c.30%) sandy (c.20%) clay, containing fine roots deriving from lush vegetation. It was very clean and almost stone-free. No archaeological artefacts were recovered from this deposit. Deposit **101** overlay **subsoil 102** with a clear boundary; well defined by the presence of flint and chert upon the surface of **102**.

There were no indications of any disturbance to the deposits caused by the WWII earth moving operations.

7.5 Subsoil 102, underlying turf and topsoil **101,** was present throughout the area covered by the excavations, forming the base of the western trench, and the western c.75% of the northern trench.

Subsoil 102, between 0.10m and 0.15m thick, consisted of well sorted, soft, orangegrey, sandy clay matrix, which contained an abundance of irregular, angular flint and chert gravels 3cm to 12cm across (c.60%). The gravels were particularly prominent at the surface of the deposit, presenting a clearly defined boundary.

Six pottery sherds dating from the 18th to the 20th centuries were recovered from deposit **102**, along with rare fragments of glass, coal and clinker. The small quantity of post-medieval finds, were mixed-up with a large collection of heavy, hard, light orange-brown ironstone fragments, lumps, and nodules.

The ironstone has been recorded as 'iron ore'.

- 55 iron ore lumps, weighing 4,802g were recovered from deposit 102.
- 6 small Fe lumps, weighing 102g, were also identified as possible Fe. slag residues from iron production. These lumps were light, brittle, dark grey and occasionally vitreous. The Fe lumps were usually angular, often broken-up, and varied from 1g up to 1,257g. The mean individual weight of the ore fragments was approximately 100g.

(see finds distribution plan Figure 22).

Subsoil 102 was formed by prolonged organic growth combined with gentle colluvial slippage down the hill slope. The particle size of the deposit was well sorted. Almost all of the finds collected during the watching brief originated from within subsoil deposit 102, or from its base. The datable finds extended to the nineteenth century.



The iron ores were described by Tim Young for Cotswald Archaeology as "...pieces of dense, boxstone crusts, probably of goethite. The laminated brown crusts are very fine-grained, commonly hard and may demonstrate a convoluted texture."

Deposit 102 overlay colluvium 105 in the LSP 2 sondage, with a clear boundary defined by the lack of chert and gravels within deposit 105; and overlay the upper geological clay 103 with a clear boundary, defined by the hard, gritty clay 103.

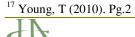
7.6 Colluvium 105 was only exposed at the base of the LSP 2 sondage (Figure 16).

Colluvium 105, ca.0.24m thick, was a soft, orange-grey-brown sandy (c.40%) clay. The deposit contained rare, isolated, irregular, angular flint & chert gravels from c.3cm up to c.12cm - especially on the surface. Three isolated Fe slag lumps were also recovered from the small sondage.

Deposit 105 has been interpreted as a colluvial deposit, hence its presence further down the hillslope. The material forming deposit 105, had a larger particle size than did subsoil 102, and contained fewer inclusions. There was a clear, upper boundary between deposit 105 and deposit 102. Three small, ironstone fragments, weighing 135g, were collected from the small LSP 2 sondage, indicating that deposit 105 might contain a similar frequency of iron ore lumps as subsoil 102. It is assumed that deposit 105 continued to a similar depth, c.145mAOD, along the base of the hill slope.

7.7 The surface of upper geological clay 103, the Upper Greensand deposit, was exposed intermittently, over ca.25% of the base of the northern trench. Deposit 103 was a matrix of moderately compacted, gritty, orange-yellow, sandy (c.50%) clay (c.50%), with large quantities of irregular, angular, chert and flint gravels up to c.4cm.

Forty-one iron ore lumps, weighing 1,690g, were recorded from the interface between the surface of geological deposit **103**, and the base of subsoil **102**. A small, abraded, Cu alloy coin, with a 20mm diameter, was recovered from c.0.03m beneath the surface of deposit **103**. The coin was found using a **MINELAB – Explorer XS** metal detector, operated by the client, @ 313483 / 107252. The metal detector also ensured that few Fe slag lumps would have remained undiscovered.



Deposit 103 was not excavated, but it appeared to extend throughout the exposed area, as it was present at the base of LSP 1 and LSP 2, with an abrupt upper border with deposits 102 and 105.

7.8 Area A

Area A was a hand-cleaned rectangle measuring c.2m SW-NE x c.3.70m NW-SE (the full width of the trench), towards the western end of the northern trench (See **Figure 17**).

The base of subsoil **102** was removed and the surface of upper geological clay **103** exposed, which was closer to the surface in this location.

Area A, centred on ST 313480 / 107248, was <2m to the west of the position where the Cu alloy coin was found. A reasonably large quantity of iron ore was present within Area A. The high potential for archaeological features was suggested by irregular, dark shapes at the base of subsoil **102.** However, these investigations did not reveal any features and it is likely that vegetation associated with the former boundary flanking the south-west side of Area A had created ground disturbance.



Figure 18. Area A. Fe slag lumps left *insitu* on the cleaned surface. Saturated former boundary ditch

Looking NW. 1m scale.

present on the left.

7.9 Area B

Area B was a hand-cleaned, rectangular area measuring c.3m NW-SE x c.3.70m NE-SW (full width of the trench), towards the northern end of the eastern trench (See **Figure 17**).

The base of subsoil **102** was removed, exposing the surface of upper geological clay **103**, which was closer to the surface at this location.



Area B was positioned to investigate a patch of *in-situ* burning, which was the only potential archaeological feature to be identified. Deposit **104** was a spread of loose, dark, yellow-brown, silty clay with abundant charcoal streaks and lumps up to 3cm (c.70%), measuring 1.36m N-S x 1.52m E-W. Two, twentieth-century ferrous bars, with nuts and bolts attached, were revealed upon the cleaned surface of **104**, and modern ferrous fragments were present immediately outside of the irregular edges of the feature.

Deposit 104 was interpreted as a modern patch of burning, and the feature was left in-situ.

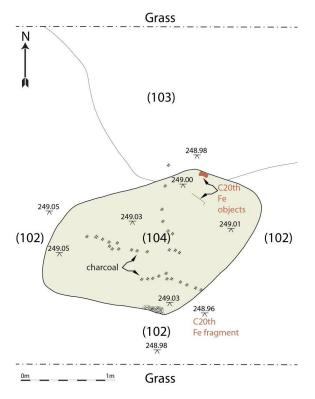


Figure 19.

Plan of Area B, and feature (104). Spot heights are in mAOD.

Illustration of **Figure 20**.



Figure 20.

Photograph of cleaned Area B, and feature (104). Looking north.

1m scale.



Figure 21.

Photograph (104) with Fe bar.

Looking north. 1m scale.



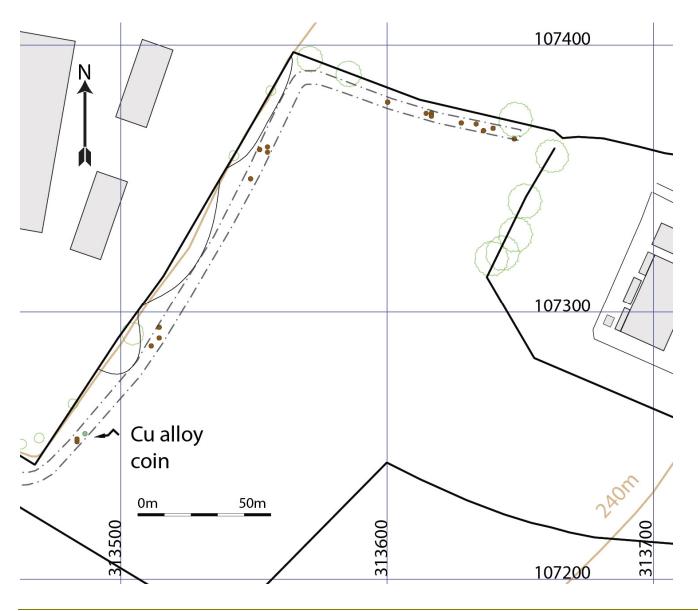


Figure 22.
Finds distribution plan.
Ironstone (brown spots),

Cu alloy coin (green spot).

All contexts.



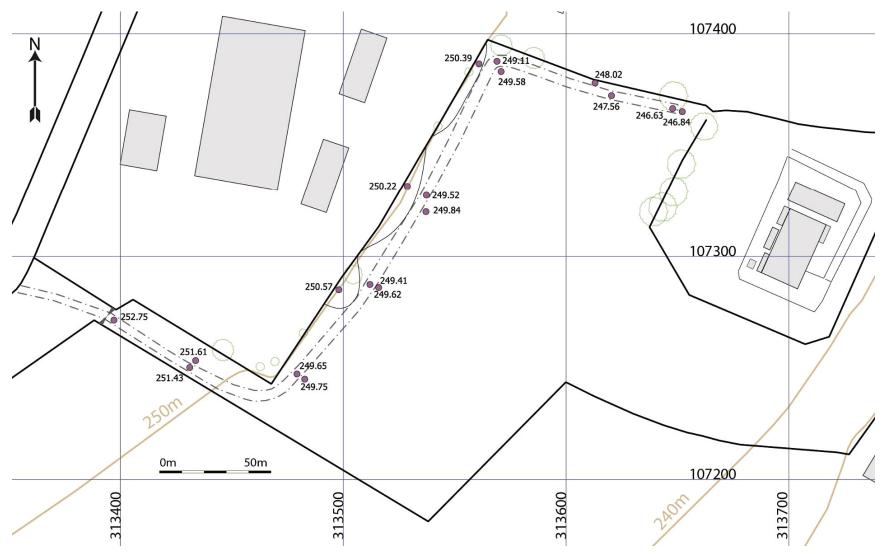


Figure 23. Site Plan with spot heights shown from inside and outside of the finished trench.



8.0 Discussion

8.1 Dunkeswell Common

The upland plateau of Dunkeswell parish formed a part of the common waste, traditionally used as unfenced pasture. These uplands, also, frequently contained a variety of mineral resources, from building stone to metals: Iron ore was yielded from the superficial clay and flint deposits on Dunkeswell Common. Few of the open-cast, ore extraction pits, which exploited the iron ore, are now visible; but old photographs show the ground pockmarked with innumerable pits (See **Figure 7**). Dunkeswell Common forms part of the Brendon Hills, defined by the Upper Greensand geology and well known for iron working (See **Figures 3 and 4**).

Archaeological investigations have yet to provide a satisfactory date-range for this iron extraction, but the density of the pits could either argue for a long history for this industry or for intense activity over a short period.

8.2 Dunkeswell Airfield

The most dramatic change to the Dunkeswell landscape and land use since the initial, prehistoric deforestation and the establishment of permanent grassland, occurred during World War II when the Common was converted into an airfield. This operation involved a considerable amount of grading down to provide a level surface for the runways.¹⁸

One important issue to be addressed during this project was whether the site for this watching brief had been significantly affected by the WWII ground works. The proximity of the Dunkeswell Airfield could have had obvious implications for the condition of the archaeological deposits within the study area, but examination of the historic maps and photographs, showing the stability of the surface heights of the field before and after WWII, indicate that this ground has been little affected by the Airfield development. The stratigraphic deposits did not show signs of substantial disturbance and the only potential archaeological feature proved to be 20th century.

Since this field is still within the area of Upper Greensand, it might be that iron working features similar to those recorded elsewhere in Dunkeswell Common (see the Archaeological Background, Section 3) remain relatively undisturbed below the subsoil, at a depth below the construction level of the new track: The finds from the watching brief tend to support this theory.

¹⁸ It would appear that the ground level was reduced by up to c.60cm in some areas. Stephen Reed, pers. comm.



8.3 A total weight of 6.67kg of iron ore was collected during the project and this represents the great majority of the finds recovered from the trench. A small dump of later, post medieval pottery, isolated glass sherds, and coal lumps summarise the remained of the finds collection, with the notable exceptions of the isolated slag lumps and the Cu alloy coin.

Unfortunately, no finds or features were recovered in association with the slag residues, and their date can only be inferred by circumstantial evidence based on the results from other, archaeological works nearby. The two sites indicated on the Devon HER which are close to this site are MDV 107507, and MDV 80411 which were located c.900m to the NW, and c.300m due north of the site (See **Figure 5** and chapter **3**).

The finds distribution plan (**Figure 22**) illustrates that the frequency of iron ore was higher towards the north-eastern end of the watching brief area, and lower down the hillslope. This suggests that the ironstone and slag lumps were not found *in-situ*, and appear to be waste material from iron extraction pits which have travelled from further up the slope. It is highly likely that much of the ferrous material recorded during this project was directly associated with the iron working associated with the MDV 80411 site.

The Devon HER summarised MDV 80411 as a "...series of ten moderately sized, partially intercutting pits, all of which had originally been cut through both the subsoil and natural soil." It also mentions that "...none of the pits excavated for this project could be dated and there was no residual iron working debris associated with them." ¹⁹

8.4 The Cu alloy coin was found within the upper few centimetres of the superficial geology, which underlay the subsoil. The coin is abraded, and requires expert cleaning and investigation to determine its date.



Acknowledgements

We would like to thank Ms. Fiona Webb & Gary Wright for commissioning the watching brief and for their interest and support during the project. We would also like to express our gratitude for the support from the archaeological monitor Mr. Stephen Reed of the Devon County Council, Historic Environment Team.

Mr Collin Barrow and his site workers are thanked for their wholehearted cooperation and for their interest during the monitoring operation.

The archaeological monitoring was carried out by Arthur Hollinrake and Matt Law. Digitised drawings were produced by Arthur Hollinrake. QGIS data was processed by Arthur Hollinrake and Matt Law. The Lists and Tables were prepared by Arthur Hollinrake and the Finds List was prepared by Charles Hollinrake. The archive was managed by Val Stevens and Arthur Hollinrake.

The report was written by Arthur Hollinrake with assistance from Nancy Hollinrake, and edited by Charles Hollinrake.

Hollinrake Archaeology Cooperative 24th March 2016

Bibliography

Kerr-Peterson, K., 07/2014, New Aircraft Storage Sheds, Dunkeswell Airfield, AC Archaeology.

Lake, J., 2000, Survey of Military Aviation Sites and Structures: Summary Report: Thematic Listing Programme: English Heritage.

Milby, S., 2010, *Dunkeswell Parachute Club, Dunkeswell air Centre, East Devon*, An Archaeological Programme of Works: A Desk-Based Appraisal and Field Evaluation, Context One Archaeological Services Report, C'/EVA/10/PDD.

Nichol, M., 2015, Land at Dunkeswell Airfield, Dunkeswell, Devon: Archaeological Strip, Map and Sample, Excavation Report, Cotswold Archaeology unpubl. client report no.14418 for Conerby West Sussex Ltd. Archaeological Data Service, collection 2086

http://archaeologydataservice.ac.uk/archives/view/cotswold2_ca14418/

Reed, S.J., 1997, Blackdown Hills Ironworking Project: Archaeological Recording of an Iron Ore Extraction Pit, Broadhembury, Devon, Exeter Archaeology Report no. 97.38.

Young, Tim, 2015, Analysis of ores and residues from Dunkeswell, Devon, in Nichol, M., 2015

Websites

Blackdown Hills AONB Management Plan 2009 – 2014, The National Association for AONBs

www.tauntondeane.gov.uk/irj/go/km/docs/CouncilDocuments/TDBC/Documents/Forward%20Planning/Evidence%20Base/BHAONB%20Management%20Plan.pdf

British Geological Survey

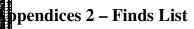
http://mapapps.bgs.ac.uk/geologyofbritain/home.html?location=&gobBtn=gohttps://heritagecalling.files.wordpress.com/2013/05/2_dunkeswell-airfield-d.jpg



Appendices 1 – Context List

Context No.	Туре	Description of Context	Interpretation	Suggested Date
Contents Ab	breviations	(A) abundant, (F) frequent, (M) moderate, (O) occasional, (R) rare, (I) isolated	(S) super (Q) quite, (V) very, (CBM) ceramic building material	
101	Deposit	Moderately compact to soft, midgrey-brown humic (c.30%) sandy (c.20%) clay. (M) fine roots. c.0.10m - 0.15m thick. Extended throughout. Overlay 102	Turf and Topsoil. Pasture. Lush vegetation. Clean. Hard lower border.	20-21st
102	Deposit	Soft, orange-grey-brown sandy (c.40%) clay. (A) irregular angular flint & chert gravels from c.3cm up to c.12cm - especially on the surface, (M) ironstone lumps, (O) C20th white ware pottery, Fe objects, Flint nodules up to c.25cm, (R) clinker. c.0.10m - 0.15m thick. Extended throughout. Underlay 101. Overlay 103, 105	Subsoil. Well sorted. Formed the base of the Western Trench and the southern c.75% of the Northern Trench. White ware probably associated with WW2 airbase. Hard upper border defined by flint / chert. Abrupt lower border	Up to C20th
103	Geological Deposit	Moderately compact, gritty, orange-yellow sandy (c.50%) clay. (M) irregular angular chert / flint gravels up to c.4cm,1 x Cu alloy coin from top upper c.0.03m deposit. Depth unknown. Assumed to have extended throughout. Underlay 102, 105	Upper geological clay. Exposed at the base of levelled sections and formed the northern c.25% of the Northern Trench. Abrupt upper border.	Geological Deposit
104	Deposit	Loose, dark yellow-brown silty clay (c.30%) with charcoal streaks & lumps up to c.3cm. 2 x C20th Fe bars, (F) (O) small to medium sized irregular angular flint & chert lumps - poorly sorted. >0.10m thick. 1.36m N-S. 1.52m E-W. ?Underlay 101. Overlay 102	Patch of <i>in-situ</i> burning. ?Possible bonfire, possibly contained within an artificial cut. Only c.0.10m excavated before 2 x modern Fe bars with nuts and bolts were exposed.	C20-21st
105	Deposit	Soft, orange-grey-brown sandy (c.40%) clay. (R) irregular angular flint & chert gravels from c.3cm up to c.12cm - especially on the surface, (O) ironstone lumps. 0.24m thick. Only exposed and recorded in the levelled section @ 313648 / 107365. Underlay 102. Overlay 103	Lower subsoil. Contained fewer inclusions of flint & chert than 102. Larger particle size. Hard upper and lower borders.	?pre- modern





to.	East- ings	North- ings	Count	Material	Type	Description	Weight gramms	Date Range
102	313550	107362	1	stone	chert	cortical lump	100	na
102	313640	107369	1	Fe	ore	hollow centre of nodule	201	na
102	313640	107369	1	Fe	ore	lump	15	na
102	313640	107369	1	Fe	ore	lump	11	na



Dunkeswell Airfield watching brief (DAF 15)

Context No.	East- ings	North- ings	Count	Material	Туре	Description	Weight gramms	Date Range
102	313547	107361	1	pottery	base	hard reduced, white glaze inside and out, discarded	21	18- 19th
102	313547	107361	2	pottery	body	hard oxidised fabric, white glaze inside and out, discarded	10, 8	18- 19th
102	313547	107361	1	glass	rim / neck	moulded, discarded	54	19- 20th
102	313547	107361	1	rubberised	ring	discarded	15	19- 20th
102	313514	107290	1	pottery	cup	whiteware, part letters on base ".A.E.I"?	7	19th
102	313514	107290	1	Fe	ore	glassy	4	na
102	313545	107350	1	Fe	ore	lump	21	na
102	313545	107350	1	coke or cinder	coke or cinder	lump	2	na
102	313483	107251	1	Fe	ore	lump	38	na
102	313483	107251	1	Fe	ore	lump	<1	na
103	313483	107252	1	Cu alloy	Coin	ca.20mm diameter, abraded surfaces, some possible rasied detail	<1	n.d
103 surface Area A			41	Fe	ore	nodule fragments	1690	na
103 surface Area A			1	stone	flint	nodule	12	na
103 surface Area A			2	stone	chert	fragments	14	na
105	313648	107365	1	Fe	ore	nodule	88	na
105	313648	107365	1	Fe	ore	lump	33	na
105	313648	107365	1	Fe	ore	lump	14	na



Appendices 3 – Levelling and GPS Information

East- ings	North- ings	Height	Number	Position	Remarks	
313660	107370	246.24	1	Grass	E corner of field	
313613	107380	248.02	2	Grass	Halfway along NE edge of field	
313571	107391	249.42	3	Grass	Corner of planned road N of field	
313550	107365	249.72	4	Grass	NW side of trench	
313540	107340	249.77	5	Grass	NW side of trench	
313534	107334	249.84	6	Bank	Bottom of bank - field boundary	
313533	107322	250.11	7	Bank	Top of bank - possible field boundary	
313527	107332	250.22		TBM2		
313560	107390	249.58	8	Bank	Base of bank at NE of field	
313562	107388	250.39	9	Bank	Top of bank at NE of field	
313540	107337	249.73	10	trench	Grass - E of trench	
313540	107337	249.52	11		Base of trench/ truncated 102	
313536	107340	249.95	12	Bank	Base of bank - E edge of field	
313534	107342	250.9	13	Bank	Top of bank - E edge of field	
313520	107306	249.88	14	trench	Grass - w side of trench	
313520	107306	249.68	15		Base of trench/ truncated 102	
313523	107303	249.53	16		Base of trench/ truncated 102	
313523	107303	249.75	17	Grass	Grass	
313512	107287	249.62	18	trench	Grass - E side kink in trench	
313512	107287	249.41	19		Base of trench/ truncated 102	
313509	107288	249.53	20		Base of trench - E side	
313509	107288	249.78	21	trench	W side of trench/ base of bank	
313505	107290	250.59	22	Bank	Top of bank w of trench	
313501	107286	250.57	23	Bank	Top of SW extent of bank	
313495	107282	249.99	24	Bank	Base of SW extent of bank	
313480	107253	249.93	25	trench	Grass -SW corner of trench	
313480	107253	249.72	26		Base of trench - SW corner/ truncated 102	
313483	107252	249.78	27	trench	grass - SE corner of trench	
313483	107252	249.6	28		Base of trench - SE corner	
313480	107254	249.88	29	trench	Section - S end of trench	
313480	107254	249.72	30		base of 201	
313480	107254	249.63	31		base of 201 / top of 203	
313570	107395	249.32		LSP 1	grass	
313570	107395	249.19			base of 101	
313570	107395	249.11			base of 102 / top of 103	
313648	107365	246.84		LSP 2	grass	
313648	107365	246.76			base of 101	
313648	107365	246.63			base of 102	
313648	107365	246.39			base of 105 / top of 103	
313571	107391	249.35		trench	grass	
313571	107391	249.17			base of trench / truncated 102	
313650	107369	246.80		trench	SE corner grass northern track	
313650	107369	246.63			base of trench / base of 103	
313651	107371	246.65		trench	NE corner northern trench grass	



East- ings	North- ings	Height	Number	Position	Remarks
313651	107371	246.63			NE corner / northern trench / base of 102 / base of trench
313620	107375	247.81		trench	northern track / grass
313620	107375	247.56			northern track / base of 102 / base of trench
313620	107679	247.60		hillslope	break of hill slope / N side grass
313620	107679	247.46		hillslope	break of hill slope / N side / base of trench / 103
313400	107279	252.75			gate / N side / base
313435	107256	251.61		trench	eastern track / S side / grass
313435	107256	251.43		trench	eastern track / S side / top of track
313465	107237	250.46		trench	eastern track / N side / grass
313465	107237	250.37		trench	top of old road / S edge new track
313480	107245	249.75		trench	grass / E side of west track / S side of boundary ditch
313480	107245	249.65			base of trench / disturbed 102
313480	107252			trench	SW side - start of exc
313484	107250			trench	SE side - start of exc
313480	170252			SW corner	SW of trench
313484	170250			SE corner	SW of trench
313572	170395			photo of S facing section	W edge of track - as it turns from SW- NE to NW-se
313481	170251			Area 1	N (W side)
313480	170249			Area 1	W (W side)
313483	170246			Area 1	S (E side)
313483	170248			Area 1	N (E side)
313644	107366			corner towards SW	SE side
313646	107370			corner towards SW	NE side
313649	107369			corner towards SW	103 within trench
313633	107371			corner towards NE	SE side
313634	107374			corner towards NE	NE side
313634	107373			corner towards NE	103 within trench
313620	107375			levels taken	100
313620	107377			levels taken	103 within trench
313600	107375			trench	SE side of trench
313602	107383			trench	NW side of trench
313603	107382				103 SE extent
313585	107391			-	103 re-emerges
313576	107389			Dwg 1	SW drawing point
313574	107391			Dwg 1	NE drawing point
313574	107393				C20th Fe bolt
313568	107386			trench	SW side - straightens out after corner
313564	107389			trench	NE side - straightens out after corner



Dunkeswell Airfield watching brief (DAF 15)

East- ings	North- ings	Height	Number	Position	Remarks
313549	107354			trench	SW side - slight bend to NW
313549	107356			trench	SW side - slight bend to NW
313537	107328			trench	SW side - slight bend to SW
313535	107329			trench	NE side - slight bend to SW
313515	107289			trench	SW side - bend SW of bank
313511	107291			trench	NW side - bend SW of bank
313476	107252			NW-SE depression - field boundary	NE side
313475	107252			NW-SE depression - field boundary	NW side
313545	107209			NW-SE depression - field boundary	SE side
313543	107205			NW-SE depression - field boundary	SW side
313483	107249			trench E edge - S edge of boundary ditch	SE side
313479	107250			trench E edge - S edge of boundary ditch	NW side
313473	107240			trench - corner	SE side
313472	107244			trench - corner	NW side
313465	107239			track - exposed by machining	S side
313458	107242			track - exposed by machining	N side
313457	107239			track - exposed by machining	SW side



Appendix 4 Site Photographic Gallery (from NW to SE)



Figure 24. The western arm of the watching brief trench. Surface of the old track exposed. Looking SE from 331400 / 107270. 1m scale



Figure 25. Remnants of the 'old track' as an earthwork. The Former Operations Block is in the background. Possible round-side drainage gully, and removed field boundary (left). Looking NE from 331550 / 107200



Figure 26. Panorama photograph of the corner between the western and northern arms of the watching brief trench. Surface of the old track exposed (left), Modern-disturbed subsoil102 (right) Looking NW from 331470 / 107230





Figure 27.

The western end of the northern arm of the watching brief trench.102 exposed.

Looking S from 331500 / 10728 from a WWII landscaping bank. 1m scale



Figure 28.

The northern arm of the watching brief trench. 102 exposed. Looking ENE from 331500 / 107280 from a WWII landscaping bank. 1m scale



Figure 29.

The northern arm of the watching brief trench. Base of subsoil 102 / surface of 103 exposed. WWII landscaping banks. Looking WSW from 331550 / 107350.



Figure 30.

The east end of the northern arm of the watching brief trench. Base of subsoil 102 / surface of 103 exposed. WWII landscaping banks. Looking NE from 331550 / 107350.





Figure 31. Panorama photograph of the northern arm of the watching brief trench. Base of subsoil 102 / surface of 103 exposed. WWII landscaping banks. Looking WSW from 331550 / 107350.



Figure 32. Panorama photograph of the last stage of the excavation for the new access road. Viewed from the northern corner of the field under excavation. Looking south, downslope. The Former Operations Block is in the left – background. 1m scale within the trench.



Figure 33.
The north end of the eastern arm of the watching brief trench. Area B pre-cleaning. Base of subsoil 102 / surface of 103 exposed. Looking ESE from 331580 / 107390. 1m scale



Figure 34. The eastern arm of the watching brief trench. Surface of geology 103 exposed. Looking WNW from 331630 / 107370. 1m scale



Figure 35.

The SE end of the eastern arm of the watching brief trench. Surface of geology 103 exposed. Looking ESE from 331630 / 107370. 1m scale



Appendix 5. Finds Photographs

Figure 36.

The Cu alloy coin found @ 313483 / 107252 in the top of superficial geological deposit 103





Figure 37.
The Cu alloy coin *in-situ* at the top of deposit 103 @ 313483 / 107252.
Excavation through subsoil 102
0.50m scale



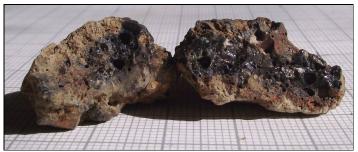


Figure 38. Vitreous slag lumps from **102** @ 313635/ 107366.



Figure 39. Slag lumps from **102** @ 313515/ 107294.



Figure 40. Slag lump from **102** @ 313511/ 107287.





Figure 41. Fe ore lump from **102** @ 313603/ 107383.



Figure 42. Fe ore lump from **102** @ 313628/107371.



Figure 43. Fe ore lump from **102** @ 313550/ 107360.

