



Royal
Commission on the
Ancient and
Historical
Monuments of
Scotland

Scotland
from the Air
1939-49
Volume 1

Catalogue of the
Luftwaffe Photographs
in the National Monuments
Record of Scotland



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Preface

This is the first in a series of catalogues intended to publicise the importance and potential uses of part of the collections of aerial photographs in the National Monuments Record of Scotland (NMRS). They draw attention to the earliest photographs in these collections which date from the period before 1950. The main sequence of national survey aerial photographs, comprising some 700,000 images, begins at the end of World War II (WWII), and these show, among other features, Scottish industrial sites and airfields at the peak of production and activity. Recently identified within this collection, which was transferred to the NMRS from The Scottish Office in 1993, has been a valuable collection of some 4,000 wartime photographs taken by the Royal Air Force (RAF). Taken together with a small number of pre-WWII (1939-45) photographs and the Luftwaffe material (see below), these constitute a particularly valuable body of historical evidence illustrating developments - and damage - affecting Scotland at a crucial period in its history in the second quarter of the 20th century.

These collections of photographs are particularly pertinent to the history of the NMRS, as its predecessor, the Scottish National Buildings Record, had wartime origins, having been set up in 1941 to make a record of Scotland's historic architecture in anticipation of possible destruction through enemy action. The Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS), which now manages the NMRS, also carried out an Emergency Survey in 1942-3 to record all ancient monuments in danger because of their location in military training areas.

The subject of this first catalogue in the series, the Luftwaffe Collection, comprises 126 images and 28 distribution maps held in the NMRS. These represent a small selection of the target reconnaissance photographs of Scotland taken by the German Luftwaffe during WWII and help to illustrate the huge contribution made in Scotland to the war effort, both military and civilian.

This catalogue comprises a short introduction, which briefly sets out the background to Luftwaffe activity over Scotland in WWII, and a descriptive gazetteer listing all the Luftwaffe images in the NMRS collection. It is followed by topographical and thematic indices providing a means of cross-reference to the information contained in the photographs.

The catalogue has been prepared and written by Kevin McLaren, while the German text contained in the photographs was translated by Justyna Wisniewska. Acknowledgements for help and assistance are also due to the following members of RCAHMS staff: Tahra Duncan, David Easton, Lesley Ferguson, Miriam McDonald, Peter McKeague, Kevin MacLeod, Robert Mowat, Miles Oglethorpe, Geoffrey Stell and John Stevenson. At the Imperial War Museum, Colin Bruce provided assistance and information on the collection there and Chris Going of the National Association of Air Photograph Libraries (NAPLIB) provided much background information on a fascinating story.

The map on p.7 is based on Ordnance Survey mapping with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown Copyright. RCAHMS Licence number GD03127G.

Enquiries about the Luftwaffe Collection should be addressed to:

**The Secretary
RCAHMS
John Sinclair House
16 Bernard Terrace
Edinburgh
EH8 9NX**

**Tel: 0131-662 1456
Fax: 0131-662 1477/1499
e-mail: nmrs@rcahms.gov.uk**

The NMRS is open for public consultation from Monday to Friday, 9.30am to 4.30pm (4.00pm on Friday). It is closed during normal public holidays.

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Introduction

Luftwaffe Reconnaissance Operations

German aerial reconnaissance of Scotland, for military use during WWII, was first carried out by Theodore Rowehl in 1938-9. Under the guise of checking out new air routes for the German airline, Lufthansa, he used a civilian Heinkel He-111 fitted with concealed cameras to clandestinely photograph the North Sea coast of Scotland and England, the Channel coastlines of both England and France and the Baltic coast as far as Leningrad. Once WWII had commenced, Luftwaffe (German air force) Dornier Do-17, Do-215, Do-217, Junkers Ju-86, Ju-88, Ju-188 and Arado Ar-234 aircraft were all used to take photographs of parts of Scotland, usually flying at altitudes of up to 30,000 feet (10,000m) to evade interception by British fighters, but occasionally arriving at low level to obtain oblique images.

Military intelligence photography was - and is - used to select bombing targets, determine bombing accuracy, assess bombing damage, determine enemy orders-of-battle, analyse equipment capability, pinpoint defence positions, serve as a basis for maps and to search for indications of enemy initiatives or intentions. The German photo-reconnaissance effort was split between the various *Luftflotten* (air forces) of the Luftwaffe and was mainly tactical in nature, with no centralised intelligence gathering organisation to inform high-level strategic decisions in the manner of the Allied Central Interpretation Unit at RAF Medmenham. Each Luftwaffe reconnaissance squadron had its own photographic laboratory where film was developed and printed. In the 123rd *Staffel*, in Paris, for example, initial photographic interpretation (PI) work was done from photographic negatives by an officer, a non-commissioned officer and 15 men. This unit analysed images collected by reconnaissance aircraft based in Norway, France and the Mediterranean, and would have dealt with much of the material presented in this catalogue.

PI officers examine aerial photographs in three phases. Phase 1 is carried out immediately after the collecting aircraft has landed and involves examination of the target only, while the entire area captured in the photographs is examined in Phase 2. Phase 3 takes much longer and involves detailed analysis of all the photographs of a site from previous sorties, by specialists in a variety of fields, such as transportation, aircraft operation and industrial processes. German first-phase interpretation was achieved very quickly, as it was done from negatives; this, however, denied PI officers the use of one of their most useful tools, the stereoscopic viewer. German third-phase interpretation never reached the sophistication of Allied work but was very good at interpreting military dispositions on the ground; that German PIs were proficient at measuring the size of buildings is clearly illustrated by the examples listed in the gazetteer below.

Since no high-performance photographic reconnaissance aircraft was developed in numbers by the Germans, to compare with the British Spitfire or Mosquito, the risk involved in making a long-range reconnaissance sortie to Scotland in a Ju-88 or Do-17 increased as the performance and production of British fighters improved. With the notable exception of the reconnaissance versions of the Ju-86, which could climb to over 40,000 feet (12,200m) and were virtually untouched until 1943, and the jet-engined Arado 234, these converted bombers were eventually no longer able to outrun, outclimb or outmanoeuvre the defending fighters, and the poor image collection rate attained after 1940 is reflected in the body of photographs described in this catalogue, where the majority of images date from the first two years of the war. This can be attributed to advances in British radar technology which enabled defending aircraft to intercept intruders, as well as to the change in German priorities following the cancellation of plans to invade Britain. The sporadic recovery of imagery would have been of limited use to German intelligence officers for strategic planning and makes third-

phase interpretation particularly difficult and prone to inaccuracy, as images need to be collected at regular intervals over a period of time for the productivity and purpose of enemy factories and installations to be identified and for intentions to be deduced.

The coverage obtained during a reconnaissance sortie is limited by the type and number of cameras used. The Luftwaffe's cameras, though of excellent quality, were large and heavy and this limited the number an aircraft could carry aloft. The principal German camera, the Rb 30, for example, weighed 160 pounds (72.5kg), compared to the 40 pounds (18kg) of its British equivalent, the F24. Such bulky cameras did not fit easily into a single-engined type, such as the Messerschmitt Me-109, and would have restricted the aircraft's range in any case, so the Luftwaffe made do with the modified bombers which had operated so well in the lightly defended skies of Poland and France in 1939-40. The Do-17, however, could carry only two cameras, mounted vertically in the bomb bay space; usually one large-lensed target camera and one mapping camera with a small focal length for area cover, though the Do-215 improved on this by adding a second target camera. The British Mosquito, by comparison, often carried five cameras: one oblique and four split-verticals. German oblique photography was sometimes obtained at opportune moments by crew members using hand-held cameras.

Master photographic prints were stored in the central intelligence library of German Army HQ at Zossen, near Berlin. Millions of photographs of targets in western and eastern Europe, taking up 3,000 cubic feet (85 cubic m) of space, were moved from Luftwaffe vaults near the end of the war and hidden, only to be later found by American troops and removed to the USA. The original negatives, which were stored on barges on lakes north-west of Berlin, may have been captured by the Soviets. Several of the copies held in the Imperial War Museum have the official stamp of *Groupe PD 5870* of the *Surete* (NMRS MS 1000/20), indicating that part of the collection has passed through the hangar of French intelligence officers, while some have charred edges, suggesting that other images may have been deliberately destroyed at the end of WWII.

Although the 16 October 1939 attack on the Forth Bridge was the first German raid on Britain of WWII, Luftwaffe activity over Scotland did not peak until 1940, when German forces succeeded in occupying most of mainland Europe, and aircraft of *Luftflotte V* were able to use airfields in Norway and Denmark as bases to raid Scottish targets. Such attacks were made mainly by He-111 and Ju-88 aircraft and later in the war by Ju-188s. Major targets, such as shipyards, were attacked in numbers (236 aircraft dropped bombs on Clydebank on 13 March 1941), whereas smaller targets such as airfields and opportunistic targets, like ships, were attacked by lone raiders, rather like the *Rover* armed-reconnaissance sorties made by Allied aircraft later in the war. In addition to machine-gun fire, ordnance dropped ranged from conventional iron bombs to high-explosive bombs, oil bombs, incendiaries, anti-personnel bombs, land-mines and parachute mines.

Just as Scotland saw the opening Luftwaffe action of WWII against Britain, she also saw the last German flight over these shores on 10 April 1945, when an Arado Ar-234 *Blitz* flew an unopposed reconnaissance sortie to Scotland. On returning to its base at Stavanger-Sola, Norway, the jet crashed on landing and the film was destroyed.

Target Scotland

The main collection of Luftwaffe material relating to Scotland held in the NMRS comprises 126 panchromatic aerial photographs and 28 distribution maps and is a copy of the entire holding of Luftwaffe material relating to Scotland in the National Archives and Records Administration in the USA. These are complemented by 32 photocopied images from the Imperial War Museum, filed as NMRS manuscripts (NMRS MS/1000). The images in the collection range in date from 23 September 1939 (Lossiemouth, gazetteer item no.82) to 10 March 1943 (Kinnell, no.8), with a number of the images believed to pre-date WWII.

The photographs held in the NMRS collection are centred on a particular target, which is usually outlined and has its constituent parts index-numbered. These parts are then identified and have their purpose, construction, dimensions and area described, in German, in the accompanying text. The critical point of the target is occasionally identified, for bomber crews. Neighbouring targets are treated in the same manner, while smaller targets of value are labelled with their code number only. Defensive positions, such as anti-aircraft batteries and barrage balloons, are also outlined on the photographs. For orientation, north is marked on all of the vertical photographs and the direction and distance to the nearest settlement is indicated. Appearing alongside the title of the photograph and the type of target depicted is the following information: date of photography or date at which intelligence information has been added; the unique classifying code number of the principal target; the scale of the photograph; the longitude and latitude of the target; the magnetic variation and date of recording; the height of the target above sea-level; and the photograph number. The photographs are also generally labelled as 'Secret' or for 'Official Use Only'.

A large collection of Luftwaffe photographs is held in the Department of Printed Books of the Imperial War Museum (IWM), where 189 Scottish sites are described in the Luftwaffe Target Folder Collection. Produced by the Luftwaffe, based on pre-war or early WWII aerial reconnaissance, each Target Folder contains a 1:100,000 scale road map with the target outlined in red; an aerial photograph of the target, 250mm by 250mm in size; an aerial photograph of the target with intelligence information annotated in red; and a pro-forma record sheet giving details of the target location, its constituent parts, its defences and neighbouring targets of similar type. Each item displays the unique classifying number of the target, with a letter suffix to indicate the type of document concerned: 'a' for the location map, 'b' for an aerial photograph and 'bc' for an annotated aerial photograph. In a few instances, part 'b' is a high-altitude photograph of a wide area, while part 'bc' is a select enlargement of the target, with intelligence information added. The small-scale image of RAF Wick (no.26), for example, appears in the NMRS collection as GB 10244b, while GB 10244bc (NMRS MS 1000/9) is an annotated enlargement of the airfield.

A smaller collection of images of mainly English locations is held by Nigel J Clarke Publications of Lyme Regis, Dorset, who have published two books of Luftwaffe images of southern England, though 16 images of Scottish targets are also held. A list of images available from this company can be consulted on the world-wide web.

The available imagery is by no means the complete collection, as demonstrated by the distribution maps discussed below, but the photographs are still a vital element of the record of activity in Scotland during WWII and serve to illustrate the enormous build-up of industrial strength required to wage war, as well as the wide range of defensive military installations constructed. Many of the images show airfields under construction or expansion, with grass runways being replaced by tarmac to facilitate the use of heavy aircraft in all weathers; images of the Clyde display a plethora of steel and shipbuilding activities, with factories at the peak of their

production; estuaries are cluttered with shipping and coastlines are littered with defensive positions.

With the exception of one image in the IWM (NMRS MS 1000/1), the focal length of the camera does not appear on any of the photographs, making it impossible to deduce the actual altitude of the reconnaissance aircraft, but the Rb 30 could be fitted with one of three lenses of 200mm (8 inches), 500mm (20 inches) or 750mm (30 inches) in length. The precise focal length of the lens (f) was recorded inside the camera and appeared at the edge of the photograph along with the frame number, as seen in MS/1000/1, where where $f = 504.11\text{mm}$ (20 inches), indicating that the camera was a Rb 50/30. This information appears to have been trimmed off the copies sent to the NMRS. Since many of the images were of necessity obtained from high altitude, the usefulness of the images for detailed examination is limited by such relatively short focal lengths, as enlargements have reduced resolution. Images from both long focal length 'target' cameras and short focal length 'area' cameras are represented in the NMRS collection; 'Hillington' (no.102) features mainly the Rolls Royce aero-engine factory situated there, while 'Abbotsinch' (no.98) covers a swathe of Renfrewshire, including the Hillington factory, the River Clyde and Abbotsinch airfield.



RAF airman examining a captured German Rb 50/30 camera in its fuselage mounting (21 July 1945).
PRO (AIR/37/1441/11)

Photographs taken up to mid-1940 are labelled with an identifying number beginning with three digits, then either L, R or S and ending with a further number, giving sequences such as 596 L 101 or 596 R 78. These letters may represent *links*, *rechts* and *schräge* (German for left, right and oblique), suggesting that stereoscopic imagery may have been obtained, with the final number series possibly being the film frame number. From mid-1940 until mid-1942, picture numbers appear in the format F42/40 065, for example, sometimes without the F-prefix. From mid-1942, the letters 'SK' or 'SG' appear in the sequence, giving F42/40 SK 065, for instance. These codes indicate the mission number and camera position. The photograph number is usually followed by '(Lfl.5)', identifying the image as having been taken by an aircraft of *Luftflotte V*.

Examination of the NMRS material has allowed a partial

reconstruction to be made of the Luftwaffe's reconnaissance sorties over Scotland. By comparing the date of photography, the location of the targets, the original scale of the images and the picture numbers, a general plan of several sorties can be built up and others hinted at. On 8 December 1940, for example, an aircraft flew a gradually descending, southerly course over Caithness, photographing the airfields at Skitten (no.25, Luftwaffe picture number 8/40-26, scale 1:27,000) and Wick (no.26, picture number 8/40-30, scale 1:23,000) before covering the Sutor coast batteries near Cromarty (no.107, picture number 8/40-69, scale 1:20,000). Similarly, on 2 January 1941 an aircraft flew over the airfields at Port Ellen (no.16), Ayr (no.18), Prestwick (no.20), Wigtown (no.126) and Dumfries (no.28), collecting images at scales of between 1:13,000 and 1:15,000. The same aircraft may also have been responsible for the small-scale image of Stranraer and Loch Ryan (no.125, 1:32,000) taken the same day, by using its small focal length area-coverage camera. Seven images are preserved in the NMRS (and two in the IWM) of a sortie along the River Clyde, covering Glasgow (nos 59, 60, 71 and 102), Renfrew (nos 98 and 105) and Rhu (no.33) on 23 March 1941 and other possible sorties are noted on 26 September 1942, flying westward over the airfields at Peterhead (no.5), Banff (no.21) and Milltown (no.83), and on 10 March 1943, flying south-west over Kinnell airfield (no.8), Dundee (no.6) and Errol (no.95).

Several of the Luftwaffe photographs held in the NMRS can be related directly to subsequent bombing raids. After several overflights from 1939 onwards, Clydebank and Glasgow were heavily bombed on 13 and 14 March 1941, photographed again on 23 March 1941, probably to assess bomb damage inflicted and to select new targets, and subsequently raided again on 7 April 1941 and 5 and 6 May 1941. Similarly, Orkney was photographed frequently from September 1939, before being first raided on 17 October 1939. After a reconnaissance sortie on 31 March 1940, attacks were made between 2 and 8 April 1940, as part of the Luftwaffe effort during the German invasion of Norway and Denmark, with a follow-up reconnaissance sortie on 10 April 1940, to reconnoitre Scapa Flow and to radio back weather reports for a dusk raid later that day. One of the images in the NMRS, labelled 'Lamb Holm' (no.92), taken on 8 October 1940, appears to be checking Kirk Sound, almost exactly a year after *U-47* had negotiated access in and out, having sunk *HMS Royal Oak*.

A second element in the NMRS collection of Luftwaffe material is a set of 28 Military Series 1:250,000 scale maps of parts of Scotland, showing the distribution of Luftwaffe aerial photographic cover, annotated by personnel of the US Air Force between 1956 and 1960. The maps do not completely describe the coverage obtained during WWII, however, as no photography is indicated at key locations for which Luftwaffe images are available, such as Shetland and Edinburgh. A general guide to the area covered on each sheet appears below. While the NMRS does not hold photographs of many of the localities indicated, it can be seen from the maps that the Luftwaffe obtained good coverage of several key areas of Scotland and the north of England, probably through the efforts of the Rowehl organisation in the years immediately preceding the war. The Angus and Northumberland coastlines, where many airfields, radar installations and anti-invasion defences were situated, were photographed extensively, possibly even stereoscopically. The western seaboard and north-west highlands of Scotland were investigated, as these were areas where convoys gathered and vessels of the Royal Navy's Home Fleet were often anchored. Likewise, the central belt, and the Firths of Clyde and Forth were extensively photographed as these were regions of heavy industrial manufacturing, shipbuilding and naval activity. Other areas were less extensively but more selectively covered, with one notable sortie taking in the royal residence of Balmoral Castle, as early as 13 September 1939.

NMRS No.	Locations covered
LWD 1	Loch Long and Helensburgh.
LWD 2	Girvan.
LWD 3	Firth of Clyde, Glasgow, Ayrshire coast.
LWD 4	Bute, Machrihanish and Campbeltown.
LWD 5	North-west coast from Little Loch Broom to eastern Skye.
LWD 6	South Skye and Canna.
LWD 7	Tiree, Staffa and Mull.
LWD 8	Arisaig to Fort William, Loch Linnhe to Oban, Scarba, Mull.
LWD 9	Orkney and Caithness.
LWD 10	Cape Wrath and Sutherland.
LWD 11	Laxford.
LWD 12	North-west coast.
LWD 13	Isle of Lewis.
LWD 14	Carsphairn.
LWD 15	Aberlady to Dunbar, Leuchars.
LWD 16	Edzell, Perth, Fife, Stirling, River Forth.
LWD 17	Berwickshire coast.
LWD 18	Cumbernauld and West Lothian.
LWD 19 & 20	Northumberland coastal strip.
LWD 21	Angus and the East Neuk of Fife.
LWD 22	Stonehaven to St Andrews.
LWD 23	Aberdeenshire and Banffshire.
LWD 24	Tain, Moray and Balmoral.
LWD 25 & 26	Parts of England.
LWD 27	Orkney.
LWD 28	Rhinns of Galloway and Northern Ireland.



Map showing the location of photographs taken by the Luftwaffe with the gazetteer numbers in this handlist. Based on Ordnance Survey mapping with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown Copyright. RCAHMS Licence number GD03127G.

List of Luftwaffe Images in NMRS

No.	Name of Site	Type of Site	Date	Council Area
Aberdeenshire				
1	Aberdeen	Harbour	1940	Aberdeen City
2	Dyce, Aberdeen Airport	Airfield	1940	Aberdeen City
3	Fraserburgh	Radio station	1940	Aberdeenshire
4	Hillhead	Radar station	1940	Aberdeenshire
5	Peterhead	Airfield	1942	Aberdeenshire
Angus				
6	Dundee, Stannergate	Seaplane base	1943	Dundee City
7	East Haven	Airfield	1943	Angus
8	Kinnell	Airfield	1943	Angus
9	Montrose	Airfield	1943	Angus
10	Stracathro	Airfield; Barracks	1940	Angus
11	Tealing	Airfield	1943	Angus
Argyll				
12	Blackwater Reservoir	Dam; Reservoir	1940	Highland
13	Campbeltown	Airfield	1940	Argyll & Bute
14	Kinlochleven	Aluminium smelter	1940	Highland
15	Oban	Seaplane base	1940	Argyll & Bute
16	Port Ellen, Islay	Airfield	1940	Argyll & Bute
Ayrshire				
17	Ardeer	Explosives factory	1941	North Ayrshire
18	Ayr	Airfield	1941	South Ayrshire
19	Kilmarnock	Power station	1940	East Ayrshire
20	Prestwick	Airfield	1941	South Ayrshire
Banffshire				
21	Banff	Airfield	1942	Aberdeenshire
Berwickshire				
22	Drone Hill	Radar station	1939	Scottish Borders
Caithness				
23	Castletown	Airfield	1941	Highland
24	Noss Head	Radio station	1940	Highland
25	Skitten	Airfield	1940	Highland
26	Wick	Airfield	1940	Highland
Clackmannanshire				
27	Throsk	RN Armament depot		
	Alloa Bridge	Railway bridge	1939	Stirling
Dumfriesshire				
28	Dumfries	Airfield	1941	Dumfries & Galloway
Dunbartonshire				
29	Alexandria	Factory	1939	West Dunbartonshire
30	Clydebank	Shipyards; Docks; Power station	1939	West Dunbartonshire
31	Clydebank, Dalmuir	Water works	1939	West Dunbartonshire
32	Dumbarton	Shipyards; Factory; Oil storage depot	1939	West Dunbartonshire
33	Rhu	Seaplane base	1941	Argyll & Bute
East Lothian				
34	Drem	Airfield	1940	East Lothian
35	Macmerry	Airfield	1942	East Lothian

Fife				
36	Burntisland	Alumina works	1939	Fife
37	Charlestown	RN Armament depot	1939	Fife
38	Crail	Airfield	1940	Fife
39	Crossford	Armament depot	1940	Fife
40	Donibristle	Airfield	1941	Fife
41	Inchkeith	Coast battery	1939	Fife
42	Longannet	Armament depot		
	Kincardine Bridge	Bridge	1939	Fife
43	Leuchars	Airfield	1940	Fife
44	Methil	Harbour	1939	Fife
45	Rosyth	Docks	nd	Fife
Inverness-shire				
46	Benbecula	Airfield	1941	Western Isles
47	Dalcross	Airfield	1940	Highland
48	Fort William	Aluminium smelter	1940	Highland
49	Foyers	Aluminium smelter	1940	Highland
50	Inverness	Airfield	1941	Highland
51	Kyle of Lochalsh	Coast battery	1940	Highland
52	Sollas, North Uist	Airfield	1940	Western Isles
Kincardineshire				
53	Edzell	Airfield	1940	Aberdeenshire
54	Fordoun	Airfield	1942	Aberdeenshire
Lanarkshire				
55	Cadder	Barrage balloon site	1939	East Dunbartonshire
56	Law Hospital, Carluke	Barracks	1940	South Lanarkshire
57	Glasgow	Steelworks; Cableworks	1939	Glasgow City
58	Glasgow	Shipyards; Engineering works	1939	Glasgow City
59	Glasgow, Cathcart	Engineering works	1941	Glasgow City
60	Glasgow, Dalmarnock	Power station	1941	Glasgow City
61	Glasgow, Govan	Shipyards	1939	Glasgow City
62	Glasgow, Govan	Shipyards; Dock	1939	Glasgow City
63	Glasgow, Polmadie	Chemical works; Gasworks	1939	Glasgow City
64	Glasgow, Port Dundas	Power station	1939	Glasgow City
65	Glasgow, Scotstoun	Shipyards	1939	Glasgow City
66	Glasgow, Springburn	Rail yards; Locomotive works; Steel works	1939	Glasgow City
67	Glasgow, Springburn	Locomotive works	1939	Glasgow City
68	Glasgow, Wyndford	Rubber works	1940	Glasgow City
69	Glasgow, Yoker	Power station; Shipyards; Dock	1939	Glasgow City
70	Hallside	Steelworks	1940	South Lanarkshire
71	Rutherglen	Steelworks	1941	South Lanarkshire
Midlothian				
72	Edinburgh, Alnwickhill	Water works	1939	City of Edinburgh
73	Edinburgh, Craiglockhart	Water pumping station	1939	City of Edinburgh
74	Edinburgh, Fairmilehead	Water works	1939	City of Edinburgh
75	Edinburgh, Granton	Gasworks; Harbour	1939	City of Edinburgh
76	Edinburgh, Leith	Docks	1939	City of Edinburgh
77	Turnhouse	Airfield	1939	City of Edinburgh
Moray				
78	Burghead	Radio station	1939	Moray
79	Elgin	Airfield	1939	Moray
80	Forres	Airfield		
	Kinloss	Airfield	1940	Moray
81	Kinloss	Airfield	1939	Moray
82	Lossiemouth	Harbour	1939	Moray
83	Milltown	Airfield	1942	Moray
Nairn				
84	Brackla	Airfield	1940	Moray

Orkney				
85	Berriedale, S Ronaldsay	Airfield	1940	Orkney Islands
86	Deepdale	Airfield (possible)	1940	Orkney Islands
87	Hatston	Airfield	1939	Orkney Islands
88	Houton Bay	Seaplane base	nd	Orkney Islands
89	Kirkwall	Airfield	1941	Orkney Islands
90	Kirkwall	Airfield; Radar station; Radio station	1939	Orkney Islands
91	Kirkwall	Radio station	1940	Orkney Islands
92	Lamb Holm	Military camp		
	Burray	Coast battery	1940	Orkney Islands
93	Lyness	RN Oil Terminal; Anti-aircraft batteries	1939	Orkney Islands
94	Skeabrae	Airfield	1941	Orkney Islands
Perthshire				
95	Errol	Airfield	1943	Perth & Kinross
96	Perth	Airfield	1939	Perth & Kinross
97	Rannoch	Power station	1940	Perth & Kinross
Renfrewshire				
98	Abbotsinch	Airfield	1941	Renfrewshire
99	Bishopston	Explosives factory	1939	Renfrewshire
100	Greenock	Harbour	1939	Inverclyde
101	Greenock	Dock		
	Port Glasgow	Shipyards; Gasworks	1939	Inverclyde
102	Hillington	Aero-engine factory	1941	Renfrewshire
103	Inchinnan	Engineering works; Shipyard	1939	Renfrewshire
104	Port Glasgow	Shipyard	1939	Inverclyde
105	Renfrew	Engineering works	1941	Renfrewshire
106	Renfrew	Airport; Aero-engine Factory	1939	Renfrewshire
Ross & Cromarty				
107	Cromarty	Coast batteries	1940	Highland
108	Fearn	Airfield	1941	Highland
109	Stornoway, Lewis	Seaplane base	1940	Western Isles
110	Tain	Airfield	1940	Highland
Shetland				
111	Cat Firth	Seaplane base	1939	Shetland Islands
112	Fair Isle	Airfield	1940	Shetland Islands
113	Lerwick	Harbour	1940	Shetland Islands
114	Scatsta	Airfield		
	Sullom Voe	Seaplane base	1940	Shetland Islands
115	Sullom Voe	Seaplane base	1940	Shetland Islands
116	Sumburgh	Airfield	1940	Shetland Islands
Stirlingshire				
117	Bonnybridge	Power station	1939	Falkirk
118	Grangemouth	Airfield; Harbour	1939	Falkirk
119	Wester Newlands	Chemical works	1940	Falkirk
West Lothian				
120	Dalmeny	Radio station	1940	City of Edinburgh
121	Port Edgar	Naval Establishment	1939	City of Edinburgh
122	Queensferry, Port Edgar	Forth Railway bridge Naval Establishment	1939	City of Edinburgh
Wigtownshire				
123	Kidsdale	Airfield	1940	Dumfries & Galloway
124	West Freugh	Airfield	1940	Dumfries & Galloway
125	Wig Bay	Seaplane base	1941	Dumfries & Galloway
126	Wigtown	Airfield	1941	Dumfries & Galloway

Editorial Notes

In the gazetteer which follows, the target photographs are listed alphabetically by the modern **name** of the principal target depicted, within the **county** in which it was situated, this being the administrative system in place during WWII. This is followed by the **classification** of the site as it appears in the NMRS database, the NMRS unique **site number**, the **national grid reference** of the site, in square brackets, and the NMRS **negative number** of the photograph. These details are then followed by the title of the print, as it appears at the head of the photograph, the function of the target, as interpreted by the Luftwaffe and, in brackets, the target identification number. The date of photography and the original scale of the image are given, where known, and the detailed text describing the constituent parts of each target is translated, where it appears on the photograph. All other targets noted on the photographs are listed, and other visible features of interest, such as unnoted military installations are noted in italic script. Any other relevant background or explanatory notes appear at the end of each entry, also in italics.

It should be noted that the provision of a grid reference does not guarantee that the structure survives intact at the location given, some having been destroyed, removed or replaced in the intervening years. Also, the target details given are those provided by the Luftwaffe PIs and German intelligence officers and, as such, may not always be accurate. The 'ammunition stores' noted at Ardeer (Irvine, item no.17), for example, were mostly high-explosives magazines and the 'mine depot' noted under construction at Dumbuck (Dumbarton, item no.32) is a group of revetted fuel-oil storage tanks. Defences such as anti-aircraft gun batteries, coast defence batteries, barrage balloons, blockships and radar stations are noted on some of the images, but searchlights, sound locator units, pillboxes, barbed wire, anti-glider posts and anti-tank obstacles were also employed at many of the locations photographed.

General terms appearing on the photographs

Date of annotation or updating	<i>Nachtrage</i>
Latitude	<i>Breite</i>
Longitude (west of Greenwich)	<i>Lange (westl. Greenw.)</i>
Magnetic Variation (mid-1938)	<i>Missweisung (mitte 1938)</i>
Official Use Only	<i>Nur fur den Dienstgebrauch</i>
Photograph Number	<i>Bild Nr.</i>
Scale (approximate)	<i>Masstab etwa</i>
Secret	<i>Geheim</i>
Target height above sea level 15m.	<i>Zielhohe uber NN 15m</i>
Target number	<i>GB 2033</i>
War Photograph Number	<i>Kriegsaufnahme</i>

Luftwaffe Target Classification Numbers

Targets appearing in Luftwaffe aerial photographs were allocated a unique classifying reference number according to their function. The first two digits of any given target number indicate the type of target concerned, e.g. GB 10253 and GB 102 are airfields (code beginning 10) and GB 521 and GB 5234 are gasworks (code beginning 52), where GB is the abbreviated form of *Gross Britannien* (Great Britain). In this way, German intelligence officers would have been able to retrieve photographs of all railway bridges or steel works, for example, when planning attacks on specific industries or communications links and when looking at annotated photographs, officers would recognise the category of target indicated simply by being familiar with the two-digit code.

Code Type of Target

10	Airfield
11	Anti-aircraft battery
12	Supply base and maintenance unit
14	Barracks
16	Coastal defences
17	Direction finding equipment
20	Supply depot
21	Oil storage tanks
22	Ammunition depot
25	Barrage balloon
40	Railway yard
41	Railway bridge
45	Harbour, port, dock
49	Radio/radar installation
50	Power station
52	Gasworks
53	Water works, dam
54	Sewage/water filter works
56	Grain silo
63	Chemical works
66	Rubber/synthetic chemical works
70	Steel industry
71	Aluminium industry
73	Aero-engine factory
74	Aircraft factory
76	Munitions factory
78	Locomotive works
80	Motor factory
82	Locomotive factory
83	Shipbuilding yard, dry dock
84	Cableworks

GAZETTEER

ABERDEENSHIRE

1. ABERDEEN

Harbour

NJ90NE 7 [NJ 95 05]

C 47570

ABERDEEN

Hafenanlagen mit Schwimmdocks (GB 45175 bc)

Docks with floating docks. Photographed 14 September 1940. Scale 1:16,400.

1. Tidal harbour.
2. Flood-gate.
3. Victoria Harbour.
4. Upper Harbour.
5. Albert basin.

6. Harbour No.1.
 7. Torry harbour.
 8. One large floating dock
 9. Two small floating docks.
 10. Shipyards with 3 tugs.
 11. Shipyards in Harbour No.1.
- Rail connection to Victoria and Upper Harbours.

Also noted: Three moles and one gun battery.

Also visible: Torry coastal defence battery.



2. Dyce

Now Aberdeen International Airport, RAF Dyce was occupied by Hurricanes of No. 145 Squadron when this photograph was taken, on 21 September 1940. A number of aircraft are seen to be parked on the E side of the airfield, where a civilian airport was first established in 1934 (numbered '10'). Note the neat rows of bell-tents (numbered '8') and the foundations for more permanent accommodation just to the SE of them. Dyce remained in RAF use until 1957.

[C 47571]

2. DYCE AIRFIELD/ABERDEEN INTERNATIONAL AIRPORT

Airport
NJ81SE 44 [NJ 880 125]
C 47571

ABERDEEN (DYCE)
Fliegerhorst (GB 102 bc)

Military airfield. Photographed 21 September 1940. Scale 1:11,800.

Manoeuvring area approximately 1150 x 830m, with three runways running N-S, NE-SW and NW-SE.

Western part:

1. Four large, saddlebacked aircraft hangars, camouflaged, around 6700 sq.m.
2. Aircraft operations building; single-storey saddle-roofed huts in U-shape plan.
3. Boiler-house with single chimney; large, single-storey, saddle roof.
4. Vehicle hangar; large saddlebacked roof.
5. Building, probably bomb depot.
6. Command and administrative buildings; large, saddle roof.
7. Barracks; saddle-roofed.
8. Building site with adjacent camp-site.

Eastern part:

9. Three large aircraft hangars, saddle and pitch-roofed, around 2300 sq.m.
10. Airport and annex building.

3. FRASERBURGH

Radio Station
NJ96NE 29 [NJ 999 653]
C 47616

FRASERBURGH
Funkstation (GB 49805 bc).

Radio station. Photographed 16 September 1940. Scale 1:17,000.

1. One radio transmitter building, large, saddle roof, around 150 sq.m.
 2. Two masts, approximately 35m high.
 3. Two associated buildings, around 100 sq.m.
- Built area approximately 250 sq.m.
Total area approximately 32,500 sq.m.

Also noted: Harbour (GB 4548).

4. HILLHEAD

Radar Station
NJ96SW 30 [NJ 9430 6170]
C 47680

SMIDDYSEAT
Funkstation (GB 49806 bc)

Radar station. Photographed 16 September 1940. Scale 1:17,000.

1. Two radio masts, lattice masts, approximate height 95m.
 2. Two radio buildings, flat roofs, around 180 sq.m.
 3. New buildings.
 4. Ground works.
- Built area approximately 180 sq.m.
Total area approximately 288,000 sq.m.
Railway connection not available.

5. PETERHEAD AIRFIELD

Airfield
NK04NE 12 [NK 076 473]
C 47667

PETERHEAD
Flugplatz (GB 10906 bc)

Airfield. Photographed 26 September 1942. Scale 1:18,300.

Part I.

1. Three runways, lengths 1350, 1340 and 1115m, completed.
2. Taxiway with partly lateral parking places..
3. Aircraft sheds, flimsy construction, barrel and saddle roofs, around 4,000 sq.m.
4. Blast pens for aeroplanes.
5. Control point, presumably solid, flat roofs with towers, around 260 sq.m.
6. Control and administration buildings, around 1,300 sq.m.

7. Airport buildings, offices and service rooms, accomodation blocks, around 6,700 sq.m.

Part II

8. Offices and service rooms, warehouses, around 4,600 sq.m.
 9. Accomodation blocks, around 12,000 sq.m.
- Built area approximately 28,860 sq.m.
Extension of the field possible.

180m N of the field: Peterhead-Maud railway line. Immediate railway connection not available.

ANGUS

6. DUNDEE, STANNERGATE SEAPLANE BASE
Seaplane Base
NO43SW 88 [NO 4316 3091]
C 47598

Dundee
Wasserflugplatz (GB 10480 b)

Seaplane Base. Photographed 10 March 1943. Scale 1: 19,000.

Opened for RNAS use in 1914 and closed in 1944.

7. EAST HAVEN AIRFIELD

Airfield
NO53NE 59 [NO 595 375]
C 47601

EAST HAVEN
Flugplatz (GB 10464 b)

Airfield. Photographed 17 February 1943. Scale 1: 21,300.

Opened as HMS Peewit in May 1943 and closed in 1949.

8. KINNELL AIRFIELD

Airfield
NO65SW 49 [NO 610 510]
C 47650

KINNELL
Flugplatz (GB 10478 b)

Airfield. Photographed 10 March 1943. Scale 1:19,600.

Built as a satellite to Tealing and in use between 1942 and 1945.

Nur für den Dienstgebrauch

GB 10906 b c
(2. Ang.)

Bild Nr. F 76/42 SK-04 (v.) Lfl. 5

Aufnahme vom 26. 9. 42

Peterhead

Flugplatz

Länge (westl. Greenw.): 1° 52' 19" Breite: 57° 30' 53"
Mißweisung: -12° 16' (Mitte 1943) Zielhöhe über NN 35 m

Maßstab etwa 1 : 18 300

Lw. Fü. Stab Ic April 1943

Karte 1 : 100 000

GB/S 15

500 0 500 1000 m



Teil I. 1. 3 Startbahnen von 1350, 1340 und 1115 m Länge, fertiggestellt
2. Rollbahn mit z. T. seitlich angelegten Abstellplätzen
3. Flugzeugboxen, leichte Bauart, Tonnen- und Satteldächer etwa 4 000 qm
4. Splitterschutzstände für Flugzeuge
5. Flugleitungsgebäude, anscheinend massiv, Flachdächer mit Turmaufbau etwa 260 qm

6. Kommandantur- und Verwaltungsgebäude etwa 1 300 qm
7. Flughafenbetriebs-, Wirtschafts- und Unterkunftsbaracken etwa 6 700 qm
Teil II. 8. Wirtschafts- und Lagerbaracken etwa 4 600 qm
9. Unterkunftsbaracken etwa 12 000 qm

Bebaute Fläche etwa 28 860 qm

180 m vom N-Rand des Platzes Eisenbahnlinie Peterhead-Maud. Direkter Gleisanschluß nicht vorhanden.
Erweiterung des Platzes möglich.

5. Peterhead

This image of RAF Peterhead, from 26 September 1942, demonstrates the tactical consideration of dispersing aircraft and facilities to increase their survivability in the event of enemy attack. The domestic site is spread across ten locations, to the SE of the airfield, and a number of aircraft blast-pens and sheds are visible around the airfield perimeter. Contrast this with the cramped, vulnerable arrangement at Dyce (No.2). The station opened in 1941 and saw RAF use until closure in 1959. It re-opened in 1975 for helicopters.

[C 47667]

Nur für den Dienstgebrauch

GB 10148 b c

(2. Ang.)

Bild Nr. F 6/43 SG 043 (Lfl. 5)

Aufnahme vom 17. 2. 43

Montrose

Flugplatz

Lw. Fü. Stab Ic April 1943

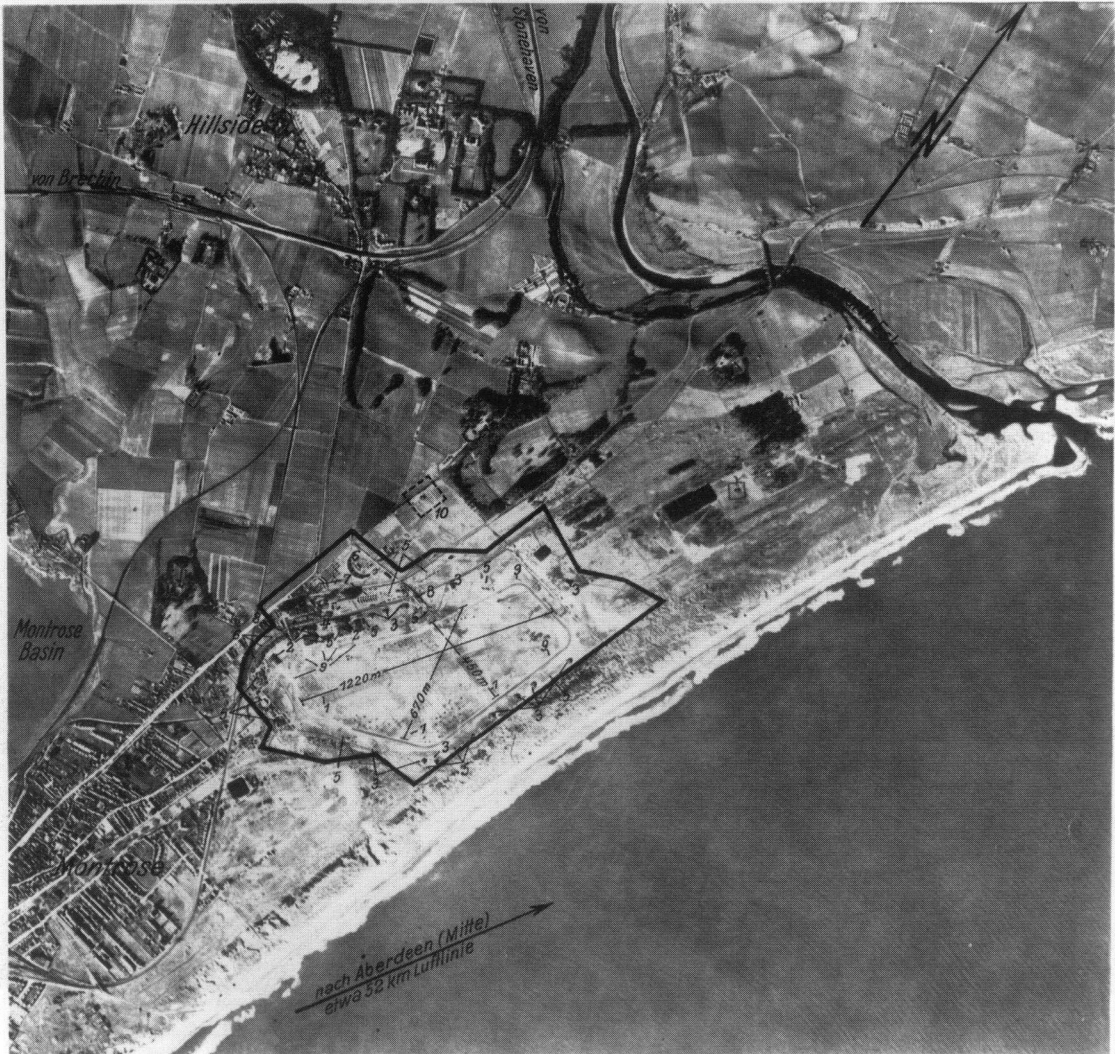
Länge (westl. Greenw.): 2° 27' 00" Breite: 56° 43' 32"
Mißweisung: - 12° 19' (Mitte 1943) Zielhöhe über NN 10 m

Karte 1: 100 000

GB/S 20

Maßstab etwa 1 : 21 000

500 0 500 1000 m



- 3 Startbahnen von 450, 670 und 1220 m Länge
 - 6 Flugzeughallen, massiv, Sattel- und Segmentdächer etwa 9 000 qm
 - 12 Flugzeugabstellboxen, leichte Bauart, Sattel- und Tonnendächer etwa 4 100 qm
 - 4 Flugleitungsgebäude, massiv, Satteldächer etwa 350 qm
 - 5 Flugbetriebs- und Nebengebäude, z. T. massiv, verschiedene Bauweise und Dacharten etwa 7 000 qm
 - 6 Lehr-, Wirtschafts- und Unterakunftsgebäude sowie Unterakunftsbaracken, versch. Bauweise, Satteldächer etwa 14 300 qm
 - 7 Splitterschutzanlagen
 - 8 2 Bahnübergänge
 - 9 Rollstraßen
 - 10 Funkstelle mit 2 Funkmasten etwa 120 qm
- Gleisanschluß vorhanden. Bebaute Fläche etwa 34 870 qm

9. Montrose

The oldest military airfield in Scotland, dating from 1912, Montrose was occupied by Master and Oxford aircraft of No.2 Flying Instructors School when this image was obtained, on 17 February 1943. A crescentic block of WW1 aircraft sheds can be seen at the SW corner of the airfield (numbered '6'), and numerous aircraft are parked around the airfield perimeter.

[C 47661]

9. MONTROSE AIRFIELD

Airfield

NO75NW 31 [NO 718 595]

C 47661

MONTROSE

Flugplatz (GB 10148 bc)

Airfield. Photographed 17 February 1943. Scale 1:21,000.

1. Three runways, length 450m, 670m, 1220m.
2. Six large aircraft hangars with saddle and pedimental roofs, around 9,000 sq.m.
3. Twelve aircraft sheds, flimsy construction, saddle and barrel roofs, around 4,100 sq.m.

4. Control buildings, large, saddle roofs, around 350 sq.m.
 5. Airport buildings and associated buildings, partly solid, various construction types and roof types, around 7,000 sq.m.
 6. Instruction buildings, offices and service rooms, accomodation blocks, various construction types, saddle roofs, around 14,300 sq.m.
 7. Splinter walls.
 8. Two level crossings.
 9. Taxiways.
 10. Radio point with two radio masts, around 120 sq.m.
- Built area approximately 34,870 sq.m.
Railway connection available.

10. STRACATHRO AIRFIELD

Airfield

NO66SW 34 [NO 643 637]

C 47580

BRECHIN

Landeplatz (GB 10902 bc)

Landing field. Photographed 26 September 1940, scale 1:15,900.

1. One shed with parallel saddle roofs, around 850 sq.m.
Flattened area, no particular aviation site facilities. Expansion of the field possible.

Also noted: Stracathro Hospital (GB 14802)..

Stracathro was a relief landing ground and storage site from 1941-1946.

11. TEALING AIRFIELD

Airfield

NO43NW 51 [NO 404 372]

C 47575

BALGRAY (MYRETON)

Flugplatz (GB 10465 b)

Airfield. Photographed 17 February 1943, scale 1:50,000.

Also visible: Tay Bridge, Broughty Ferry Castle coast battery, Stannergate seaplane base.

RAF Tealing saw RAF use from 1942 until 1945.

ARGYLL

12. BLACKWATER RESERVOIR

Dam; Reservoir

NN26SW 3 [NN 247 603]

C 47578

BLACKWATER-TALSPERRE

(GB 53107 bc)

Dam. Photographed 29 September 1940. Scale 1:15,000.

1. Retaining wall, straight, concrete with stone core. Length of top around 950m, breadth around 5.7m.
2. Control building and pipeline entrance. Around 60 sq.m.

Insert: section through dam.

Also noted: track to Kinlochleven.

Part of the Kinlochleven aluminium works.

13. CAMPBELTOWN AIRFIELD

Airfield

NR62SE 27 [NR 680 205]

C 47584

CAMPBELTOWN

Zivillandeplatz (GB 1034 bc)

Civilian airstrip. Photographed 23 October 1940, scale 1:8,750.

1. Small aircraft shed, apparently of wooden construction, with saddlebacked roof, around 600 sq.m.
2. Flying control, accommodation and associated buildings.

Opened in 1934 as a civilian airfield, Campbeltown was used by the RN between 1940 and 1945.

14. KINLOCHLEVEN

Aluminium works

NN16SE 3 [NN 189 618]

C 47648

KINLOCHLEVEN

Aluminium-Hüttenwerk mit Wasserkraftwerk (GB 7124 b)

Aluminium works with hydro power station. Photographed 29 September 1940. Scale 1:16,500.

See also Blackwater Reservoir.

15. OBAN

Seaplane Base

NM83SW 14 [NM 8430 3063]

C 47665

OBAN

Seeflugplatz (GB 10164 bc)

Seaplane base. Photographed 24 September 1940. Scale 1:8,200.

A. GB 10164: Seaplane base, Oban:

1. Shipyard, pedimental roof, about 41 x 16.5m, around 677 sq.m.
 2. Presumably administration building, flat roof, about 11 x 25m, around 275 sq.m.
 3. Two winch houses, saddle roofs, about 8.5 x 12.5m and 8 x 10m, around 185 sq.m.
 4. Workshop, flat roof, about 10 x 25m, around 250 sq.m.
 5. Accommodation buildings, hipped roofs, about 7 x 12.5m, around 88 sq.m.
 6. Three associated buildings, warehouses, flat and saddle roofs, about 6.5 x 25m, 5 x 10m, 6.5 x 11.5m, around 285 sq.m.
 7. Slipway for seaplanes.
- Built area approximately 1,760 sq.m.

In RAF Coastal Command use during WWII.

16. PORT ELLEN, ISLAY

Airfield

NR35SW 17 [NR 325 515]

C 47669

PORT ELLEN (ISLE OF ISLAY)

Flugplatz (GB 10177 bc)

Airfield. Photographed 2 January 1941. Scale 1:13,300.

1. Airport building, saddle roof, around 150 sq.m.
 2. Two accommodation blocks, flat roofs, around 150 sq.m.
 3. Fuel depot.
- Built area approximately 300 sq.m.
Railway connection not available.

Opened in 1940 and still in use by civil aircraft.

AYRSHIRE

17. ARDEER, ICI WORKS

Explosives Works

NS24SE 47 [NS 279 410]

C 47643

IRVINE

Sprengstoffwerke (GB 768 bc)

Explosives works. Photographed 9 January 1941. Scale 1:28,000.

Part I: "Dynamite Nobel (I.C.I.) Ardeer":

1. Explosives processing, large factory buildings (filling stations), various roof types, boiler and power houses with chimneys, around 48,000 sq.m.
2. Explosives depot, approximately 170 ammunition stores with blast walls, around 52,000 sq.m.
3. Warehouses, 41 buildings, around 31,000 sq.m.

Part II: "Royal Ordnance Factory Irvine":

4. Large factory buildings (production of saltpetre acids and of trinitrotoluol), various roof types, around 22,000 sq.m.
 5. Boiler and power houses with high chimneys, around 2,700 sq.m.
 6. Twelve saltpetre containers (diameters around 8 and 14m).
 7. Approximately 25 stores with blast walls (storage of explosives), around 22,000 sq.m.
 8. Administration offices and accommodation blocks, large, various roof types, around 9,200 sq.m.
- Built area approximately 186,900 sq.m.
Total area approximately 7,900,000 sq.m.

a) Barrage balloons.
Railway connection available.

GB 768 bc

Nur für den Dienstgebrauch

Bild Nr. 12/41-043 (v.) Lfl. 5

Aufnahme vom 9. 1. 41

Irvine Sprengstoffwerke

Länge (westl. Greenw.): 4° 42' 07" Nördl. Breite: 55° 36' 55"
Mißweisung: - 13° 50' (Mitte 1940) Zielhöhe über NN 15 m

Maßstab etwa 1 : 28 000

Luftwaffenführungsstab Ic/II

März 1941

Karte 1 : 100 000

GB/Sc Bl. 26

500 0 1000 2000 m



Teil I: „Dynamit Nobel (I.C.I.) Ardeer“:

1. Sprengstoffverarbeitender Teil, massive Werkgebäude (Füllanstalten), versch. Dacharten, Kessel- u. Maschinenhäuser mit Schornsteinen zus. etwa 48 000 qm
2. Sprengstofflagernder Teil, etwa 170 umwallte Munitionshäuser zus. etwa 52 000 qm
3. Lagergebäude, 41 Gebäude zus. etwa 31 000 qm

Teil II: „Royal Ordnance Factory Irvine“:

4. Massive Werkgebäude (Herstellung von Salpetersäuren und Trinitrotoluol), versch. Dacharten zus. etwa 22 000 qm

5. Kessel- und Maschinenhäuser mit hohen Schornsteinen etwa 2 700 qm
6. 12 Salpeterbehälter (Durchmesser etwa 8 u. 14 m)
7. Etwa 25 umwallte Lagergebäude (Lagerung explosiver Stoffe) zus. etwa 22 000 qm
8. Verwaltungs- u. Wohngebäude, massiv, versch. Dacharten zus. etwa 9 200 qm

Bebaute Fläche etwa 186 900 qm

Gesamte Fläche etwa 7 900 000 qm

a) Sperrballone

Gleisanschluß vorhanden

17. Ardeer

This image of the ICI explosives works at Ardeer and the Royal Ordnance Factory at Irvine, sites which do not appear on any map, was taken on 9 January 1941. Twelve barrage balloons can be seen, protecting the sites from low-level raiders. Note the plumes of smoke rising from the power station and chemical works at the heart of each site, blown by the NE wind.

[C 47643]

GB 10911 b

Nur für den Dienstgebrauch

Bild Nr. 7/41, 40 (Lfl. 5)

Aufnahme vom 2. 1. 41

Ayr Flugplatz

Länge (westl. Greenw.): 4° 35' 35" Nördl. Breite: 55° 29' 00"
Mißweisung: - 13° 46' (Mitte 1940) Zielhöhe über NN 15 m

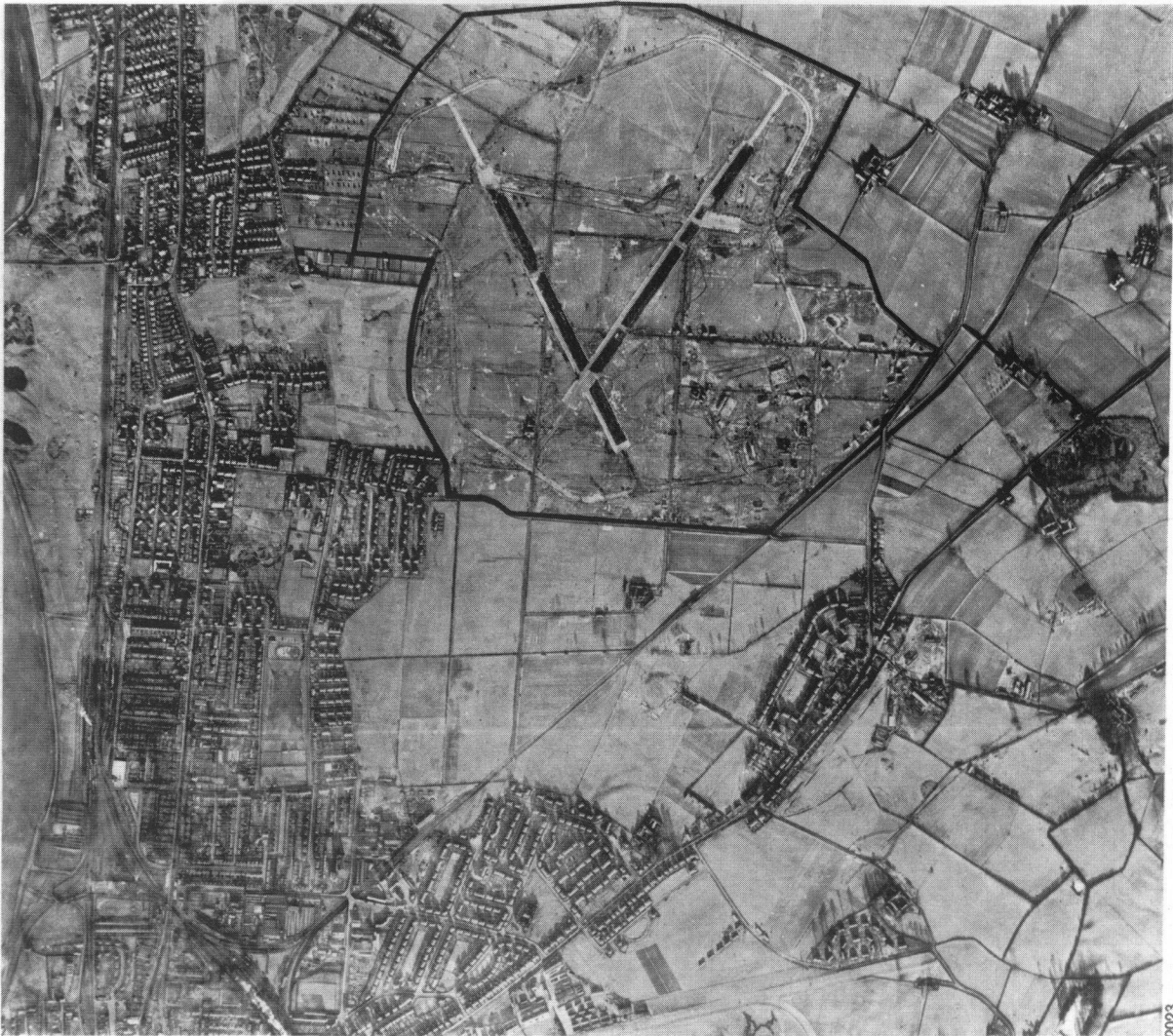
Genst. 5. Abt. Januar 1941

Karte 1: 100 000

GB/Sc Bl. 30

Maßstab etwa 1: 13 500

500 0 500 1000 m



2023

18. Ayr

This image, from 2 January 1941, illustrates the classic A-plan of the runways under construction at RAF Ayr, which served as a fighter station from 1941 to 1946 and was used as a storage facility by the US Air Force from 1951 to 1957. It has now been partly absorbed by the neighbouring Prestwick Airport. Note the snow-blanketed fields and the long, winter shadows of trees in the lower-right corner of the photograph.

[C 47574]

18. AYR
Airfield
NS32SE 23 [NS 3607 2238]
C 47574

AYR
Flugplatz (GB 10911 b)

Airfield. Photographed 2 January 1941, scale 1:13,500.

19. KILMARNOCK
Power Station
NS43NW 55 [NS 426 366]
C 47645

KILMARNOCK
Kraftwerk Kilmarnock (GB 5069 b)

Power station. Photographed 24 September 1940. Scale 1:10,000.

Also noted: Gas works.

20. PRESTWICK AIRPORT

Airport
NS32NE 39 [NS 36 26]
C 47672

PRESTWICK
Flugplatz (GB 10179 bc)

Airfield. Photographed 2 January 1941. Scale 1:13,000.

1. Three hangars, solid, saddle roofs, around 10,500 sq.m.
 2. Five hangars, solid, saddle roofs, around 8,300 sq.m.
 3. One aircraft factory with lateral workshops, solid, shed and saddle roofs, around 9,600 sq.m.
 4. Ten accommodation blocks, flat and saddle roofs, around 4,000 sq.m.
 5. Four airport buildings, solid, flat and saddle roofs, around 1,500 sq.m.
- Built area approximately 33,900 sq.m.
Railway connection not available.

Also visible: anti-glider defences.

Opened for transatlantic operations in 1936, Prestwick came under US Air Force control in the 1950's. Now home to Prestwick Scotland Airport and HMS Gannet.

BANFFSHIRE

21. BANFF AIRFIELD
Airfield
NJ66SW 21 [NJ 620 644]
C 47670

PORTSOY
Flugplatz (GB 10452 b)

Airfield. Photographed 26 September 1942. Scale 1:48,500.

RAF Banff was built in 1942 for Coastal Command, and closed in 1946.

BERWICKSHIRE

22. DRONE HILL
Radar Station
NT86NW 70 [NT 845 665]
C 47676

ST ABBS HEAD
Funkstation (Sendeanlage) (GB 4919 bc)

Radar station. Photograph updated 2 October 1939. Scale 1:15,500.

A. GB 4919: Radar station St. Abbs Head:

1. Four high radio masts.
 2. Radio station
 3. Three radio towers (completed).
 4. Radio tower (under construction).
 5. Radio station.
 6. Radio control point.
 7. Switching or amplifying centre.
- Total area approximately 155,000 sq.m.

Drone Hill was part of the Chain Home radar defence network.

CAITHNESS

23. CASTLETOWN AIRFIELD
Airfield
ND26NW 36 [ND 215 670]
C 47586

CASTLETOWN
Flugplatz (GB 10904 b)

Airfield. Photographed 2 May 1941. Scale 1:10,200.

Also visible: anti-glider defences.

Operational from May 1940 to April 1944 as part of the defence of Scapa Flow.

24. NOSS-HEAD
Radio Station
ND35SE 168 [ND 384 546]
C 47664

NOSS HEAD
Funkanlage (GB 49802 bc)

Radio station. Photograph updated 3 June 1940. Scale 1:15,600.

A. GB 49802: Radio station:

1. Radio building, around 140 sq.m.
 2. Seven radio masts, around 20m high.
- Built area approximately 140 sq.m.
Area for expansion around 21,000 sq.m.

Also visible: Eastern extremity of Wick airfield.

25. SKITTEN AIRFIELD
Airfield
ND35NW 27 [ND 325 570]
C 47646

KILMSTER
Flugplatz (im bau) (GB 10899 b)

Airfield under construction. Photographed 8 December 1940. Scale 1:20,700.

Built in 1940, extended for Bomber Command in 1943 and closed in 1944. Note the anti-glider obstacles in fields to the E of the airfield.

26. WICK AIRPORT
Airfield
ND35SE 103 [ND 360 525]
C 47692

WICK
Flugplatz (GB 10244 b)

Airfield. Photographed 8 December 1940. Scale 1:23,000.

Also visible: anti-glider defences.

Built for use in WWII, began civilian operations in 1946 and is still in use.

Note: anti-glider defences all around airfield.

CLACKMANNANSHIRE

27. THROSK, RN ARMAMENT DEPOT
Explosives Store
NS89SE 76 [NS 850 928]
ALLOA BRIDGE
Railway Bridge
NS89SE 79 [NS 8627 9156]
C 47573

ALLOA
Munitionslager (Torpedolager?) (GB 2214 bc)

Ammunition depot (torpedo depot?). Photograph updated 2 October 1939. Scale 1:16,700.

A. GB 2214. Ammunition depot (torpedo depot?)

1. Seven warehouses separated by blast walls. Around 12,300 sq.m.
 2. Thirty-six ammunition houses in blast pens, around 10,000 sq.m.
 3. Three ammunition bunkers, sunken and separated by blast walls. Around 1200 sq.m.
 4. Loading bays.
 5. Railhead with connection to main line.
 6. Ship-loading pier.
- Built area total approximately 23,500 sq.m.
Potential for expansion to around 1,000,000 sq.m.
Rail connection available.

B. GB 4120. Railway bridge

1. Bridge, around 450m long, 6m wide.
2. Revolving mid-section, with two abutments, twenty pillars, double-tracked.

Also noted: anti-aircraft battery.

GB 22 14 bc
Geheim

Alloa

Munitionslager (Torpedolager?)

Karte 1: 100 000
Blatt
Sch. 23

1: 63 360
Blatt
Sch. 67

Kriegsaufnahme:
596 R 82

Länge (w. Greenw.): $3^{\circ} 51' 0''$ Breite: $56^{\circ} 0' 40''$
Mittelpunkt: $13^{\circ} 50'$ (Mitte 1938), Zielhöhe über NN 30 m

Nachträge:
2. 10. 39.

Maßstab etwa 1: 16 700 (1cm = 167 m)



- Ⓐ GB 22 14 Munitionslager (Torpedolager?)
- 1) 7 Lagerhallen, durch Brandkille getrennt etwa 12 300 qm
 - 2) 36 Munitionshäuser in Brandhäusern etwa 10 000 qm
 - 3) 3 Munitionsbunker, vertieft angelegt und durch Brandkille getrennt etwa 1 200 qm
 - 4) Verladegebäude
 - 5) Gleisanlagen & Anschluß zur Hauptbahn
 - 6) Schiffanleger- und Verladebrücke
- bebaute Fläche (Schwerpunkte) etwa 23 500 qm
Gesamtausdehnung etwa 1 000 000 qm
Gleisanschluß vorhanden

- Ⓑ GB 4120 Eisenbahnbrücke (Stier)
- 1) Brücke, Länge etwa 40 m, Breite etwa 6 m
 - 2) Mittelstück, auf 2 Stützpunkten auf Pfeilern stehend
- Zu Pfeiler, see page 10

27. Alloa

The RN Armament Depot at Throsk is comprehensively detailed in this image of the upper Forth, taken before 2 October 1939. Also shown is the former railway swing-bridge at Throsk, which was demolished in 1971.

[C 47573]

DUMFRIESSHIRE

28. DUMFRIES, HEATHHALL AIRFIELD

Airfield

NX97NE 153 [NX 998 788]

C 47597

DUMFRIES

Flugplatz (GB 10908 b)

Airfield. Photographed 2 January 1941. Scale 1: 15,000.

A. GB 10908: Airfield.

B. GB 2034 Supply depot.

Also visible: trench system (NY 006 792).

RAF Dumfries was built as an aircraft storage facility and saw use from 1940 to 1957.

Kriegsaufnahme:
596 L 134

Länge (west Greenw.): 4° 34' 50", Breite: 55° 59' 25"
Mißweisung: -14° 11' (Mitte 1938), Zielhöhe über NN 100 m

Nachträge:
2. 10. 39.

Maßstab etwa 1: 18 200 (1 cm = 182 m)



GB 76 13 Fabrik f. Flugzeugtorpedos
Royal Torpedo Factory

- 1) Fabrikationshallen (Gemeinschaftlicher) etwa 10 800 qm
 - 2) Kraftzentrale etwa 700 qm
 - 3) Fabrikationshalle (Beddach) etwa 12 500 qm
 - 4) Verwaltungsgebäude
 - 5) vermutlich Freiluft-Depot
- bebauter Fläche (Schwarze Punkte) etwa 24 000 qm
Gesamtfläche etwa 78 000 qm
Eisenanschluss nicht vorhanden

302

29. Alexandria

Taken sometime before 2 October 1939, this view of Alexandria targets an aerial torpedo factory, formerly the site of the Argyll motor car factory from 1907 to 1913. [C 47572]

DUNBARTONSHIRE

29. ALEXANDRIA
Factory
NS38SE 21 [NS 390 807]
C 47572

ALEXANDRIA

Fabrik für Flugzeugtorpedos, Royal Torpedo Factory (GB 7613 bc)

Aerial torpedo factory, Royal Torpedo Factory. Photograph updated 2 October 1939. Scale 1:18,200.

1. Factory, around 10,800 sq.m.
 2. Power control office, around 700 sq.m.
 3. Factory, around 12,500 sq.m.
 4. Administration building.
 5. Open-air storage area, presumably.
- Total area (main targets) approximately 24,000 sq.m.
Area for expansion, approximately 78,000 sq.m.
Rail connection not available.

GB 83 22 bc
Geheim

Glasgow-Clydebank

Schiffswerft John Brown und Co.

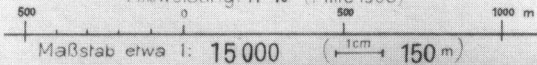
Karte 1:100 000
Blatt
Sch. 26

1:62 500
Blatt
Sch. 72

Kriegsaufnahme:
596 R 109

Länge (westl. Greenw.): 4° 23' 0" ; Breite: 55° 55' 0" (Bildmitte)
Mißweisung: -14° 10' (Mitte 1938)

Nachfrage:
2.10.39



- Ⓒ GB 50 10 Dampfkräftwerk Yoker
- | | | |
|--------------------------------|------|----------------|
| 1) 2 Kesselhäuser | etwa | 5 000 qm |
| 2) 2 Maschinen-u. Schalthäuser | etwa | 3 700 qm |
| 3) Kohlenbeladungsanlage | | |
| bebaute Fläche (Schwerpunkte) | | etwa 8 700 qm |
| Gesamtausdehnung | | etwa 45 000 qm |
| Gleisanschluß vorhanden | | |



- Ⓐ GB 83 22 Schiffswerft John Brown & Co.
- | | | |
|--------------------------------|------|-----------------|
| 1) Hellinge | | |
| 2) 1 Baubassin | | |
| 3) Werft u. Maschinenbau-Halle | etwa | 98 000 qm |
| 4) 2 Maschinenhäuser | etwa | 5 000 qm |
| 5) 1 Lagerhalle | etwa | 3 500 qm |
| 6) 1 Kesselschmiede | etwa | 2 500 qm |
| bebaute Fläche (Schwerpunkte) | | etwa 116 000 qm |
| Gesamtausdehnung | | etwa 290 000 qm |
| Gleisanschluß vorhanden. | | |

- Ⓑ GB 45 45 Rothesay - Dock
- | | | |
|-------------------------------------|------|----------------|
| 6) 3 Umschlagschuppen | etwa | 6 300 qm |
| 7) 2 Lagerschuppen | etwa | 3 300 qm |
| 8) 1 Betriebsgeb. f. Entladekräne | etwa | 1 400 qm |
| 9) 4 Entlade-Aufzüge | | |
| 10) Gleisenlagen | | |
| 11) Verladekais m. fahrbaren Kränen | | |
| bebaute Fläche (Schwerpunkte) | | etwa 11 000 qm |
| Gleisanschluß vorhanden. | | |

30. Clydebank

Annotated with intelligence information on 2 October 1939, this photograph of Clydebank was probably taken on the same day as item no.62, given that the images slightly overlap and the photograph scale, weather conditions and angle of sunlight are the same in each. The main target in this photograph is the John Brown & Co. shipyard, where a large warship can be seen jutting out beyond its fitting-out basin, into the Clyde.
[C 47620]

30. CLYDEBANK

A: John Brown's Shipyard Shipyard

NS46NE 29 [NS 497 698]

B: Rothesay Dock

Dock

NS56NW 41 [NS 501 691]

C: Yoker

Power Station

NS56NW 84 [NS 511 686]

C 47620

GLASGOW-CLYDEBANK

Shiffswerft John Brown und Co. (GB 8322 bc)

Shipbuilding yards (GB 8322), dock (GB 4545), steam power station (GB 5010).
Photograph updated 2 October 1939. Scale 1:15,000.

A. GB 8322: John Brown & Co., shipbuilding yard.

1. Slipways.
 2. Construction basin.
 3. Shipbuilding shed and engineering workshop, around 98,000 sq.m.
 4. Two power houses, around 3,000 sq.m.
 5. Warehouse, around 3,500 sq.m.
 6. Boiler shop, around 9,500 sq.m.
- Total built area (main targets) approximately 116,000 sq.m.
Area for expansion approximately 290,000 sq.m.
Railway connection available.

B. GB 4545: Rothesay-dock.

6. Three loading houses, around 6,300 sq.m.
 7. Two warehouses, around 3,300 sq.m.
 8. Building for unloading cranes, around 1,400 sq.m.
 9. Four unloading lifts.
 10. Railway sidings.
 11. Loading quays with mobile cranes.
- Built area (main targets) approximately 11,000 sq.m.
Railway connection available.

C. GB 5010: Yoker, steam power station.

1. Two boiler houses, around 5,000 sq.m.
 2. Two power houses and control stations, around 3,700 sq.m.
 3. Coal loading plant.
- Total built area (main targets) approximately 8,700 sq.m.
Area for expansion approximately 45,000 sq.m.
Railway connection available.

Also noted: anti-aircraft battery.

31. CLYDEBANK, DALMUIR

Water treatment works

NS47SE 78 [NS 4770 7100]

C 47594

DALMUIR

Kläranlage (GB 5413 bc)

Water filter-plant. Photograph updated 2 October 1939. Scale 1: 15,000.

A. GB 5413 Water filter-plant:

1. Pumping station, around 1,800 sq.m.
- Total built area approximately 1,800 sq.m.
2. Sewage works.
- Total area approximately 40,500 sq.m.

Also noted: Artillery factory (GB 7816), Royal Navy Oil Fuel Depot, Dalnottar (GB 2179) and shipyard (GB 8322).

32. DUMBARTON

A: Denny's Yard

Shipbuilding yard

NS47NW 16 [NS 40 75]

B: Blackburn Aircraft Works Works

NS47SW 78 [NS 4028 7467]

C: Dumbuck

Oil Storage Tanks

NS47SW 85 [NS 415 743]

C 47596

DUMBARTON

Deny Brothers Ltd. Schiffswerft (GB 8323 bc)

Shipbuilding yard. Photograph updated 2 October 1939. Scale 1: 15,200.

A. GB 8323: Deny Brothers Ltd., shipbuilding yard.

1. Shipyard with slipways, around 34,500 sq.m.
 2. Three shipbuilding sheds, around 9,000 sq.m.
 3. Boiler house and power house with foundry (?), around 5,000 sq.m.
 4. Ship engineering shop, around 7,800 sq.m.
 5. Boiler shop, around 1,400 sq.m.
 6. Boatbuilding sheds, around 2,300 sq.m.
 7. Shipyard harbour.
 8. Depot with associated buildings.
 9. Administration building.
- Total built area (main targets) approximately 60,000 sq.m.
Area for expansion approximately 194,000 sq.m.
Railway connection available.

B. GB 7496: Deny Brothers Ltd., shipbuilding yard and aircraft factory (Blackburn Aircraft).

10. Boiler house and engine-house, around 1,100 sq.m.
 11. Three construction shops, around 26,500 sq.m.
 12. Aircraft factory, around 7,000 sq.m.
 13. Associated buildings.
 14. Slipway for seaplane hulls and floats.
- Total built area (main targets) approximately 34,600 sq.m.
Area for expansion approximately 85,000 sq.m.
Railway connection available.

C. GB 2215: Mines depot ?

15. Three warehouses, around 2,800 sq.m.
 16. Seven building sites for warehouses.
 17. Site huts.
- Total built area (main targets) approximately 2,800 sq.m.
Area for expansion approximately 49,000 sq.m.
Railway connection available.
Expansion of the site possible.

33. RHU

Seaplane Base

NS28SE 35 [NS 2755 8346]

C 47637

HELENSBURGH

Flugplatz (See) (GB 10812 b)

Seaplane-base. Photographed 23 March 1941. Scale 1:8,200.

EAST LoTHIAN

34. DREM AIRFIELD

Airfield

NT58SW 68 [NT 505 812]

C 47636

GULLANE (DREM)

Fliegerhorst Gullane (Drem) (GB 1070 bc)

Military airfield. Photograph updated 22 July 1940. Scale 1:12,600.

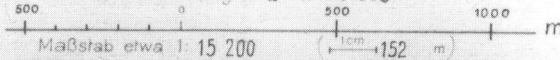
A. GB 1070: Military airfield Gullane (Drem).

1. Seven hangars, around 14,000 sq.m.
 2. Aircraft workshop, around 3,000 sq.m.
 3. Thirty-four accommodation buildings, around 8,000 sq.m.
 4. Teaching building, offices and service rooms, around 2,000 sq.m.
 5. Repair workshop and associated buildings, around 2,000 sq.m.
 6. Fuel depot under construction.
 7. Fuel depot.
 8. Three anti-aircraft gun platforms.
 9. Twelve aircraft shelters.
 10. Eight ammunition depots.
- Total built area (main targets) approximately 30,000 sq.m.
Extension of the field possible.
Railway connection not available.

Kriegsaufnahme: 596 R 141

Länge (westl. Greenw.): 4 33 20 Breite: 55 56 12 (Bildmitte)
Mißweisung -14° 2' Mitte 1939

Nachtrag
2.10.39



A GB 83 23 Deny Brothers Ltd. Schiffswerft

1) Bauwerft m. Hellingen	etwa	34 500 qm
2) 3 Schiffsbauhallen	etwa	9 000 qm
3) Kessel-u. Maschinenhaus mit Gießerei ?	etwa	5 000 qm
4) Schiffsmaschinenbauhalle	etwa	7 800 qm
5) Kesselschmiede	etwa	1 400 qm
6) Bootsbauhallen	etwa	2 300 qm
7) Werfthafen		
8) Lagerplatz m. Nebengebäuden		
9) Verwaltungsgebäude		
<hr/>		
bebaute Fläche(Schwerpunkte)	etwa	60 000 qm
<hr/>		
Gesamtausdehnung	etwa	194 000 qm
Gleisanschluß vorhanden.		

B GB 74 96 Deny Brothers Ltd., Schiffs- u. Flugzeugwerft ("Blackburn Aircraft")

10) Kessel u. Maschinenhaus	etwa	1 100 qm
11) 3 Werkhallen	etwa	26 500 qm
12) Werfthalle	etwa	7 000 qm
13) Nebengebäude		
14) Ablaufbahn f. Flugboot-rumpfe u. Schwimmer		
<hr/>		
bebaute Fläche(Schwerp.)	etwa	34 600 qm
<hr/>		
Gesamtausdehnung	etwa	85 000 qm
Gleisanschluß vorhanden.		

C GB 22 15 Minendepot ?

15) 3 Lagerhallen	etwa	2 800 qm
16) 7 Baustellen f. Lagergeb.		
17) Baubaracken		
<hr/>		
bebaute Fläche(Schwerp.)	etwa	2 800 qm
<hr/>		
Gesamtausdehnung	etwa	49 000 qm
Gleisanschluß vorhanden. Erweiterung des Platzes möglich.		

32. Dumbarton

Probably photographed before the outbreak of WWII, this image of Dumbarton focuses on the Deny Brothers shipyard and Blackburn Aircraft factory, in the shadow of Dumbarton Rock. The alleged mine depot under construction (annotated 'C') at Dumbuck was actually an oil-fuel storage facility. [C 47596]

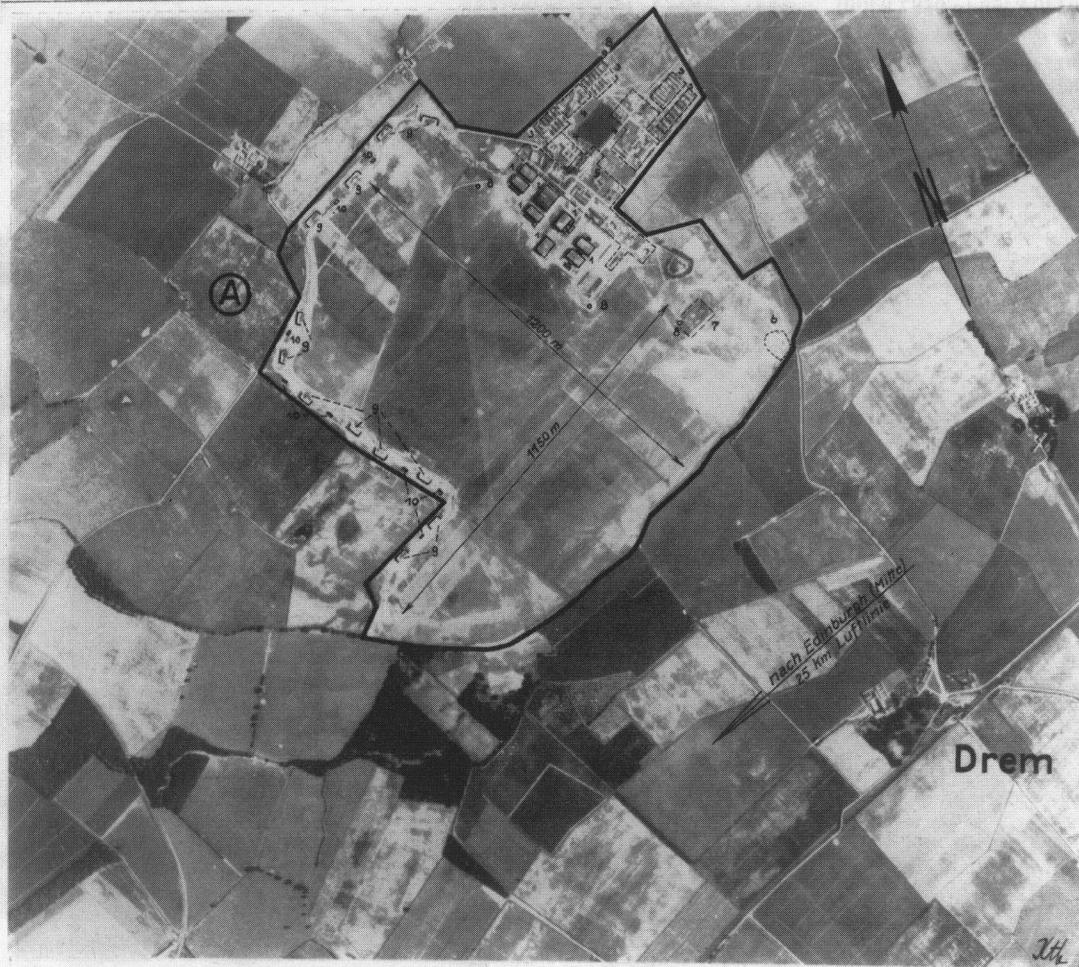
GB 1070bc

Maßstab etwa 1: 12 600

500 500 1000m
(1cm = 126 m)Gullane (Drem)
Fliegerhorst Gullane (Drem)G B 1070bc
GeheimKriegsaufnahme:
F 176/40, 119
Nachträge:
22.7.40.Karte (-Sc.)
1:100 000
Blatt 28Länge
(weftl.Greenw.):
2° 48' 01"
Nördl. Breite:
56° 01' 15"
()Mißweisung:
- 13° 19'
(Mitte 1938)Zielhöhe
über NN 10 m

1572

Aug. 1940



Ⓐ GB 10 70 Fliegerhorst Gullane (Drem)

- 1) 7 Hallen etwa 14 000 qm, 2) 1 Werft etwa 3 000 qm, 3) 34 Unterkunftsgebäude etwa 8 000 qm,
- 4) Schul- u. Wirtschaftsgebäude etwa 2 000 qm, 5) Reparatur- u. Nebengebäude etwa 2 000 qm,
- 6) Betriebsstofflager im Bau, 7) Betriebsstofflager, 8) 3 Fla-M-G Stände, 9) 12 Flugzeugschutzstände,
- 10) 8 Muni-Schuppen, bebaute Fläche (Schwerp) etwa 30 000 qm, Erweiterung des Platzes möglich.
Gleisanschluß nicht vorhanden.

34. Drem

Three grass runways are visible in this photograph of RAF Drem, taken on 22 July 1940. Used intermittently from 1916 to 1939, Drem served as a fighter and night-fighter station during WWII, until closure in 1946. The thoroughness of much German PI work is illustrated by this image, where each dispersal pen and four defensive pillboxes are noted.

[C 47636]

35. MACMERRY AIRFIELD

Airfield

NT47SW 46 [NT 437 734]

C 47689

TRANENT

Flugplatz (GB 10230 bc)

Airfield. Photographed 14 February 1942. Scale 1:22,000.

1. Aircraft hangar, solid, presumably parallel saddle roofs, around 3,100 sq.m.
 2. Small hangar, presumably saddle roof, around 550 sq.m.
 3. Blast pens for aeroplanes.
 4. Airfield maintenance building, solid, saddle roof, around 1,400 sq.m.
 5. Accommodation blocks and associated buildings, various roof types, around 2,000 sq.m.
 6. Taxiway.
- Built area approximately 7,050 sq.m.
Railway connection not available.
Expansion possible.

Opened by Edinburgh Flying Club in 1929, Macmerry saw military service from 1941 to 1945 and closed in 1953.

FIFE

36. BURNTISLAND ALUMINIUM WORKS

Alumina Works

NT28NW 165 [NT 226 862]

C 47582

BURNTISLAND

Tonerde-Fabrik der British Aluminium Co. Ltd. (GB 7122 b)

British Aluminium Co. Ltd., clay works. Photograph updated 21 October 1939.
Scale 1: 8,000.

This plant produced alumina from bauxite ore, ready for smelting to aluminium at Fort William, Foyers and Kinlochleven.

**37. CHARLESTOWN, RN ARMAMENT DEPOT
CROMBIE
Armament Depot
NT08SW 104 [NT 0340 8450 to 0587 8400]
C 47588**

CHARLESTOWN (FIRTH OF FORTH)
Munitionsdepot Charlestown (GB 2212 bc)

Ammunition depot. Photograph updated 2 October 1939. Scale 1:16,600.

1. Ten ammunition and mine store houses, around 4,700 sq.m.
 2. Twenty-eight large ammunition bunkers, around 1,600 sq.m.
 3. Nineteen small ammunition bunkers (detonators), around 1,100 sq.m.
 4. Seventeen store houses (mines and torpedoes), around 17,700 sq.m.
 5. Loading pier with railway.
 6. Dock with railway.
 7. Marshalling yard with loading sheds.
 8. Accommodation and administration buildings.
 9. Foundations for bunkers.
 10. Six entrances to underground bunkers.
- Total built area (main targets), around 25,100 sq.m.
Area for expansion, around 620,000 sq.m.
Railway connection available.

**38. CRAIL AIRFIELD
Airfield
NO60NW 49 [NO 62 08]
C 47589**

CRAIL
Flugplatz (im Ausbau) (GB 10318 b)

Airfield (being extended). Photographed 7 December 1940. Scale 1:11,500.

Also visible: anti-glider defences.

Built in 1918 and extended in 1939. Became Royal Naval Air Station HMS Jackdaw in 1940. One of the best-preserved abandoned airfields in Scotland.

**39. CROSSFORD
Armament Depot
NT08NE 190 [NT 0765 8700]
C 47599**

DUNFERMLINE
Nachschublager (GB 20800 bc)

Supply depot. Photograph updated 12 July 1940. Scale 1: 14,300.

A. GB 20800: Supply depot.

1. Warehouse, around 2,200 sq.m.
 2. Depot for highly explosives (buildings provided with blast walls), around 800 sq.m.
 3. Ten associated buildings, around 1,000 sq.m.
- Built area approximately 3,000 sq.m.
Total area approximately 100,000 sq.m.

**40. DONIBRISTLE AIRFIELD
Airfield
NT18SE 30 [NT 160 840]
C 47595**

DONIBRISTLE
Fliegerhorst (GB 1062 b)

Military airfield. Photographed 13 March 1941. Scale 1: 37,600.

Also visible: Forth Bridge, Inchcolm island coast battery, Rosyth oil storage tanks.

HMS Merlin. Opened in 1917 for the RNAS and in use as a shore base for aircraft carrier units until the late 1950's.

**41. INCHKEITH
Coast Battery
NT28SE 5 [NT 295 825]
C 47639**

INCHKEITH (FIRTH OF FORTH)
Marinestützpunkt (GB 168 bc)

Coastal battery. Photograph updated 2 October 1939. Scale 1:15,000.

A. GB 168: Coastal battery.

1. Two gun batteries with two guns each.
 2. Five tunnel entrances.
 3. Twenty accommodation barracks, around 5,700 sq.m.
 4. Twenty-five depot barracks, around 5,200 sq.m.
 5. Administration and accommodation buildings.
 6. Mole
 7. Lighthouse.
 8. Anti-aircraft guns (light calibre).
- Total area (main targets) approximately 10,900 sq.m.

An important element in the Forth estuary defences, this island was first fortified in the 16th century.

**42. LEUCHARS AIRFIELD
Airfield
NO42SE 59 [NO 460 205]
C 47695**

LEUCHARS
Fliegerhorst (getarnt) (GB 10128 bc)

Military airfield, camouflaged. Photograph updated 8 July 1940. Scale 1:14,900.

A. GB 10128 Military airfield:

1. Nine aircraft hangars, around 28,200 sq.m.
 2. One workshop building, around 2,000 sq.m.
 3. Fifty-three airfield buildings, around 16,000 sq.m.
 4. Sixty accommodation blocks, around 21,000 sq.m.
 5. Warehouse, around 750 sq.m.
 6. Ten ammunition stores, around 350 sq.m.
 7. Two radio masts, approximate height 40 m.
- Built area approximately 68,300 sq.m.

First used for balloons in 1911, the airstrip was established by the RNAS in 1918. Still in use as a front-line RAF station.

**43. LONGANNET
Armament Depot
NS98NW 193 [NS 940 861]
KINCARDINE BRIDGE
Bridge
NS98NW 59 [NS 9253 8715]
C 47647**

KINCARDINE
Munitionslager (GB 2213 bc)

Ammunition depot (GB 2213), road bridge. Photograph updated 2 October 1939. Scale 1:15,600.

A. GB 2213: Ammunition depot:

1. Seventeen bunkers, around 12,500 sq.m.
 2. Warehouses and administration buildings, around 1,000 sq.m.
 3. Railway connection.
 4. Road connection.
 5. Construction site.
- Built area (main targets) approximately 14,500 sq.m.
Area for expansion 154,500 sq.m.
Railway connection available.

B. GB...Road bridge:

1. Road bridge with seventeen pillars (iron), length around 850m, width around 13.5m.
2. Moveable part (revolving).

Also noted: power line.

GB 10264 b
(2. Ang.)

Nur für den Dienstgebrauch

Bild Nr. 84/41-066 (L.f. 5)

Aufnahme vom 6. 6. 41

Insel Benbecula

Flugplatz (im Bau)

Länge (westl. Greenw.): 7° 22' 00" Breite: 57° 28' 33"
Mißweisung: - 15° 30' (Mitte 1941) Zielhöhe über NN 5 m

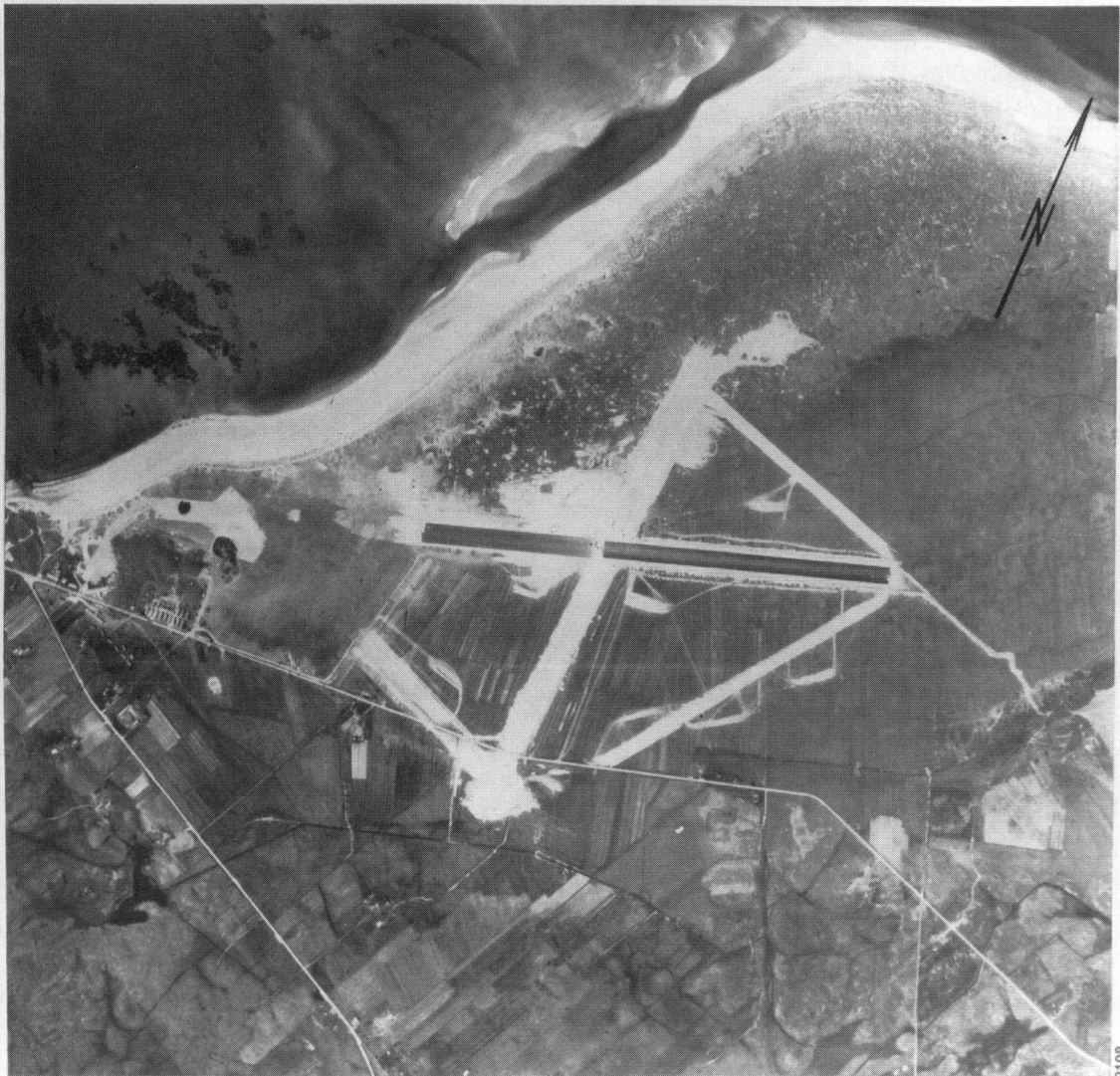
Maßstab etwa 1: 9500

Genst. 5. Abt. August 1941

Karte 1: 100 000

GB/S 10

500 0 500 1000 m



46. Benbecula

Developed from a pre-war civilian airport and used by Coastal Command aircraft for anti-submarine patrols in the North Atlantic, the station was under construction when this photograph was taken, on 6 August 1941. As Benbecula Airport, it now serves the South Uist Rocket Range.
[C 47641]

44. METHIL

Harbour

NT39NE 11 [NT 375 995]

C 47659

METHIL

Hafenanlagen (GB 45115 bc)

Harbour. Photograph updated 2 October 1939. Scale 1:18,000.

A. GB 45115: Harbour:

1. Two lock gates, with one entrance canal each.
2. Two power centres, around 1,900 sq.m.
3. Three free-standing towers at the harbour basins.

4. Three warehouses, around 2,000 sq.m.

5. Railway sidings with unloading cranes.

6. Rail crossing (bridge), length 50m, width 25m.

7. Railway bridge, length 40m, width 18m.

8. Road bridge (stone) with 2 pillars, approximate length 80m, approximate width 10m.

Built area (main targets) approximately 3,900 sq.m.

Railway connection available.

Also noted: Two railway marshalling yards.

GB 10 113 b

Inverness (See)

Seeflughafen

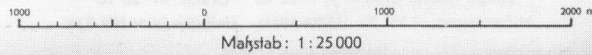
Lfl. Kdo. 3 Januar 1943

Nur für den Dienstgebrauch!

Länge (westl. Greenw.): 4° 15' 30" Nördl. Breite: 57° 29' 30"
Zielhöhe über NN: —

Karte 1:100000
GB/S 13

Aufnahme v. 13. 3. 41



48. Inverness

A high-altitude view of Inverness and Longman airfield, dating to 13 March 1941. Though classified as a seaplane base, flying boat operations were never developed here. Note the revetted fuel storage tanks at the N end of the airfield. Longman was used by Highland Airways Ltd from 1933 until 1941, when the airfield was occupied by the RAF. Too small to continue in use as an airport for Inverness after WWII, it closed in 1947 and is now an industrial estate. [C 47642]

45. ROSYTH, HM DOCKYARD

Docks

NT08SE 41 [NT 09 82]

C 47675

ROSYTH
(GB 8328 b)

Naval base. Oblique photograph, undated.

INVERNESS-SHIRE

46. BENBECULA AERODROME

Airfield

NF75NE 4 [NF 7870 5611]

C 47641

INSEL BENBECULA
Flugplatz (im Bau) (GB 10264 b)

Airfield under construction. Photographed 6 June 1941. Scale 1:9,500.

47. DALCROSS, INVERNESS AIRPORT

Airport

NH75SE 31 [NH 775 520]

C 47591

DALCROSS

Flugplatz (GB 10807 b)

Airfield. Photographed 29 September 1940. Scale 1:40,000.

48. FORT WILLIAM, LOCHABER ALUMINIUM SMELTER

Aluminium Smelting Plant

NN17NW 16 [NN 126 750]

C 47614

FORT WILLIAM

Aluminiumhütte Lochaber mit Wasserkraftwerk der British Aluminium Co. Ltd. (GB 7123 b)

Aluminium plant and hydro power station. Photographed 29 September 1940. Scale 1:16,200.

49. FOYERS, BRITISH ALUMINIUM FACTORY

Aluminium Smelting Plant

NH42SE 4 [NH 496 210]

C 47615

FOYERS

Aluminiumhütte (GB 7110 b)

Aluminium plant. Photographed 26 September 1940. Scale 1:12,600.

50. INVERNESS, LONGMAN AIRFIELD

Airfield

NH64NE 171 [NH 670 465]

C 47642

INVERNESS (SEA)

Seefflughafen (GB 10113 b)

Seaplane base. Photographed 13 March 1941. Scale 1:25,000.

Also visible: Armament stores at north end of airfield.

51. KYLE OF LOCHALSH

Anti-aircraft Battery; Military Camps

NG72NE 46 [NG 756 274]

C 47653

KYLE OF LOCHALSH

Kustenbefestigung und Barackenlager (GB 16801 bc)

Coastal defences and barracks. Photographed 29 September 1940. Scale 1:16,000.

1. Gun battery with three guns (calibre?).
 2. Control point.
 3. Accommodation blocks, around 1,500 sq.m.
 4. Barracks, about thirty-five buildings, flimsy construction, around 3,100 sq.m.
 5. Barracks, about thirty-five buildings, around 3,100 sq.m.
- Built area approximately 6,200 sq.m.
Area for expansion approximately 36,000 sq.m.
Railway connection not available!

52. SOLLAS, NORTH UIST

Airfield

NF87NW 27 [NF 814 756]

C 47681

SOLLAS

Landeplatz (GB 10270 b)

Airstrip. Photographed 26 September 1940. Scale 1:12,000.

A. GB 10270: Landing strip Sollas:

Exact layout and extension of the field cannot be defined. A runway in the E part of the field is possible. Construction sites are not recognisable.

1. One small hangar, about 20 x 20m, flat roof, around 400 sq.m.
- Extent of the landing strip about 800 x 1300m.
Built area approximately 400 sq.m.

KINCARDINESHIRE

53. EDZELL AIRFIELD

Airfield

NO66NW 75 [NO 631 691]

C 47606

EDZELL

Flugplatz (GB 10809 b)

Airfield. Photographed 26 September 1940. Scale 1: 43,000.

Also visible: Stracathro airfield (GB 10902) and barracks (GB 14802).

RAF Edzell was in RAF use from 1940 to 1957 before being acquired by the US National Security Agency for surveillance purposes. It closed in 1996.

54. FORDOUN AIRFIELD

Airfield

NO77NE 63 [NO 754 773]

C 47612

FORDOUN

Flugplatz (GB 10143 b)

Airfield. Photographed 15 July 1942. Scale 1:55,000.

A satellite station for Peterhead, military flying ceased in 1944. Re-opened for private flying in 1965.

LANARKSHIRE

55. CADDER

Barrage Balloon Site

NS67SW 50 [NS 630 723]

C 47583

CADDER

Sperrballonlager mit Spezialtruppenlager (GB 258 bc)

Barrage balloon depot with barracks. Photograph updated 2 October 1939. Scale 1: 9,100.

1. Six barrage balloon stores, with one under construction. Around 5,500 sq.m.
 2. Depot for winch vehicles, around 6,700 sq.m.
 3. Barracks, around 2,000 sq.m.
 4. Depots, workshops, warehouses, around 6,300 sq.m.
 5. Small machine-house for heating and lighting, around 700 sq.m.
 6. Launch-pads(?) under construction.
 7. Shelter(?) under construction.
- Total built area around 21,200 sq.m.
Area for expansion, around 285,000 sq.m.
Railway connection not available.

56. CARLUKE, LAW HOSPITAL

Hospital

NS85SW 22 [NS 836 533]

C 47585

CARLUKE

Barackenlager (GB 14804 bc)

Barracks. Photographed 29 September 1940. Scale 1:15,500.

1. Thirty-one saddlebacked barrack blocks, around 22,000 sq.m.
 2. Fourteen barrack blocks under construction, around 12,000 sq.m.
- Total built area, around 34,000 sq.m.
Area for expansion, around 344,000 sq.m.

Converted to a hospital after WWII.

GB 16801bc

Nur für den Dienstgebrauch

Bild Nr. F 216/40 020 (Lfl. 5)

Aufnahme vom 29. 9. 40

Kyle of Lochalsh

Küstenbefestigung und Barackenlager

Länge (westl. Greenw.): 5° 43' 0" Breite: 57° 16' 10" (Bildmitte)

Mißweisung: - 14° 48' (Mitte 1940) Zielhöhe über NN 15 m

Maßstab etwa 1 : 16 000

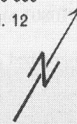
Genst. 5. Abt.

Januar 1941

Karte 1 : 100 000

GB/Sc Bl. 12

500 500 1000 m



1. Batteriestellung, drei Geschütze (Kal.?)
 2. Leitstand
 3. Unterkunftsbarracken, etwa 1500 qm
 4. Barackenlager, etwa 35 Baracken leichter Bauart etwa 3 100 qm
 5. Barackenlager, etwa 35 Baracken etwa 3 100 qm
- | | | |
|--------------------------------|------------------|----------------|
| | bebaute Fläche | etwa 6 200 qm |
| Gleisanschluß nicht vorhanden! | Gesamtausdehnung | etwa 36 000 qm |

51. Kyle of Lochalsh

The western seaboard of Scotland was an important haven for convoys and warships alike during WWII. Dated 29 September 1940, this image depicts three vessels anchored in the sheltered waters of Loch Alsh, protected by a coastal gun battery (numbered '1').
[C 47653]

57. GLASGOW

B: Parkhead Forge

Steelworks

NS66SW 113 [NS 625 645]

D: Flemington Street

Cableworks (possible)

NS66NW 55 [NS 607 673]

C 47617

GLASGOW

Wm. Beardmore, Parkhead, Stahlwerk f. Panzerplatten u. Kanonen (GB 7011 bc)

Steel works for armour-plates and cannons (GB 7011), cable works (GB 841). Photograph updated 2 October 1939. Scale 1:16,500.

B. GB 7011: Wm Beardmore, Parkhead. Steel works for armour-plates and cannons.

1. Power station with boiler houses and power houses, around 6,500 sq.m.
2. Three Siemens-Martin works (three-storey, iron roofs), around 25,000 sq.m.
3. Foundry (iron roof), around 10,500 sq.m.
4. Rolling mill (iron roof), around 6,800 sq.m.
5. Factory buildings (single-storey, iron roofs), around 23,000 sq.m.
6. Associated workshops and warehouses, around 9,000 sq.m.
7. Administration buildings, around 800 sq.m.
8. Railway sidings with depots and loading installations.
9. Railway bridge (iron), length 125m, width 8m.
10. Water tower.

Kriegsaufnahme:
596 L 98

Länge (westl. Greenw.): 4°12'10" Breite: 55°52'20" (Bildmitte)
Mißweisung -14° 0' (Mitte 1938)

Nachfrage:
2. 10. 39

Maßstab etwa 1:10 500
1cm = 165 m



B. GB 70 11 Wm. Beardmore, Parkhead, Stahlwerk für Panzerplatten und Kanonen.

1) Kraftzentrale u. Kessel- u. Maschinenhaus	etwa 6 500 qm
2) 3 Siemens-Martin-erke (3stöckig, Eisendächer)	25 000 qm
3) Gießerei (Eisendach)	etwa 10 500 qm
4) Walzstrahlen (Eisendach)	etwa 6 800 qm
5) Fabrikationshallen (einstöckig, Eisendächer)	23 000 qm
6) Nebenwerkstätten u. Lagergebäude	etwa 9 000 qm
7) Verwaltungsgebäude	etwa 800 qm
8) Gleisanlagen u. Lager- u. Verladeeinrichtungen	
9) Eisenbahnbrücke (Eisen) 125m lang, 6m breit	
10) Wasserversorgung	
bebauter Fläche (Schwerpunkte)	etwa 81 600 qm
Gesamtausdehnung	etwa 265 000 qm
Gleisanschluss vorhanden	

C. GB 84 1 Craigpack-erke, Kabelwerke

1) Fabrikationshallen und Gebäude (doppelstöckig, Ziegeldächer)	etwa 14 000 qm
2) Lagergebäude	etwa 800 qm
3) Verwaltungsgebäude	etwa 500 qm
4) Wasserwerk	etwa 200 qm
bebauter Fläche (Schwerpunkte)	etwa 15 500 qm
Gesamtausdehnung	etwa 27 000 qm
Gleisanschluss vorhanden	

57. Glasgow

This image of eastern Glasgow illustrates the extensive railway network threading through the city. Taken before 2 October 1939, the Beardmore armour-plate works (annotated 'B') at Parkhead Forge is detailed and would have been an important potential target. The twin gasholders of Provan Gasworks (annotated 'A') are clearly visible in the centre of the photograph and St Rollox Locomotive Works (annotated 'C') is at the hub of a network of railway lines. [C 47617]

Total built area (main targets) approximately 81,600 sq.m.
Area for expansion approximately 265,000 sq.m.
Railway connection available.

D. GB 841: Craigpack, cable works.

1. Factory shops and buildings (double-storey, tiled roofs), around 14,000 sq.m.
2. Warehouses, around 800 sq.m.

3. Administration buildings, around 500 sq.m.
4. Associated buildings, around 200 sq.m.
Total built area (main targets) approximately 15,500 sq.m.
Area for expansion approximately 27,000 sq.m.
Railway connection available.

Also noted: A: Provan Gasworks; C: St Rollox Locomotive Works; armour works (GB 7614).

58. GLASGOW

A: Yarrow & Co

Shipyards

NS56NW 41 [NS 520 679]

B: Albion Motor Works

Engineering Works

NS56NW 83 [NS 527 675]

C: Scotstoun Shipbuilding Yard

Shipyards

NS56NW 53 [NS 530 670]

C 47625

GLASGOW-GOVAN

Werft Yarrows Ship Building Yard (GB 8345 bc)

Shipbuilding yard (GB 8345), motor works (GB 808), shipbuilding yard (GB 8346). Photograph updated 2 October 1939. Scale 1:15,000.

A. GB 8345: Yarrows, shipbuilding yard.

1. Shipbuilding sheds and engineering workshops, around 32,000 sq.m.

2. Power house and boiler shop, around 2,500 sq.m.

3. Slipways.

4. Smaller workshops and open-air depot.

Total built area (main targets) approximately 34,500 sq.m.

Area for expansion approximately 105,000 sq.m.

Railway connection not available.

B. GB 808: Albion motor works.

1. Construction shops, complete plant, around 28,000 sq.m.

2. Boiler house and engine house, around 3,000 sq.m.

3. Smaller workshops.

Total built area (main targets) approximately 31,000 sq.m.

Area for expansion approximately 36,000 sq.m.

Railway connection available.

C. GB 8346: Harland and Wolff shipbuilding yard (ship engineering) with Scotstoun iron works.

1. Construction shops and boiler shops with power house, around 10,400 sq.m.

2. Slipways.

3. Smaller workshops and open-air depot.

4. Construction shops of the iron works, around 21,800 sq.m.

5. Warehouses of the iron works, around 8,000 sq.m.

Total built area (main targets) approximately 40,200 sq.m.

Area for expansion approximately 141,500 sq.m.

Railway connection available.

Also noted: D. Clydeholm Shipyards; E. King George V Dock; Grain silo (GB 5676), Fairfield shipbuilding yard (GB 8348), Hillington aero-engine factory (GB 7358).

59. GLASGOW, CATHCART

Engineering Works

NS56SE 161 [NS 581 608]

C 47619

GLASGOW-CATHCART

Schiffshilfsmaschinenbau "Weir Ltd." (GB 83100 b)

Weir Ltd., marine engineering works. Photographed 23 March 1941. Scale 1:8,000.

60. GLASGOW, DALMARNOCK

Power Station

NS66SW 104 [NS 616 627]

C 47621

GLASGOW

Kraftwerk Dalmarnock (GB 5013 b)

Power station. Photograph taken 23 March 1941. Scale 1:8,500.

Also noted: Bridgeton gasworks (GB 5240) and Stewart-Lloyd armour-plate works, Rutherglen, (GB 7013).

61. GLASGOW, GOVAN

Shipbuilding yards

NS56NE 228 [NS 557 656]

C 47623

GLASGOW-GOVAN

Schiffsmaschinengerei "Harland & Wolff Ltd" (GB 8325 b)

Harland & Wolff Ltd. shipbuilding yards. Photographed 2 October 1939. Scale 1:16,500.

Also visible: Princes Dock, Queens Dock, Fairfield Yard

62. GLASGOW, GOVAN

D: Clydeholm Shipyards

Shipyards

NS56NW 82 [NS 538 666]

E: King George V Dock

Dock

NS56NW 64 [NS 529 665]

F: Linthouse Shipyards

Shipyards

NS56NW 35 [NS 540 660]

C 47624

GLASGOW-GOVAN

Werft von Barclay Curle u. Co. (GB 8344 bc)

Shipbuilding yards (GB 8344), docks (GB 4541), shipbuilding yard (GB 8347). Photograph updated 2 October 1939. Scale 1:15,000.

D. GB 8344: Barclay Curle & Co., shipbuilding yard.

1. Shipbuilding sheds and fitting shops with boiler shops, around 23,000 sq.m.

2. Slipways.

3. Smaller workshops.

Total built area (main targets) approximately 23,000 sq.m.

Area for expansion approximately 105,000 sq.m.

Railway connection available.

E. GB 4541: King George V. Dock.

1. Warehouses at the quay, around 17,000 sq.m.

2. Loading quay, total length around 1,500 m.

Total built area (main targets) approximately 17,000 sq.m.

Railway connection available.

F. GB 8347: Stephens and Sons, shipbuilding yard.

1. Shipbuilding sheds and engineering workshops, around 26,000 sq.m.

2. Slipways.

3. Power house, around 1,800 sq.m.

4. Boiler shop, around 6,000 sq.m.

5. Smaller workshops.

Total built area (main targets) approximately 33,800 sq.m.

Area for expansion approximately 130,000 sq.m.

Railway connection not available.

Also noted: A: Yarrow & Co. shipyard; B: Albion Motor Works; C: Scotstoun shipyard; Grain silo (GB 5676), Fairfield shipbuilding yard (GB 8348), Hillington aero-engine factory (GB 7358).

63. GLASGOW, POLMADIE

D: Rosehill Works, Aikenhead Road

Chemical Works

NS56SE 175 [NS 593 623]

E: Dalmarnock Gasworks

Gasworks

NS66SW 71 [NS 6100 6345]

C 47618

GLASGOW

British Oxygen Co., Chem. Works (GB 662 bc)

Chemical works (GB 662), gas works (GB 5240). Photograph updated 2 October 1939. Scale 1:17,000.

D. GB 662: British Oxygen Co., chemical works.

1. Complete factory plant, around 7,000 sq.m.

Built area (main targets) approximately 7,000 sq.m.

Railway connection not available.

E. GB 5240: Bridgeton, gas works.

1. Buildings for gas production (coke oven-battery?), around 4,100 sq.m.

2. Two gas containers, diameter approximately 46m.

3. Workshop and associated buildings?

Total built area (main targets) approximately 4,100 sq.m.

Railway connection available.

Also noted: A: Windmillcroft Quay; B: Tradeston Gasworks; C: Queen's Park Locomotive Works; Iron works (GB 7010).

Kriegsaufnahme
596 L 103Längswestl. (Greenw.) 4 20. 50 Breite 53 52 10 (Bildmitte)
Märzweitung -14 0 März 1938

2 10 39

Maßstab etwa 1:15000
500 500 1000 m
1cm 150 m**D** GB 83 44 Werft v. Barclay Curie u. Co.

- 1) Werft-u. Montagehallen mit Kesselschmiede etwa 23 000 qm
 - 2) Hellinge
 - 3) Kleinwerkstätten
- bebaute Fläche (Schwerp.) " 23 000 qm
Gesamtausdehnung etwa 105 000 qm
Gleisanschluß vorhanden.

E GB 45 41 King George V. Dock

- 1) Lagerhallen am Kai etwa 17 000 qm
 - 2) Verladekai, Gesamtlänge etwa 1200 m
- bebaute Fläche (Schwerpunkte) etwa 17 000 qm
Gleisanschluß vorhanden.

F GB 83 47 Werft v. Stephens u. Sons

- 1) Werft-u. Maschinenbau-Hallen etwa 26 000 qm
 - 2) Hellinge
 - 3) Maschinenhaus etwa 1 800 qm
 - 4) Kesselschmiede etwa 4 000 qm
 - 5) Kleinwerkstätten
- bebaute Fläche (Schwerp.) " 32 800 qm
Gesamtausdehnung etwa 120 000 qm
Gleisanschluß nicht vorhanden.

62. Glasgow, Govan

Taken sometime before the date of annotation, 2 October 1939 (see no.30), this view of Govan and Scotstoun illustrates the great industrial effort being made along the banks of the River Clyde in the months leading up to WWII. Large ships are under construction in every shipyard, where the shadows of many tall cranes can be seen, and the Rolls Royce aero-engine factory at Hillington (annotated GB 7358) is under construction. Facilities such as King George V Dock (annotated 'E') and the grain silo, at the E edge of the photograph, were vital for supplying food to a nation at war.

[C 47624]

64. GLASGOW, PORT DUNDAS

Power Station

NS56NE 207 [NS 590 667]

C 47627

GLASGOW-PORT DUNDAS
Kraftwerk Port Dundas (GB 5043 bc)

Power station. Photograph updated 2 October 1939. Scale 1:15,600.

A. GB 5043: Port Dundas power station.

1. Open-air control station, around 8,000 sq.m.
 2. Boiler house, around 1,000 sq.m.
 3. Switching house, around 500 sq.m.
 4. Engineering workshop, around 3,000 sq.m.
 5. Administration building, around 14,000 sq.m.
- Total built area (main targets) approximately 26,500 sq.m.
Area for expansion approximately 42,000 sq.m.

Also noted: Mill, foundry, depot, chemical works (GB 6352), shipyard (GB 8319) and docks (GB 4542 and GB 4543).

65. GLASGOW, SCOTSTOUN

Shipyard

NS56NW 53 [NS 530 670]

C 47631

GLASGOW-W
Barclay, Curle u Co Trockendock u. Reparaturwerkstaff (GB 837 bc)

Dry-dock and repair workshop. Photograph updated 2 October 1939. Scale 1:15,000.

A. GB 837: Barclay, Curle and Co., dry-dock and repair workshop.

1. Dry-dock, length around 165 m, width around 25 m.
 2. Dry-dock, length around 150 m, width around 21 m.
 3. Control building for dry-docks, around 300 sq.m.
 4. Two repair workshops, around 14,000 sq.m.
 5. Five smaller workshops, around 3,700 sq.m.
 6. Chimney.
- Total built area (main targets) approximately 18,000 sq.m.
Area for expansion approximately 125,000 sq.m.
Railway connection available.

Also noted: Renfrew airfield (GB 10187), Hillington aero-engine works (GB 7358), King George V Dock (GB 4547), shipbuilding yard (GB 8346), large power station (GB 5010) and an anti-aircraft battery.

66. GLASGOW, SPRINGBURN

Railway yards; St Rollox Locomotive Works; Steel works

NS66NW 42 [NS 604 666]

C 47622

GLASGOW-OST
Verschiebebahn "Glasgow-St Rollox" (GB 409 b)

Marshalling yards. Photograph updated 2 October 1939. Scale 1:16,500.

Also noted: St Rollox railway waggon works (GB 8275), Cowlairs locomotive factory (GB 8276) and Steel Co. of Scotland Ltd., Blochairn Works, metal works (GB 7014).

67. GLASGOW, SPRINGBURN

Railway yards; St Rollox Locomotive Works; Steel works

NS66NW 42 [NS 604 666]

C 47629

GLASGOW-SPRINGBURN
Lokomotiv-Werke (GB 7818 b)

Locomotive works. Photograph updated 2 October 1939. Scale 1:25,000.

Also noted: Forth and Clyde Canal and six railway stations or depots (*denoted Bf., for "bahnhof"*).

68. GLASGOW, WYDNFORD

Glasgow Rubber Works, 125-9 Shuna Street

Rubber Works

NS56NE 229 [NS 5750 6825]

C 47632

GLASGOW (WYDNFORD)
Gummi- und Asbestfabrik "Gregor Mc. Lellan & Co." (GB 661 bc)

Gregor McLellan & Co., rubber and asbestos factory. Photographed 23 July 1940. Scale 1:12,800.

1. Power station: Boiler and power house, around 700 sq.m.
 2. Five factories and factory buildings, around 12,000 sq.m.
 3. Two administration buildings, around 800 sq.m.
- Total built area approximately 13,500 sq.m.
Area for expansion approximately 23,800 sq.m.
Railway connection not available.

Also noted: Four barrage balloons, Dawsholm and Temple Gasworks (GB 5244), unidentified target (GB 851) and Forth and Clyde Canal.

69. GLASGOW, YOKER

C: Yoker

Power Station

NS56NW 84 [NS 511 686]

A: John Brown's Shipyard

Shipyard

NS46NE 29 [NS 493 690]

B: Rothesay Dock

Dock

NS56NW 41 [NS 501 691]

C 30148

GLASGOW-CLYDEBANK
Dampkraftwerk Yoker (GB 5010 bc)

Shipbuilding yards (GB 8322), dock (GB 4545), steam power station (GB 5010). Photograph updated 2 October 1939. Scale 1:15,000.

A. GB 8322: John Brown & Co., shipbuilding yard.

1. Slipways.
 2. Construction basin.
 3. Shipbuilding shed and engineering workshop, around 98,000 sq.m.
 4. Two power houses, around 5,000 sq.m.
 5. Warehouse, around 3,500 sq.m.
 6. Boiler shop, around 9,500 sq.m.
- Total built area (main targets) approximately 116,000 sq.m.
Area for expansion approximately 290,000 sq.m.
Railway connection available.

B. GB 4545: Rothesay-dock.

6. Three loading houses, around 6,300 sq.m.
 7. Two warehouses, around 3,300 sq.m.
 8. Building for unloading cranes, around 1,400 sq.m.
 9. Four unloading lifts.
 10. Railway sidings.
 11. Loading quays with mobile cranes.
- Built area (main targets) approximately 11,000 sq.m.
Railway connection available.

C. GB5010: Yoker, steam power station.

1. Two boiler houses, around 5,000 sq.m.
 2. Two power houses and control stations, around 3,700 sq.m.
 3. Coal loading plant.
- Total built area (main targets) approximately 8,700 sq.m.
Area for expansion approximately 45,000 sq.m.
Railway connection available.

Also noted: anti-aircraft battery.

70. HALLSIDE
Steel Works
NS66SE 29 [NS 665 601]
C 47663

NEWTON
Hochofen-, Stahl- und Walzwerk (GB 7015 b)

Steel Co. of Scotland Ltd., Hallside Works. Steel works, blast furnace plant and rolling mill. Photographed 29 September 1940. Scale 1:38,500.

71. RUTHERGLEN, CLYDEBRIDGE STEEL WORKS
Steel Works
NS66SW 100 [NS 632 620]
C 47630

GLASGOW-TOLLSCROSS
Hochofen-, Stahl- und Walzwerk "Colvilles Ltd" (GB 7012 b)

Colvilles Ltd., blast furnace plant, steel works and rolling mill. Photographed 23 March 1941. Scale 1:8,400.

MIDLOTHIAN

72. EDINBURGH, ALNWICKHILL

A: Fairmilehead
Water Works
NT26NW 61 [NT 248 685]
B: Alnwickhill
Water Works
NT26NE 87 [NT 272 690]
C 47604

EDINBURGH
Alnwickhill, Wasserwerk (GB 5389 bc)

Water works (GB 5389), water filter works and pumping station (GB 5390). Photographed 21 October 1939. Scale: 1: 16,200.

A. GB 5390: Fairmilehead water filter works and pumping station.

1. Pumping station.
2. Seven filter basins.
3. Presumably purified water tank.
4. Filter plants (subterranean).

B. GB 5389: Alnwickhill water works.

1. Pumping station.
2. Eight different filter basins.
3. Presumably purified water tank.
4. Presumably purified water tank (subterranean).

73. EDINBURGH, CRAIGLOCKHART

Water Pumping Station
NT27SW 261 [NT 2253 7007]
C 47603

EDINBURGH
Pumpstation bei Firr Hill (GB 5387 bc)

Water reservoir pumping station. Photographed 20 October 1939. Scale 1:8700.

A. GB 5387: Pumping station near Firr Hill:

1. Extension of the reservoir with the pumping station, approximately 2,000 sq.m.

Also visible: Redford Barracks.

74. EDINBURGH, FAIRMILEHEAD

A: Fairmilehead
Water Works
NT26NW 61 [NT 248 685]
B: Alnwickhill
Water Works
NT26NE 87 [NT 272 690]
C 47605

EDINBURGH
Fairmilehead, Filter- u. Pumpanlage (GB 5390 bc)

Water filter works and pumping station (GB 5390), water works (GB 5389). Photographed 21 October 1939. Scale: 1: 16,200.

A. GB 5390: Fairmilehead water filter works and pumping station.

1. Pumping station.
2. Seven filter basins.
3. Presumably purified water tank.
4. Filter plants (subterranean).

B. GB 5389: Alnwickhill water works.

1. Pumping station.
2. Eight different filter basins.
3. Presumably purified water tank.
4. Presumably purified water tank (subterranean).

75. EDINBURGH, GRANTON

A: Gasworks
NT27NW 20 [NT 223 770]
B: Harbour
NT27NW 28 [NT 235 775]
C 47602

EDINBURGH-NW
Gaswerk Edinburgh u. Leith (GB 5245 bc)

Gasworks. Photograph updated 2 October 1939. Scale 1: 15,000.

A. GB 5245: Edinburgh and Leith gasworks

1. Batteries of coke ovens, around 16,000 sq.m.
 2. Installations for the extraction of by-products, around 3,000 sq.m.
 3. Tanks and container for by-products, around 1,000 sq.m.
 4. Two gas tanks, diameter approximately 55-75m (camouflaged), around 5,000 sq.m.
 5. Engine-houses for coal transport-installations, around 26,000 sq.m.
- Total built area (main targets) approximately 26,000 sq.m.
6. Buildings for gas container and associated buildings.
 7. Coal slopes.
 8. Coke slopes.
- Area for expansion approximately 140,000 sq.m.
Railway connection available.

B. GB 45106 Granton Harbour

1. Warehouses, harbour buildings, around 12,000 sq.m.
 2. Harbour moles
 3. Loading place with cranes.
 4. Heating-oil tank farms with 8 tanks (diameter approximately 8-20m) and warehouses, around 1,500 sq.m.
 5. Presumably unloading piers for oil.
- Total built area (main targets) approximately 13,500 sq.m.
Railway connection available.

Also visible: two anti-aircraft batteries.

76. EDINBURGH, LEITH

Docks
NT27NE 57 [NT 26 77 to 27 76]
C 47654

LEITH
Trockendocks (Innenhafen) (GB 8384 bc)

Dry-docks, inner harbour (GB 8384), dry-docks, outer harbour (GB 8377). Photograph updated 2 October 1939. Scale 1:14,500.

A. GB 8377: Dry-docks (outer harbour):

1. Four dry-docks, length 90-170m, width 20-25m.
 2. Six workshops and factory buildings, around 1,700 sq.m.
- Built area (main targets) approximately 1,700 sq.m.
Railway connection available.

B. GB 8384: Dry-docks (inner harbour):

1. Four dry-docks, length 46-85m, width 14-20m.
 2. Ten workshops and factory buildings, around 3,400 sq.m.
- Built area (main targets) approximately 3,400 sq.m.
Railway connection not available.

Also noted: Newhaven fishing harbour (GB 45105), harbour (GB 4578), shipyard (GB 8326), Outer harbour with Imperial Dock, Albert Dock and gun battery (GB 4577), Grain silo and Edinburgh Dock (GB 5679), Inner harbour with West Old Dock, East Old Dock and Victoria Dock (GB 45104).

Kriegsaufnahme:
597 R 61

Länge (westl. Greenw.): 3° 14' 30", Breite 55° 58' 43" (Bildmitte)
Mißweisung: 13° 35' (Mitte 1938), Zielhöhe über NN 100 m

Nachträge:
2. 10. 39.

Maßstab etwa 1:15 000 (1 cm = 150 m)



A GB 52 45 Gaswerk Edinburgh u. Leith

- | | |
|--|-----------------|
| 1) Koksöfenbatterien | etwa 16 000 qm |
| 2) Anlagen z. Gewinnung v. Nebenprodukten | 3 000 qm |
| 3) Tanks u. Behälter f. Nebenprodukte | 1 000 qm |
| 4) 2 Gasbehälter \varnothing ca 55-75m (getarnt) | 5 000 qm |
| 5) Maschinenhäuser f. Kohlentransporteintr. | 1 000 qm |
| bebaut Fläche (Schwerpunkte) | etwa 26 000 qm |
| 6) Betriebsgebäude f. Gasbehälter u. Nebengebäude | |
| 7) Kohlenhalden | |
| 8) Koksalden | |
| Gesamtausdehnung | etwa 140 000 qm |
| Gleisanschluß vorhanden | |

B GB 45 106 Hafenbecken Granton Harbour

- | | |
|---|----------------|
| 1) Lager- u. Hafengebäude, Lagerschuppen | etwa 12 000 qm |
| 2) Hafermölen | |
| 3) Umschlagplätze mit Krananlagen | |
| 4) Heizöl-Tanklager m. 8 Tanks \varnothing etwa 8-20m | |
| und Lagergebäuden | etwa 1 500 qm |
| 5) Ansch. Tankentladepiers | |
| bebaut Fläche (Schwerpunkte) | etwa 12 500 qm |
| Gleisanschluß vorhanden | |

75. Edinburgh, Granton

Possibly taken before the outbreak of war but annotated with intelligence information on 2 October 1939, this image details the gasworks and harbour at Granton, Edinburgh. Two large, camouflaged gasholders and rows of coke-ovens are clearly visible (numbered '4' and '1', respectively) at the gasworks and two anti-aircraft batteries can be seen to the SW, one of which was a temporary position.
[C 47602]

77. TURNHOUSE AIRFIELD
Airfield
NT17SE 70 [NT 160 740]
C 47690

TURNHOUSE
Fliegerhorst (getarnt) (GB 10231 bc)

Military airfield, camouflaged. Photograph updated 20 October 1939. Scale 1:17,200.

A. Military airfield (camouflaged):

1. Two aircraft hangars, around 4,800 sq.m.
2. Eleven administration buildings, accommodation blocks and workshops, around 14,600 sq.m.
3. Six barracks.

MORAYSHIRE

78. BURGHEAD

Radio Station; Radio Mast
NJ16NW 71 [NJ 1248 6866]
C 47581

BURGHEAD
Rundfunksender (GB 499 b)

Radio transmitter. Photograph updated 2 October 1939. Scale 1:15,000.

Also visible: Burghead harbour.

79. ELGIN AIRFIELD

Airfield
NJ26SW 155 [NJ 200 600]
C 47607

ELGIN
Flugplatz (GB 10896 bc)

Airfield. Photographed 18 September 1939. Scale 1:13,000.

1. Three airport buildings, saddle roof, single-storey, around 200 sq.m.
Total built area approximately 200 sq.m.
Expansion of the field possible.
Railway connection not available.

A satellite to RAF Lossiemouth, this airfield was in use between 1940 and 1947.

80. FORRES AIRFIELD

Airfield
NJ05NW 97 [NJ 020 580]
KINLOSS AIRFIELD
Airfield
NJ06SE 29 [NJ 069 630]
C 47613

FORRES
Flugplatz (GB 10913 b)

Airfield. Photographed 29 September 1940. Scale 1:47,000.

A. GB 10913: Forres airfield.
B. GB 2038: Kinloss supply depot (under construction).
C. GB 10211: Kinloss military airfield.

Also noted: Searchlight and anti-aircraft batteries.

RAF Forres was used for bomber unit training between 1940 and 1944.

81. KINLOSS AIRFIELD

Airfield
NJ06SE 29 [NJ 069 630]
C 47649

KINLOSS
Flugplatz (GB 10211 bc)

Airfield (GB 10211), supply depot (GB 2038). Photograph updated 2 October 1939. Scale 1:15,700.

A. GB 10211: Airfield:

1. Three aircraft hangars, around 16,000 sq.m.
 2. Fifty-two barracks, around 13,000 sq.m.
 3. Ten accommodation blocks, around 2,300 sq.m.
 4. Seventeen barracks under construction, around 5,000 sq.m.
 5. Subterranean tank farm ?, around 7,200 sq.m.
 6. Machine-gun battery.
 7. Construction site.
 8. Associated buildings (barracks?)
- Built area approximately 43,500 sq.m.

B. GB 2038: Supply depot (under construction):

Four construction sites for presumably seven warehouses and associated buildings.

Kinloss was built in 1938, and is still in front-line RAF use.

82. LOSSIEMOUTH

Harbour
NJ27SW 17 [NJ 237 712]
C 47658

LOSSIEMOUTH
Hafenanlagen (GB 45800 bc)

Harbour. Photographed 23 September 1939. Scale 1:8,500.

A. GB 45800: Harbour:

1. Harbour basin, approximate length of the quay walls:
 - a) 150m
 - b) 180m
 - c) 170m
 2. Five warehouses.
 3. Four associated buildings.
 4. Reception building.
 5. Goods shed.
 6. Five fuel containers.
 7. Slips.
 8. Workshop building.
- Railway connection available.

83. MILLTOWN AIRFIELD

Airfield
NJ26NE 15 [NJ 265 655]
C 47682

STONEWELLS
Flugplatz (GB 10451 b)

Airfield. Photographed 26 September 1942. Scale 1:23,000.

Developed from a Q-site in 1943 and used for aircraft carrier deck landing training until 1977.

NAIRN

84. BRACKLA AIRFIELD

Airfield
NH85SE 63 [NH 855 520]
C 47662

NAIRN
Flugplatz (GB 10903 b)

Airfield. Photographed 29 September 1940. Scale 1:40,000.

Served from 1941-1946 as a satellite of Dalcross, then Kinloss.

ORKNEY

85. BERRIEDALE, SOUTH RONALDSAY

Airfield
ND49SE 29 [ND 461 935]
C 47677

ST MARGARET'S HOPE (SOUTH RONALDSAY)
Landeplatz (GB 10328 bc)

Landing field. Photograph updated 24 April 1940. Scale 1:12,800.

A. GB 10328: Landing field:

1. Shed, around 50 sq.m.
- Extension of the field possible.

86. DEEPPDALE

Airfield (possible)
HY21SE 65 [HY 270 115]
C 47685

STROMNESS
Flugplatz (GB 10295 bc)

Airfield. Photographed 7 October 1940. Scale 1:28,400.

GB 10295: Airfield, Stromness:

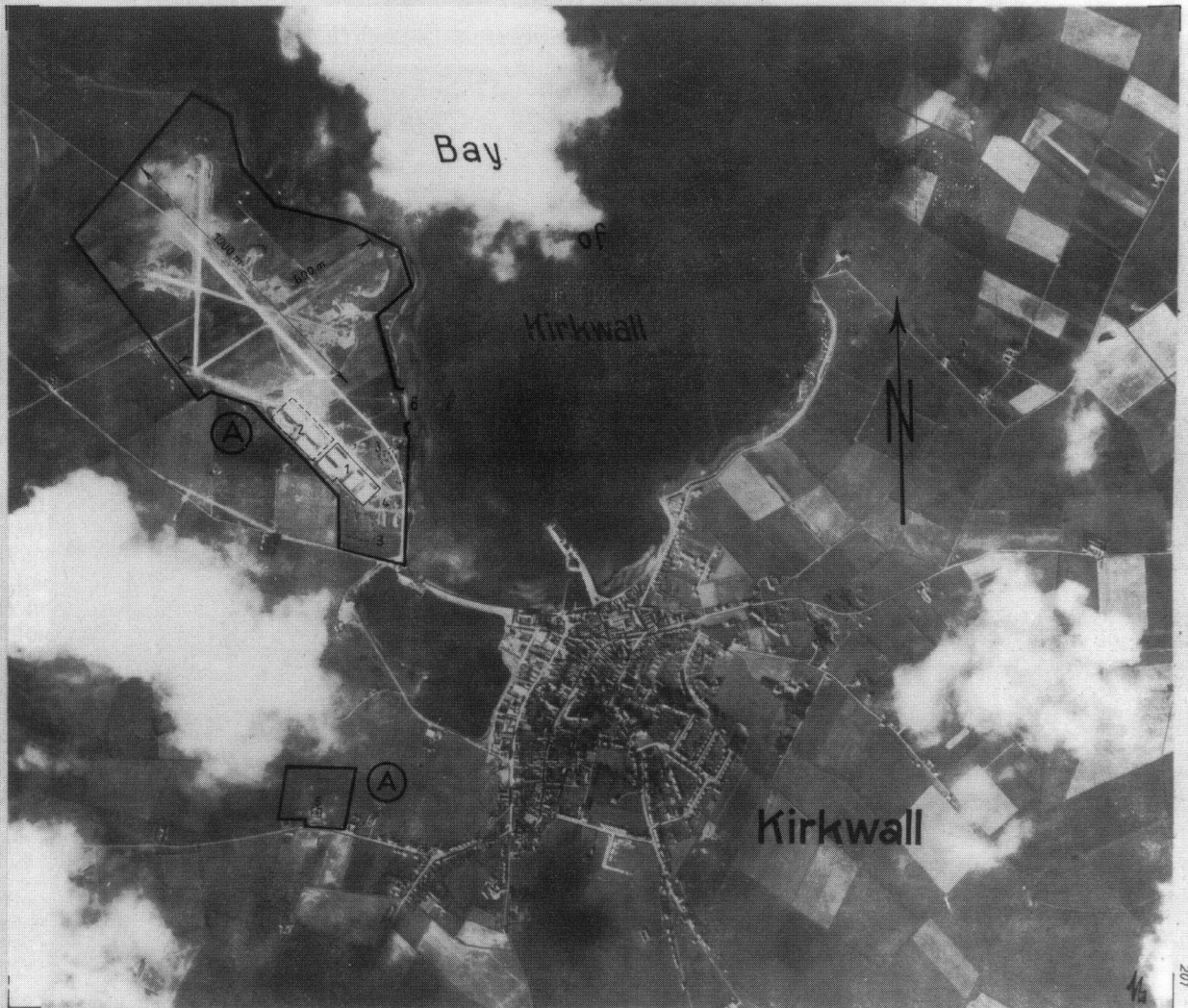
1. Barracks and warehouses.
2. Presumably accommodation buildings.

Kriegsaufnahme:
591 R 16

Länge(westl. Greenw.): 2° 58' 24" Breite: 58° 59' 18"
Mißweisung: -14° 25' (Mitte 1938)

Nachträgs:
24.9.39.

Maßstab etwa 1: 15 500 (1cm = 155 m)



Ⓐ GB 10 283 Flugplatz (Earth-House)

- | | |
|--------------------------------------|---------------|
| 1) 4 Flugzeughallen | etwa 7 600 qm |
| 2) 4 Flugzeughallen im Bau | |
| 3) Zeltlager (Rund u. Langzelte) | |
| 4) 3 Flughafengebäude | etwa 600 qm |
| 5) Funkstation im Bau | etwa 300 qm |
| - 1 Sendegebäude | |
| 6) 1 Abfuhrbahn f. Seeflugg. im Bau? | |

bebaute Fläche etwa 2 500 qm

Rollfeld im Ausbau.
Erweiterung des Platzes möglich.
Gleisanschluss nicht vorhanden.

87. Hatston

Possibly the first airfield built in the UK with hard runways, Hatston was used by both conventional and amphibious naval aircraft (note the slipway, numbered '6'). At the time this image was taken, before 24 September 1939, personnel were accommodated in tents (numbered '3'). It was an aircraft from Hatston which discovered that the Bismarck had left her Norwegian anchorage, on 22 May 1941, and set off the famous high-sea chase to intercept her. German intelligence officers have titled this airfield after the nearby Grainbank souterrain, as the antiquarian term for such structures, 'Earth house', was the name depicted at this location on 1930's maps. Hatston is now an industrial estate.

[C 47600]

GB 16800 bc
 Nur für den Dienstgebrauch
 Bild Nr. 224/40/066 (Lfl. 5)
 Aufnahme vom 8. 10. 40

Lamb-Holm (Scapa Flow)

Befestigungsanlagen

Länge (westl. Greenw.): 2° 54' 42" Nördl. Breite: 58° 53' 12"
 Mißweisung: - 14° 04' (Mitte 1940) Zielhöhe über NN 15 m

Genst. 5. Abt. Januar 1941

Karte 1: 100 000
 GB/Sc. Bl. 4

Maßstab etwa 1: 13 200



1. ansch. Küstenbatterie mit 3 Geschützen (Kal. ?)
 2. ansch. Küstenbatterie mit 3 Geschützen (Kal. ?)
 3. 25 Unterkunftsbaracken etwa 2 050 qm
 4. 3 Unterkunftsbaracken im Bau etwa 300 qm
- bebaute Fläche etwa 2 350 qm

92. Lamb Holm

In the early hours of 14 October 1939, the German submarine U-47, commanded by Lt Gunther Prien, slipped between the blockships of Kirk Sound and sank HMS Royal Oak, at anchor in Scapa Flow. This image, taken almost a year later, on 8 October 1940, shows the location of several elements in the Orkney defences developed since that episode: two anti-aircraft batteries west of St Mary's and a military camp to the east, coastal gun batteries on Burray and Lamb Holm and the chain of blockships in Kirk and Holm Sounds.
 [C 47656]

87. HATSTON AIRFIELD, ORKNEY

Airfield
HY41SW 135 [HY 435 125]
C 47600

EARTH-HOUSE
 Flugplatz (GB 10283 bc)

Airfield. Photograph updated 24 September 1939. Scale: 1: 15,500.

A. GB 10283: Airfield (Earth-House)

1. Four aircraft hangars, around 7,600 sq.m.

2. Four aircraft hangars under construction.
3. Camp-site (bell tents and ridge tents)
4. Three airport buildings, around 600 sq.m.
5. Radio transmitter under construction.
 One radio building, around 300 sq.m.
6. Slipway for seaplanes, under construction?
 Total built area approximately 8,500 sq.m.
 Extension of the taxiway possible.
 Railway connection not available.

Built during WWII and afterwards used as Kirkwall Airport until 1948.

88. HOUTON BAY, ORKNEY

Seaplane Base
HY30SW 42 [HY 3201 0390]
C 47638

HOUTON BAY (SCAPA FLOW)
Übungsplatz-See (GB 10285 b)

Houton Bay seaplane manoeuvring area. Photograph oblique and undated.

Also noted: Anti-aircraft gun emplacements (GB 111 and GB 112), oil storage tanks (GB 2799) and airfield at Stromness (GB 10295).

A seaplane base was operational here during WWI.

89. KIRKWALL AIRPORT

Airfield
HY40NE 27 [HY 480 085]
C 47640

INGANESS
Flugplatz (im bau) (GB 10926 b)

Airfield under construction. Photographed 11 June 1941. Scale 1:10,000.

Known as Grimsetter, this airfield functioned as a satellite of Skeabrae from 1940 to 1942 before becoming a Royal Naval Air Station, HMS Robin, in 1943. Now in use as Kirkwall Airport.

90. KIRKWALL

A: Wideford Airfield
HY40NE 32 [HY 458 085]
B: Radar Station
HY40NE 33 [HY 452 088]
C: Radio Station
HY41SW 138 [HY 440 106]
C 47651

KIRKWALL
Flugplatz (GB 10119 bc)

Airfield (GB 10119), radar station (GB 1719), radio station (GB 4928).
Photograph updated 26 September 1939. Scale 1:15,300.

A. GB 10119: Airfield:

1. Small aircraft hangar, around 200 sq.m.
 2. Five small airport buildings, around 600 sq.m.
- Built area (main targets) approximately 800 sq.m.
Railway connection not available.
Extension of the field possible.

B. GB 1719: Radar station:

1. Two buildings, around 200 sq.m.
 2. Four radio masts, approximate height 25m.
- Built area (main targets) approximately 200 sq.m.
Area for expansion 22,000 sq.m.
Railway connection not available.

C. GB 4928: Radio station:

1. Two radio buildings, around 300 sq.m.
 2. Four radio masts under construction.
- Built area (main targets) approximately 300 sq.m.
Area for expansion approximately 29,000 sq.m.
Railway connection not available.

91. KIRKWALL

Radio Station
HY41SE 55 [HY 454 100]
C 47652

KIRKWALL-WARRENFIELD
Funkstation (GB 49801 bc)

Radio station. Photograph updated 12 June 1940. Scale 1:15,400.

A. GB 49801: Radio station:

Plant under construction; four radio masts.

Also noted: Radio station (GB 4928) and Hatston airfield (GB 10283).

92. LAMB HOLM

Military Camps
HY40SE 28 [HY 488 006]
BURRAY, NORTHFIELD BATTERY
Coast Battery
ND49NE 19 [ND 4847 9873]
C 47656

LAMB-HOLM (SCAPA FLOW)
Befestigungsanlagen (GB 16800 bc)

Coastal defences. Photographed 8 October 1940. Scale 1:13,200.

1. Presumably coastal battery with three guns (calibre?).
 2. Presumably coastal battery with three guns (calibre?).
 3. Thirty-five accommodation blocks, around 2,050 sq.m.
 4. Three accommodation blocks under construction, around 300 sq.m.
- Built area approximately 2,350 sq.m.

Also noted: two anti-aircraft gun batteries at HY 463 012 and HY 465 018.

Also visible: Barracks (at HY 482 014) and blockships in Kirk Sound and Holm Sound.

93. LYNESS, HOY, RN OIL TERMINAL

A: Naval Establishment
ND39SW 20 [ND 308 947]
B: Anti-aircraft Battery
ND39NW 161 [ND 3032 9623]
C: Anti-aircraft Battery
ND39SW 43 [ND 3061 9343]
C 47660

LYNESS (SCAPA FLOW)
Ortsfeste Flakstellung Greenquoy (GB 111 bc)

Anti-aircraft gun emplacements (GB 112 and GB 111); Oil tank farm (GB 2199). Photograph updated 26 September 1939. Scale 1:15,500.

A. GB 2199: Tank farm near Lyness:

1. Sixteen tanks, diameter approximately 38m, around 18,000 sq.m.
 2. Explosives depot (?) with blast walls, around 1,000 sq.m.
 3. Warehouses, around 25,000 sq.m.
 4. Armament depots (two large and small ones, presumably for torpedoes), around 16,000 sq.m.
 5. Accommodation blocks, around 40,000 sq.m.
- Built area (main targets) approximately 100,000 sq.m.
Area for expansion approximately 430,000 sq.m.

B. GB 112: Anti-aircraft emplacement Greengears:

1. Anti-aircraft emplacement with four guns, connected through circular road.
2. Barracks and camp site.

C. GB 111: Anti-aircraft emplacement Greenquoy:

1. Anti-aircraft emplacement with four guns, connected through circular road.
 2. Six ammunition bunkers with blast walls (partly still under construction), around 1,500 sq.m.
 3. Barracks and accommodation buildings, around 15,000 sq.m.
- Total area for expansion around 100,000 sq.m.

Note: Though listed, the elements of Lyness Oil Depot are not annotated on the photograph as the main subject depicted is GB 111, the anti-aircraft battery at Ore Farm.

94. SKEABRAE AIRFIELD

Airfield
HY22SE 59 [HY 275 205]
C 47679

SKEABRAE
Flugplatz (im Ausbau) (GB 10326 bc)

Airfield under construction. Photographed 2 May 1941. Scale 1:10,000.

1. Twelve small aircraft hangars, solid, saddle roofs, around 3,600 sq.m.
 2. Accommodation buildings, offices and service rooms, around 8,600 sq.m.
 3. Airfield buildings and associated buildings, presumably partly solid and under construction, various roof types, around 4,200 sq.m.
 4. Four runways.
 5. Taxiways.
- Built area approximately 16,400 sq.m.
a) presumably anti-aircraft gun emplacements (light calibre).
Railway connection not available.

Also noted: parking areas for aircraft.

Used by the RAF from 1940 to 1957.

GB 111bc

Geheim

Lyness (Scapa Flow)

Ortsfeste Flakstellung Greenquoy

Karte 1:10000 Blatt 4

1:63000 Blatt 7

Kriegsaufnahme
591 R 07

Westeck (West) (Breitw.) 3 11 45 Höhe 58 50 (Blattmitte)

Maßstab 1:15 500

26.9.39.

Maßstab etwa 1:15 500



○ GB 2199 Tanklager bei Lyness

- 1) 16 Tanks à etwa 38 m³ etwa 18 000 qm (durch Brandwalle getrennt)
- 2) unvollste Lagergebäude für explosive Stoffe (C) etwa 1 000 qm
- 3) Lagergebäude etwa 25 000 qm
- 4) Lagerhallen für Kriegsmaterial, (2 groß u. kleine, vermutlich Torpedos und Bergl.) etwa 16 000 qm
- 5) Unterwasser-Ölbehälter 10 000 m³ (Bestand: 1000 t Öl) (siehe auch GB 2198)

○ GB 112 Ortsfeste Flakstellung Greenquoy

- 1) Flakstellung mit 4 Geschützen durch Ringstrasse verbunden
- 2) Baracken und Zelte für Unterwasser-Flakstellung

○ GB 111 Ortsfeste Flakstellung Greenquoy

- 1) Flakstellung mit 4 Geschützen durch Ringstrasse verbunden
- 2) 6 unvollste Baracken (siehe auch GB 112) in Bau
- 3) Baracken für Unterwasser-Flakstellung

93. Lyness

One of the earliest surviving images collected by the Luftwaffe during WWII, this photograph of the RN Oil Terminal at Lyness dates to 26 September 1939. Storing fuel-oil for warships of the Home Fleet, this Scapa Flow facility was vital to British naval operations in the North Atlantic and was protected by the two heavy anti-aircraft batteries visible to N and S. The proximity of oil-fuel (item A.1) and armaments such as torpedoes (item A.4) at Lyness seems imprudent but may reflect peacetime arrangements for re-supplying warships. It is instructive to contrast this image with one held in the Imperial War Museum, taken in 1941, (NMRS MS 1000/23), where sprawling military camps have developed and the pipeline to the underground oil tanks is evident. [C 47660]

GB 10 326 b c
 (2. Ang.)
 Nur für den Dienstgebrauch
 Bild Nr. 61/41-70 (L.f. 5)
 Aufnahme vom 2. 5. 41

Skeabrae

Flugplatz (Im Ausbau)

Länge (westl. Greenw.): 3° 16' 00" Breite: 59° 03' 45"
 Mißweisung: — 13° 59' (Mitte 1941) Zielhöhe über NN 17 m

Genst. 5. Abt. Juni 1941

Karte 1 : 100 000
 GB/Sc 4

Maßstab etwa 1 : 10 000



- | | |
|---|---------------|
| 1. 12 kleine Flugzeughallen, massiv, Satteldächer | etwa 3 600 qm |
| 2. Unterkunfts- und Wirtschaftsbaracken | etwa 8 600 qm |
| 3. Betriebs- und Nebengebäude, ansch. z.T. massiv und im Bau, versch. Dacharten | etwa 4 200 qm |
| 4. 4 Startbahnen | |
| 5. Rollbahnen | |
| a) ansch. leichte Flakstellungen
Gleisanschluß nicht vorhanden | |
| Bebaute Fläche etwa 16 400 qm | |

94. Skeabrae

Though appearing to be under construction when this photograph was taken, on 2 May 1941, Skeabrae was opened to aircraft in October 1940. It exhibits contrasting tactical awareness in that blister hangars are well dispersed around the site, in groups of three, while the accommodation and technical buildings are grouped tightly together on the western perimeter. The only RAF station in Orkney, Skeabrae was reduced to Care and Maintenance status after WWII and closed in 1957. [C 47679]

GB 7612 bc
Geheim

Bishopton

Sprengstofffabrik Bishopton

Karte 1:50000
Blatt
Sch 26
1:50000
Blatt
Sch 72

Kriegsamtformel
596S 175

Länge westl. Greenw. 4 31 0 Breite 55 54 0
Mißweisung -14 12 Mitte 1938

Nachträge
21039

Maßstab etwa 1:18000
1 cm = 180 m



U.N. 7612 Sprengstofffabrik Bishopton.

- | | | | |
|--|------|------------|---|
| 1) Salpetersäure- u. Trinitro - Anlagen (Schwerpunkte) | etwa | 50 000 qm | |
| 2) Zentralküchle | etwa | 2 500 qm | |
| 3) Kraftzentrale auf Betonstein | etwa | 2 500 qm | |
| 4) Fabrikationsgebäude | etwa | 285 000 qm | |
| 5) Lagersatz mit 4 Wohnhäusern | etwa | 28 000 qm | 14) Haus- und Pflanzhaus in Bau |
| 6) Verwaltungsgebäude mit 12 Gebäuden | etwa | 40 000 qm | 15) Kraftwerk auf Gasmaschinen in Bau |
| 7) Gebäudekomplex (Wohnhäuser) in Bau | etwa | 35 000 qm | 16) alte Haus-Anlage, teilweise abgebrochen, teilweise nach begonnenem Wiederaufbau stillgelegt |
| 8) Wohn-Installation in Betonblock | etwa | 15 000 qm | Einzelne Häuser |
| 9) 21 Haus- Häuser | etwa | 229 000 qm | |
| 10) Chemisches Laboratorium für hochexplosive Stoffe und Quecksilberarbeitungsanlage | ca. | 15 000 qm | |
| 11) Spezialfallanlage explosiver Stoffe | etwa | 240 000 qm | |
| 12) 11 Wohnhäuser | etwa | 110 000 qm | |
| 13) 12 Wohnhäuser | etwa | 120 000 qm | |
| bekannte Fläche (Schwerpunkte) etwa 1 125 000 qm | | | |

99. Bishopton
Obtained before 2 October 1939, this view of the Royal Ordnance Factory at Bishopton illustrates the size and complexity of this major armaments factory. Work is in progress on reconstructing parts of the site to provide greater storage facilities for the anticipated increase in production for war. The critical point of the target, identified for bombing, is the saltpetre and TNT installation (marked '1'). This site does not appear on published maps. ROF Bishopton is under threat of closure in 1999. [C 47577]

PERTHSHIRE

95. ERROL AIRFIELD

Airfield
NO22SE 18 [NO 270 240]
C 47608

ERROL
Flugplatz (GB 10477 b)

Airfield. Photographed 10 March 1943. Scale 1:21,500.

Opened in August 1942 as a flying training station. Closed in 1948.

96. PERTHAERODROME

Airfield
NO12NE 61 [NO 154 282]
C 47666

PERTH
Flugplatz (getarnt) (GB 10174 bc)

Airfield, camouflaged. Photograph updated 2 October 1939. Scale 1:14,800.

A. GB 10174: Civilian airfield (camouflaged):

1. Three hangars, around 11,800 sq.m.
 2. Control tower, around 400 sq.m.
 3. Airport buildings, around 3,000 sq.m.
 4. Eight accommodation blocks, around 900 sq.m.
- Built area approximately 16,100 sq.m.
Extension of the field possible.
Railway connection not available.

Scone airfield was used as a flying training site between 1936 and 1996.

97. RANNOCH HYDRO-ELECTRIC POWER STATION

Power Station
NN55NW 11 [NN 5300 5828]
C 47657

LOCH RANNOCH
Wasserkraftwerk Rannoch (GB 5048 b)

Hydro-power station. Photographed 24 September 1940. Scale 1:43,000.

RENFREWSHIRE

98. ABBOTSINCH, GLASGOW AIRPORT

Airfield
NS46NE 43 [NS 475 667]
C 47569

ABBOTSINCH
Nachschublager der Luftwaffe (GB 2033 b)

Air force supply depot. Photographed 23 March 1941. Scale 1:32,800.

Also visible: Abbotsinch military airfield (GB 101), Renfrew airfield (GB 10187), Hillington aero-engine works (GB 7358), King George V Dock (GB 4547), shipbuilding yard (GB 8346).

99. BISHOPTON, ROYAL ORDNANCE FACTORY

Explosives Factory
NS46NW 31 [NS 44 69]
C 47577

BISHOPTON
Sprengstoffabrik Bishopton (GB 7612 bc)

Explosives factory. Photograph updated 2 October 1939. Scale 1:18,000.

1. Two saltpetre acid and TNT installations (principal target), around 80,000 sq.m.
2. Two office blocks, around 4,500 sq.m.
3. Two power-house buildings with chimneys, around 3,500 sq.m.
4. Thirty-seven factory buildings, around 285,000 sq.m.
5. Nitrier establishment with four ammunition stores, around 48,000 sq.m.
6. Despatch plant with twelve buildings, around 40,000 sq.m.

7. Building complex (office blocks?) under construction. Around 35,000 sq.m.
 8. Akku loading platform, of concrete. Around 10,000 sq.m.
 9. Twenty-three ammunition stores, around 200,000 sq.m.
 10. Chemical laboratory for high-explosives and mercury manufacturing plant, around 45,000 sq.m.
 11. Heavy explosive plant, around 240,000 sq.m.
 12. Eleven ammunition stores, around 110,000 sq.m.
 13. Twelve ammunition stores, around 120,000 sq.m.
 - Total area, approximately 1,221,000 sq.m.
 14. Ammunition and overflow stores under construction.
 15. Power station and engine-house under construction(?).
 16. Old ammunition plant, partly destroyed, partly shut down after the beginning of reconstruction.
- Railway connection available.

Also noted: power lines.

100. GREENOCK

A: Albert Harbour
Harbour
NS27NE 49 [NS 278 768]
C 47634

GREENOCK
Albert-Hafen (GB 45178 bc)

Harbour. Photograph updated 2 October 1939. Scale 1:17,500.

A. GB 45178: Albert Harbour.

1. Three warehouses, around 5,000 sq.m.
 2. Quays, total length around 900m.
- Total built area (main targets) approximately 5,000 sq.m.
Railway connection available.

Also noted: Shipyard (GB 8390), torpedo factory (GB 769), and anti-aircraft gun emplacement.

101. GREENOCK

A: Garvel Dock
Dock
NS27NE 19 [NS 290 758]
PORT GLASGOW
B: Kingston Shipyard, Glen Shipyard
Shipyards
NS37SW 35 [NS 313 749], NS37SW 36 [NS 316 748]
C: Inchgreen Gasworks
Gasworks
NS37NW 15 [NS 309 752]
C 47635

GREENOCK-OST
Werften von Lithgow Ltd. u. Hamilton u. Co. (GB 8392 bc)

Shipbuilding yards (GB 8391 and GB 8392), gas works (GB 5243). Photograph updated 2 October 1939. Scale 1:15,000.

A. GB 8391: Scott and Greenock Dockyard.

1. Construction slipways with shipbuilding harbour (1a), around 35,000 sq.m.
 2. Construction shop with boiler house (single-storey), around 4,500 sq.m.
 3. Shipbuilding sheds (single-storey) with administration building (double-storey), around 27,000 sq.m.
 4. Dry-dock, around 1,500 sq.m.
 5. Shipyard harbour.
 6. Smaller workshops and associated buildings.
- Total built area (main targets) approximately 67,000 sq.m.
Area for expansion approximately 140,000 sq.m.
Railway connection available.

B. GB 8392: Lithgow Ltd. and Hamilton & Co. shipyards.

13. Slipways (three groups), around 84,000 sq.m.
 14. Shipbuilding sheds and workshops (single-or double storey, central group with shed roofs), around 64,000 sq.m.
 15. Boiler house, around 1,000 sq.m.
 16. Smaller workshops and associated buildings.
 17. Shipyard harbour.
- Total built area (main targets) approximately 149,600 sq.m.
Area for expansion approximately 330,000 sq.m.
Railway connection available.

Kriegsaufnahme:
596L124

Länge(westGreenw.): 4° 45' 30", Breite: 55° 57' 10"
Mißweisung: -14° 20' (Mitte 1938), Zielhöhe über NN ~ 2 m

Nachträge:
2 10 39

Maßstab etwa 1:17500 (1cm = 175 m)



- Ⓐ GB 45 178 Albert-Hafen
- 1) 3 Lagerhallen etwa 5 000 qm
 - 2) Kais, Gesamtlänge etwa 900m
bebaute Fläche (Schwerp.) etwa 5 000 qm
- Gleisanschluß vorhanden

100. Greenock

A high-altitude image of Greenock, with a torpedo factory identified as well as the harbour and shipyard. An anti-aircraft battery is noted to the W of the town. [C 47634]

C. GB 5243: Gas works E of Great Harbour.

7. Coke oven-battery (retort plant), around 6,300 sq.m.

8. Gas purification plant, around 800 sq.m.

9. By-products works, around 1,200 sq.m.

10. Four gas containers.

11. Railway sidings.

12. Associated buildings.

Total built area (main targets) approximately 8,300 sq.m.

Area for expansion approximately 135,000 sq.m.

Railway connection available.

Also noted: Docks and harbour (GB 4540).

GB 7358 bc
 (2. Ang.)
 Nur für den Dienstgebrauch
 Bild Nr. 39/41-080 (Lfl. 5)
 Aufnahme vom 23. 3. 41

Glasgow-Hillington

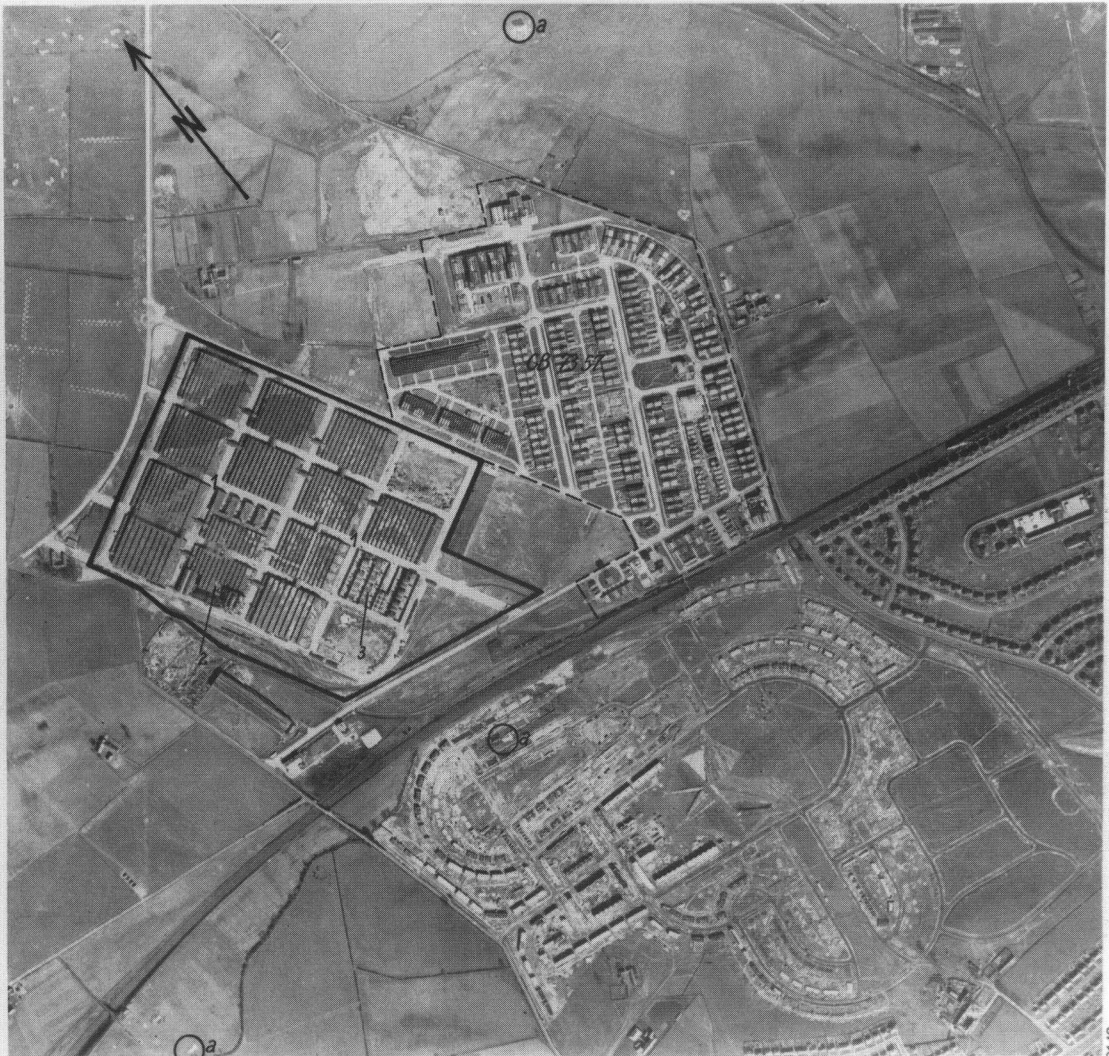
Flugmotorenwerk „Rolls Royce Ltd.“

Länge (westl. Greenw.): 4° 20' 25" - Breite: 55° 51' 40"
 Mißweisung: - 13° 26' (Mitte 1940) Zielhöhe über NN 10 m

Maßstab etwa 1 : 8 300

L Satz Nr 47
 Genst. 5. Abt. April 1941
 Karte 1: 100 000
 GB/Sc 26

500 0 500m



GB 7357 Glasgow-Hillington
 Trading Estate Hillington

- | | |
|---|-----------------|
| 1. 12 große Fabrikationsgebäude, massiv, untereinander durch massive Brückenübergänge verbunden, Sheld- und Flachdächer | etwa 134 300 qm |
| 2. 1 Fabrikationshalle, ansch. mit Kraftanlage, massiv, versch. Dacharten | etwa 11 500 qm |
| 3. Fabrikationsgebäude, ansch. im Bau | etwa 11 000 qm |
| a) Sperrballone | |
| Bebaute Fläche etwa 156 800 qm | |
| Gesamtausdehnung etwa 320 000 qm | |
- Gleisanschluß vorhanden.

102. Hillington

Defended by three barrage balloons (annotated 'a'), this image shows the Rolls Royce aero-engine factory at Hillington, on 23 March 1941. This factory manufactured engines for Spitfire fighters, among other types, and was vital to the British war effort. A housing scheme is under construction to the south of the factory and anti-glider obstacles can be seen in fields to the north. Another image in this collection, no.62 Glasgow Govan (C 47624) shows the factory under construction, in October 1939. [C 47626]

102. HILLINGTON
Industrial Estate
NS56NW 60 [NS 514 656]
C 47626

GLASGOW-HILLINGTON
 Flugmotorenwerk "Rolls Royce Ltd." (GB 7358 bc)

Rolls Royce Ltd., aero-engine factory. Photographed 23 March 1941. Scale 1:8,300.

I. Twelve large factory buildings, solid, interconnected through solid bridges,

shed roofs and flat roofs, around 134,300 sq.m.
 2. Factory, presumably with power station, large, various roof types, around 11,500 sq.m.
 3. Factory buildings, presumably under construction, around 11,000 sq.m.
 a) Barrage balloons.
 Total built area approximately 156,800 sq.m.
 Area for expansion approximately 320,000 sq.m.
 Railway connection available.

Also noted: Glasgow Hillington, trading estate (GB 7357).

Also visible: anti-glider obstacles.

103. INCHINNAN

B: Inchinnan Engine Works

Engineering Works

NS46NE 30 [NS 475 685]

A: Dalmuir, Wm Beardsmore & Co.

Factory; Shipyard

NS47SE 75 [NS 483 707]

C 47593

DALMUIR-CLYDEBANK

India-Tyres, Gummireifen-Fabrik (GB 663 bc)

India of Inchinnan rubber and tyre factory (GB 663); munitions factory (GB 7816). Photograph updated 2 October 1939. Scale 1:15,500.

A. GB 7816. Artillery and munitions factory (Royal Ordnance Factory).

1. Barrel workshop, single- or double storey, shed roofs, around 24,000 sq.m.
2. Missile workshop (single- or double storey), shed roofs, around 18,000 sq.m.
3. Depot for gun and missile raw material, single-or double storey, shed roofs, around 13,000 sq.m.
4. Small warehouse and associated buildings.
5. Loading pier with crane plant.

Total built area (main targets) approximately 55,000 sq.m.

Area for expansion approximately 140,000 sq.m.

Rail connection available.

B. GB 663. Tyre factory

1. One power station, around 200 sq.m.
2. Factory and construction shop (single-storey, shed roof), around 20,000 sq.m.
3. Administration building, double-storey, around 1,000 sq.m.
4. Warehouse, three-storey, iron roof, around 4,000 sq.m.
5. Smaller workshops (synthetic-chemical research installations), around 8,800 sq.m.
6. Warehouses and associated buildings.

Total built area (main targets) approximately 34,000 sq.m.

Area for expansion approximately 145,000.

Rail connection not available.

Also noted: Royal Navy Oil Fuel Depot, Dalnottar (GB 2179), John Brown & Co shipyard (GB 8322), power line.

104. PORT GLASGOW

Ferguson Ailsa Shipyard

Shipyard

NS37SW 37 [NS 326 745]

C 47671

PORT GLASGOW

Werft von Ferguson Brothers (GB 8397 bc)

Shipyard. Photograph updated 2 October 1939. Scale 1:15,000.

A. GB 8397: Ferguson Brothers Shipyard:

1. Shipbuilding shed, repair workshops, around 12,000 sq.m.
2. Slipways.
3. Slipway.
4. Administration building.

Built area (main targets) approximately 12,000 sq.m.

Area for expansion approximately 85,000 sq.m.

Railway connection not available.

Also noted: shipyard (GB 8392).

105. RENFREW

Marine Engineering Works

NS56NW 38 [NS 511 681]

C 47628

GLASGOW-RENFREW

Schiffsmaschinenbau "Simons & Co" (GB 83101 b)

Simons & Co., shipbuilding yard. Photographed 23 March 1941. Scale 1:8,500.

106. RENFREW AIRFIELD

A: Airfield

NS56NW 79 [NS 5040 6599]

HILLINGTON INDUSTRIAL ESTATE

B: Industrial Estate

NS56NW 60 [NS 514 656]

C 47674

RENFREW

Zivilflugplatz (getarnt) (GB 10187 bc)

Civilian airfield, camouflaged (GB 10187) and aero-engine works (GB 7358). Photograph updated 2 October 1939. Scale 1:16,200.

A. GB 10187: Civilian airfield (camouflaged):

1. Three aircraft hangars (composed of four parts, two parts and one part), around 10,500 sq.m.
2. Eight accommodation and administration buildings.
3. Eight stores and associated buildings.
4. One building under construction.

Built area (main targets) approximately 10,500 sq.m.

Extension of the field possible.

Railway connection not available.

B. GB 7358: Rolls Royce aero-engine works, Hillington, Glasgow:

Still under extension works.

Also noted: Abbotsinch military airfield (GB 101).

Renfrew airfield began as a grass surface in use for civilian flying from 1915, until hard runways were laid in 1942. The site served as Glasgow Airport until 1966.

ROSS AND CROMARTY

107. CROMARTY

North Sutor, Dunskeath Castle, South Sutor

Coast Batteries

NH86NW 9, 10, 11 [NH 812 687, 8052 6695, 8103 6695]

C 47590

CROMARTY

Befestigungsanlagen (GB 16802 b)

Coastal batteries. Photographed 8 December 1940. Scale 1:20,000.

In use during WWI and II.

108. FEARN AIRFIELD

Airfield

NH87NW 21 [NH 845 560]

C 47611

FEARN

Flugplatz (GB 10875 b)

Airfield. Photographed 28 July 1941. Scale 1:11,000.

Opened in 1941 as a satellite station to RAF Tain, becoming HMS Owl in 1942.

109. STORNOWAY, LEWIS

Seaplane Base

NB43SW 30 [NB 4192 3281]

C 47683

STORNOWAY, HEBRIDEN (INSEL LEWIS)

Landeplatz. See (GB 10905 b)

Seaplane landing place. Photographed 3 November 1940. Scale 1: 8,000.

GB 10229 b

Nur für den Dienstgebrauch

Bild Nr. F. 129/41-132 (Lfl. 5)

Aufnahme vom 22. 7. 41

Tain

Flugplatz

Länge (westl. Greenw.): 3° 58' 20" Breite: 57° 48' 33"
Mißweisung: - 13° 49' (Mitte 1941) Zielhöhe über NN 10 m

Genst. 5. Abt. August 1941

Karte 1 : 100 000
GB/S 9

Maßstab etwa 1 : 42 000

500 0 500 1000 2000 m



110. Tain

A high-altitude view of RAF Tain and the Tarbat peninsula from 22 July 1941. The airfield was developed from a pre-war landing field for Tain bombing range, and saw use from 1941 to 1946. Tain was used as an advance base for several raids on the Tirpitz, sheltering in a Norwegian fjord, in April 1942. Part of the Tain site now serves the bombing range to the north of the airfield.
[C 47688]

110. TAIN AIRFIELD

Airfield
NH88SW 14 [NH 8302 8170]
C 47688

TAIN
Flugplatz (GB 10229 b)

Airfield. Photographed 22 July 1940. Scale 1:42,000.

SHETLAND

111. CAT FIRTH

Seaplane Base
HU45SE 37 [HU 450 536]
C 47587

CAT FIRTH
Seeflugstation (im Bau) (GB 10296 bc)

Seaplane base (under construction). Photograph updated 10 November 1939.
Scale 1:3,000.

1. One hangar under construction, around 3,300 sq.m.
 2. Hard-standing for aircraft, under construction.
 3. Slipway.
 4. Nineteen accommodation buildings (seven ready, twelve under construction), around 5,600 sq.m.
 5. Ammunition store, around 100 sq.m.
 6. Searchlight platform (flashing light).
- Total area around 9,000 sq.m.

112. FAIR ISLE

Airstrip
HZ27SW 208 [HZ 212 722]
C 47609

FAIR-INSEL
Notlandeplatz (GB 10895 bc)

Emergency-landing strip. Photograph updated 12 June 1940. Scale 1:15,000.

- A. GB 10895: Emergency-landing strip.
1. Runway.

113. LERWICK

Harbour
HU44SE 32 [HU 47 41]
C 47694

LERWICK
Hafen (GB 45177 bc)

Harbour (GB 45177), seaplane landing place (GB 10312). Photograph updated 24 April 1940. Scale 1:15,000.

A1. GB 45177: Harbour (West coast of Bressay Sound).

1. Harbour basin, around 80 x 100m.
 2. Departure building for passenger traffic at the jetty, around 1,100 sq.m.
 3. Old fort.
 4. Harbour basin, around 60 x 90m.
 5. Two construction shops (small shipyard), around 3,200 sq.m.
 6. Shipyard harbour, around 70 x 70m.
 7. About thirty jetties for fish-transport vehicles and small cargo ships.
 8. Warehouses and harbour buildings on the quays, around 32,800 sq.m.
- Built area (main targets) approximately 37,100 sq.m.
Total area for expansion approximately 280,000 sq.m.

A2. GB 45177: Harbour (East coast of Bressay Sound).

9. Jetties.
 10. Warehouses and harbour buildings on the quays, around 2,400 sq.m.
- Total area for expansion approximately 50,000 sq.m.

B. GB 10312. Seaplane landing place.

11. Possible jetties for seaplanes, water-field approximately 900 x 1,200m. Further in N and S direction. No airfield buildings and no slipways for seaplanes.

114. SCATSTA AIRFIELD

A: Airfield
HU37SE 15 [HU 392 725]
SULLOM VOE
B: Seaplane Base
HU37NE 8 [HU 393 750]
C 47678

SCATSTA
Landeplatz (GB 10914 b)

Landing field. Photographed 8 December 1940. Scale 1:14,000.

- A. GB 10914: Landing field.
B. GB 10314: Seaplane base.

Scatsta airfield was built for use during WWII before closing in 1946. It was re-opened in 1978 to serve the Sullom Voe oil terminal.

115. SULLOM VOE

Seaplane Base
HU37NE 8 [HU 393 750]
C 47686

SULLOM VOE
Seefliegerhorst (GB 10314 bc)

Seaplane base. Photograph updated 24 April 1940. Scale 1:15,500.

A. GB 10314: Seaplane base:

1. Landing place.
 2. Anchorage for seaplanes and anchor buoys.
 3. Fifty-six accommodation blocks, around 4,200 sq.m.
 4. Jetties.
- Built area (main targets) approximately 4,200 sq.m.

Also noted: Two anti-aircraft gun emplacements.

Opened in 1939 for RAF Coastal Command patrols between Shetland and Iceland. Closed in 1946.

116. SUMBURGH AIRPORT

Airfield; Airport
HU31SE 34 [HU 395 105]
C 47687

SUMBURGH
Zivilflugplatz (GB 10220 bc)

Civilian airfield. Photographed 12 June 1940. Scale 1:14,300.

A. GB 10220. Civilian airfield:

1. Aircraft hangar, around 350 sq.m.
- Expansion of the field possible.
Railway connection not available.

Also noted: Radio station with direction finder (GB 1720).

Opened in 1936 as a civil airport, the RAF used Sumburgh from 1939 to 1945. It returned to commercial operation in 1947.

STIRLINGSHIRE

117. BONNYBRIDGE

Power Station
NS88SW 54 [NS 8420 8110]
C 47579

BONNYBRIDGE
Kraftwerk (GB 5045 bc)

Power station. Photograph updated 2 October 1939. Scale 1:15,300.

1. Two boiler-houses, around 650 sq.m.
 2. Turbine-house, around 550 sq.m.
 3. Switch-house, around 200 sq.m.
 4. Transformers and switchgear, around 3900 sq.m.
- Built area total approximately 5,300 sq.m.
Area for expansion approximately 18,700 sq.m.

GB 1055bc
Geheim

Grangemouth Flugplatz (getarnt)

Karte 1:100 000 1:63 368
Blatt Sch 27 Blatt Sch 67

Kriegsaufnahme:
597 R 41

Länge(westl.Greenw.): 3° 42' 0" Breite: 56° 0' 30" (Bildmitte)
Mißweisung: -13° 50' (Mitte 1938)

Nachfrage
2.10.39

Maßstab etwa 1: 15 500 (1cm = 155 m)



118. Grangemouth

Opened as Central Scotland Airport only five months before the outbreak of WWII, Grangemouth airfield now lies beneath a BP oil refinery. The camouflage paint scheme applied to the civilian airport terminal building and its adjoining hangars are clearly visible in this image from 1939. The station acquired tarmac runways and hardstandings in 1941 and was a major fighter pilot training school during WWII. It closed in June 1955.
[C 47633]

118. GRANGEMOUTH

A: Airfield

NS98SW 23 [NS 940 810]

B: Harbour; Docks

NS98SW 7 [NS 93 82]

C 47633

GRANGEMOUTH

Flugplatz (getarnt) (GB 1055 bc)

Airfield, camouflaged (GB 1055), harbour (GB 45111). Photograph updated 2 October 1939. Scale 1:15,000.

A. GB 1055: Airfield: Central Scotland Airport (camouflaged)

1. Two hangars and one airport building, around 16,000 sq.m.

2. Fuel depot.

Extension of the field possible.

Railway connection not available.

B. GB 45111: Grangemouth harbour (length and width are approximate figures).

a) Carron Dock

1. Five loading houses, around 7,000 sq.m.

2. Lock, length 107m, width 18m.

3. Lock, length 93m, width 8m.

4. Revolving bridge, length 31m, width 6m.

5. Revolving bridge, length 28m, width 8m.

6. Two bridges, length 15m, width 5m.

b) Old Dock

7. Lock, length 100m, width 17m.

c) Junction Dock

8. Revolving bridge, length 15m, width 4m.

9. Bridge, length 22m, width 10m.

10. Lock, length 46m, width 7m.

d) Timber Pond (wood harbour)

11. Bridge, length 10m, width 11m.

12. Bridge, length 23m, width 3m.

13. Bridge, length 12m, width 3m.

14. Bridge, length 9m, width 9m.

15. Lock, length 130m, width 7m.

Also noted: Docks (GB 45109 and GB 45110), tank farms (GB 2185), fuel depot (GB 2187), large tank farms (GB 2188).

119. WESTER NEWLANDS

Chemical Works

NS97NW 63 [NS 910 779]

C 47610

FALKIRK

Chemische Fabrik (GB 636 b)

Chemical works. Photographed 29 September 1940. Scale 1:8,000.

Also noted: Union Canal.

WEST LOTHIAN

120. DALMENY

Radio Station

NT17NW 182 [NT 142 761]

C 47592

DALMENY

Funkanlage (GB 49803 bc)

Radio transmitters. Photograph updated 6 July 1940. Scale 1:14,000.

1. Three radio buildings, around 130 sq.m.

2. Five masts, around 40m high.

Area for expansion, around 33,000 sq.m.

121. PORT EDGAR

Naval Establishment

NT17NW 183 [NT 121 788]

C 47668

PORT EDGAR

Landeplatz-See (GB 10813 bc)

Seaplane landing-place. Photographed 2 October 1939. Scale 1:15,000.

A. GB 10813: Seaplane landing-place:

Airport buildings and installations not visible.

Jetty for seaplanes available.

Also noted: Forth Railway Bridge (GB 416), Port Edgar supply depot (GB 1212), Rosyth oil storage tanks (GB 2191).

Port Edgar was never used for flying-boat operations.

122. QUEENSFERRY

A: Forth Railway Bridge

Railway Bridge

NT17NW 70 [NT 1390 7790 to 1315 8082]

B: Port Edgar

Naval Establishment

NT17NW 183 [NT 121 788]

C 47673

QUEENSFERRY (FIRTH OF FORTH)

Hilfsstützpunkt Port Edgar (GB 1212 bc)

Supply base (GB 1212), rail bridge (GB 416). Photograph updated 2 October 1939. Scale 1:15,000.

A. GB 416 Forth Railway Bridge:

1. Two steel arches on three main pillars, each one placed in four solid foundation segments.

2. Two viaducts with seventeen stone pillars.

Total length of the bridge approximately 2,500 m, width approximately 8m.

B. GB 1212 South Queensferry-Port Edgar supply base:

2. Five depots, around 6,000 sq.m.

3. Six tanks: four large, diameter about 35m, two small, diameter about 5m, around 4,200 sq.m.

4. Oil pier with railway connection.

5. Quay with unloading cranes.

6. Administration building.

Built area (main targets) approximately 10,200 sq.m.

Railway connection available.

Also noted: Inchgarvie and North Queensferry anti-aircraft batteries and Carlingnose coastal defence gun emplacement.

WIGTOWNSHIRE

123. KIDSDALE AIRFIELD

Airfield

NX43NW 35 [NX 443 367]

C 47644

KIDSDALE

Flugplatz (GB 10819 bc)

Airfield. Photographed 12 December 1940. Scale 1:8,500.

1. Two aircraft hangars, around 1,600 sq.m.

2. Airport building, around 300 sq.m.

3. Twelve accommodation blocks, around 2,000 sq.m.

4. Eleven offices and service rooms with associated buildings, around 600 sq.m.

5. Two radio masts.

Built area approximately 4,500 sq.m.

Railway connection not available.

Total area for expansion: WSW-ESE around 930m; WNW-ESE around 550m.

A minor RAF station, not used after 1943.

GB 1212 bc
Geheim

Queensferry (Firth of Forth)

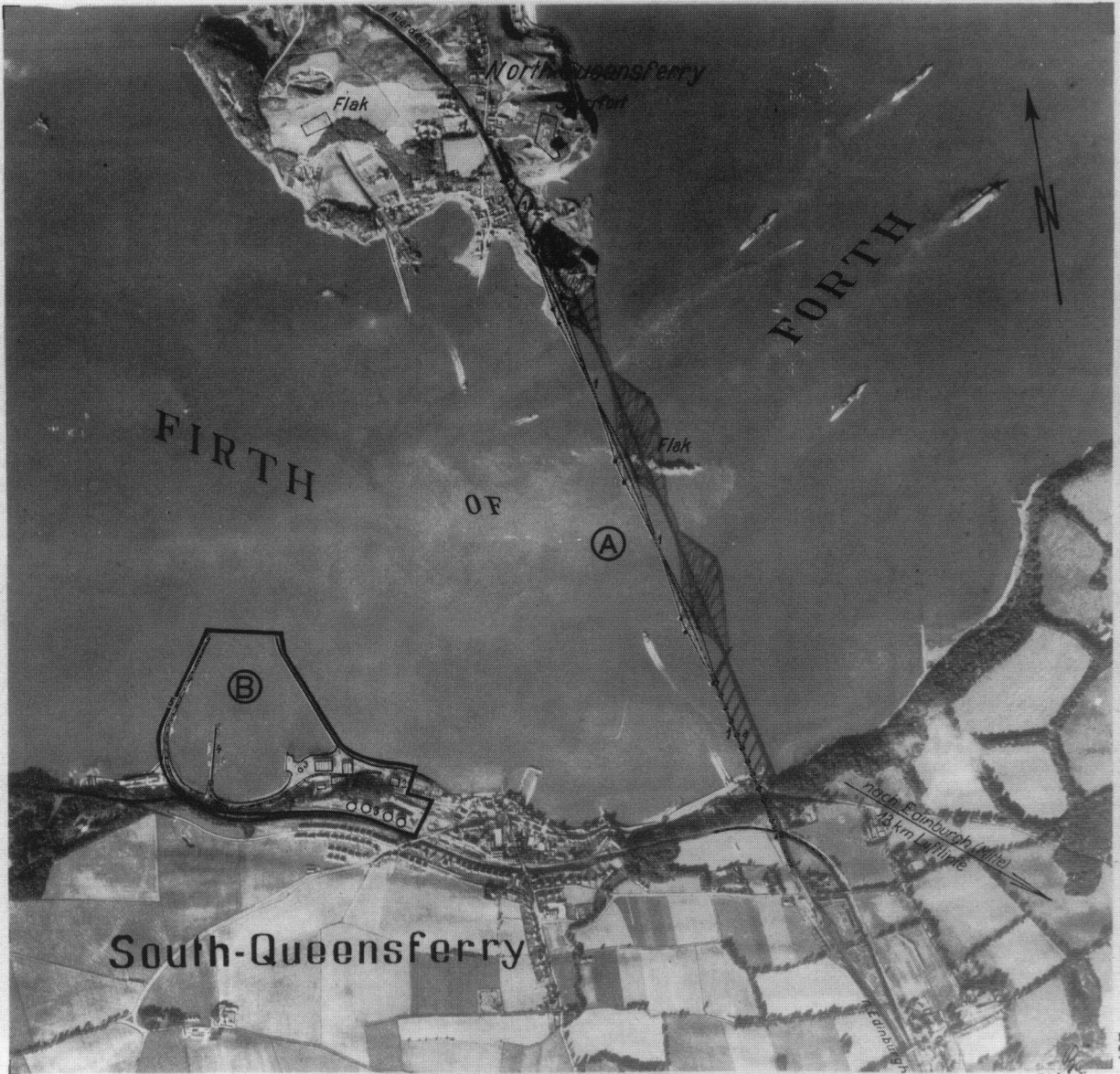
Hilfsstützpunkt Port Edgar

Karte 1:100 000
Blatt 1 83 360
Sch 27 Blatt Sch 68

Kriegsaufnahme:
597 R 54

Länge westl. Greenw.: 3 23 20 Breite: 56 0 0
Mißweisung -13° 24' (Mitte 1939) Zielhöhe über N.N.: 50m
Maßstab etwa 1:15 000 (1 cm = 150 m)

Nachträge:
2. 10. 39.



291
B GB 12 12 South Queensferry - Port Edgar
(Hilfsstützpunkt)

A GB 41 6 Eisenbahnbrücke über den Firth of Forth

- 1) 2 Stahlbrückenbogen auf 3 Hauptpfeilern, in je 4 massiven Fundamentblöcken verankert
- 1a) 2 Viadukte mit 17 Steinpfeilern
Brückengesamtlänge etwa 2 500 m, Breite etwa 8m

- 2) 5 Depothallen etwa 6 000 qm
- 3) 6 Tanks: 4 große ϕ etwa 35m, 2 kleine ϕ ca 5m etwa 4 200 qm

- 4) Ölpier mit Gleisanschluss
- 5) Kai mit Entladekränen
- 6) Verwaltungsgebäude
bebaute Fläche (Schwerpunkte) etwa 10 200 qm
Gleisanschluss vorhanden

122. Queensferry

Obtained before 2 October 1939, this image of the Forth Railway Bridge may have served as an intelligence photograph in the planning of the first German air-raid on Scotland of the war, on 16 October 1939. Details of the fabric of the bridge and the position of anti-aircraft and coastal defence batteries are noted. The shape and construction of the cantilever bridge is clearly revealed in its shadow.
[C 47673]

124. WEST FREUGH AIRFIELD

Airfield

NX15SW 22 [NX 110 545]

C 47691

WEST FREUGH

Flugplatz (Übungsplatz) (GB 10239 bc)

Airfield. Photographed 18 October 1940. Scale 1:14,800.

1. Eight aircraft hangars, solid, saddle roofs, around 8,800 sq.m.
2. Technical buildings and sheds, saddle roofs.
3. Accommodation blocks, offices and service rooms, barracks, saddle roofs.
4. Fuel depot.
5. Two ammunition depots with blast walls.
6. Runway, approximate length 500m.

Opened in 1936 for bombing trials units and still in use by the Royal Aircraft Establishment for ordnance testing on the nearby ranges.

125. WIG BAY, STRANRAER

Seaplane Base

NX06NW 44 [NX 035 680]

C 47684

STRANRAER (LOCH RYAN)

Übungsplatz (See) (GB 10219 bc)

Seaplane manoeuvring area. Photographed 2 January 1941. Scale 1:100,000.

1. Two anchorages and basins.
- Railway connection available (quayside railway station).

126. WIGTOWN AIRFIELD

Airfield

NX45SW 41 [NX 4331 5361]

C 47693

WIGTOWN

Flugplatz (GB 10818 bc)

Airfield. Photographed 2 January 1941. Scale 1:15,000.

1. Eight aircraft hangars, under construction, around 13,350 sq.m.
 2. Seventeen buildings and accommodation blocks, partly still under construction, saddle and flat roofs, around 4,200 sq.m.
 3. Two runways.
 4. Barracks. Forty-nine buildings, around 7,850 sq.m.
- Built area approximately 25,400 sq.m.
Railway connection not available.
Total extent: SW-NE around 2,450m, NW-SE around 1,250m.

First used in 1941 as a bombing and gunnery school, it became a storage satellite of Dumfries and closed in 1948.

References

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Other sources of Luftwaffe imagery

Department of Printed Books
Imperial War Museum
Lambeth Road
London
SE1 6HZ

Tel: 0171 416 5344
Fax: 0171 416 5374
e-mail: books@iwm.org.uk
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Appendix - List of Imperial War Museum images in NMRS (MS 1000)

No.	Name of Site	Type of Site	Date	Council Area
Aberdeenshire				
1	Aberdeen, Nigg	Radio station	1939	Aberdeen City
2	Schoolhill	Radar station	1940	Aberdeenshire
Angus				
3	Arbroath	Airfield	1940	Angus
4	Dundee	Shipyards	1940	Dundee City
5	Dundee	Harbour; Docks	1940	Dundee City
Argyll				
6	Machrihanish	Airfield	1940	Argyll & Bute
Ayrshire				
7	Dundonald	Airfield	1941	South Ayrshire
Caithness				
8	Skitten	Airfield	1940	Highland
9	Wick	Airfield	1940	Highland
Fife				
10	Lochend	Military Camp	1940	Fife
11	Rosyth	Docks; Oil Tanks	1939	Fife
Inverness-shire				
12	Dalcross	Airfield	1941	Highland
13	Inverness	Radar station; Airfield	1939	Highland
14	Loch Laggan	Dam	1940	Highland
Lanarkshire				
15	Glasgow, Govan	Ironworks	1941	Glasgow City
16	Rutherglen	Chemical works	1941	South Lanarkshire
Midlothian				
17	Edinburgh, Myreside	Water pumping station	1939	City of Edinburgh
18	Edinburgh, Portobello	Power station	1939	City of Edinburgh
Moray				
19	Dallachy	Airfield	1942	Moray
20	Lossiemouth	Airfield	1940	Moray
21	Milltown	Airfield	1942	Moray
Orkney				
22	Houton Bay	Seaplane Base	1939	Orkney Islands
23	Lyness	RN Base; Oil Tanks	1941	Orkney Islands
24	Twatt	Airfield	1941	Orkney Islands
Renfrewshire				
25	Renfrew	Engineering works	1941	Renfrewshire
Ross & Cromarty				
26	Invergordon	Seaplane Base	1939	Highland
27	Stornoway, Lewis	Airfield	1941	Western Isles
Shetland				
28	Maybury, Toab	Radar station	1940	Shetland Islands
29	Ward Hill	Radio station	1940	Shetland Islands
Stirlingshire				
30	Grangemouth	Harbour; Oil Tanks	1939	Falkirk
West Lothian				
31	Bo'ness	Harbour	1939	Falkirk
Wigtownshire				
32	Castle Kennedy	Airfield	1940	Dumfries & Galloway

Topographic Index

Locations are indexed alphabetically within Council Areas and referenced by their Luftwaffe title, with gazetteer numbers in brackets.

Aberdeen City

Aberdeen Aberdeen (1)
Dyce, Aberdeen airport Aberdeen (Dyce) (2)

Aberdeenshire

Banff airfield Portsoy (22)
Edzell airfield Edzell (53)
Fordoun Fordoun (54)
Fraserburgh Fraserburgh (3)
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Glossary of terms

Anti-aircraft Battery	Fixed position of guns to defend against enemy aircraft.
Anti-glider Defences	Obstacles or posts driven into the ground to prevent glider-borne assault.
Barrage Balloon	Large balloon anchored near a potential target to obstruct low-level enemy air attacks.
Blockship	Ship deliberately scuttled in shallow water to prevent access to a channel by enemy ships and submarines.
Camouflage	Disguise or concealment of a structure and its shape by paint, shroud or extraneous building.
Chain Home	System of radar protection surrounding the UK during WWII.
Coast Battery	Fixed position of heavy guns to defend coastal installations from attack by enemy warships.
Critical Point	The primary element of a bombing target.
Domestic Site	Living accommodation for personnel at an airfield.
Focal Length	Size of the lens on an aerial photographic camera. Has a direct effect on the nominal scale of a photograph; the larger the lens, the larger the scale.
Hangar	Structure to house or service aircraft.
Incendiary	In bombing terms, a device designed to start fires.
Mole	Breakwater or pier extending from a harbour to allow deep-water berthing of ships.
Oblique Photograph	Aerial photograph taken at an angle to the ground, by fixed or hand-held camera. In high obliques the camera axis is tilted at an angle high enough to include the horizon in the picture, while low obliques exclude it.
Panchromatic	Black and white photograph. Features appear in contrasting tones of grey, from white to black.
Pillbox	Fixed small-arms position, usually of pre-formed concrete blocks.
'Q' site	Night bombing decoy for an airfield.
Radar	System of aircraft detection using radio waves to determine distance and direction.
Radio Direction Finding (RDF)	Precursor of radar. A system of aircraft detection using radio waves to determine direction and, by triangulation with measurements from another RDF station, distance.
Relief Landing Ground	Grass airstrip with minimal services used for overflow from a parent airfield.
Rover	Allied term for an armed aerial reconnaissance flight over enemy territory, attacking targets of opportunity.
Satellite Landing Ground	Airfield used as an outstation from a parent airfield.
Sound Mirror	Acoustic dish for establishing direction of approaching aircraft.
Split Verticals	Also known as Split Pairs. Aerial photographs taken by 'fans' of cameras aligned five to ten degrees off true vertical to give partially overlapping area coverage. Usually in sets of two, four or six cameras.
Stereoscopic Cover	Aerial photographs which overlap, usually by 60% in the direction of flight and 15% laterally, so that when viewed through a stereoscope they give an exaggerated three-dimensional image.
Target	In intelligence terms, the subject of reconnaissance. Such a site may never be attacked.
Technical Site	Area of an airfield where maintenance and engineering functions are grouped.
Vertical Photograph	Photograph taken by a camera pointing straight down towards the ground to give minimal distortion at the image centre.



Royal
Commission on the
Ancient and
Historical
Monuments of
Scotland

This is the first in a series of catalogues intended to publicise the importance and potential uses of part of the collections of aerial photographs in the National Monuments Record of Scotland (NMRS). They draw attention to the earliest photographs in these collections which date from the period before 1950.

The NMRS Luftwaffe Collection comprises 126 images and 28 distribution maps. These represent a small selection of the target reconnaissance photographs of Scotland taken by the German Luftwaffe during WWII and constitute a particularly valuable body of historical evidence illustrating developments - and damage - affecting Scotland at a crucial period in its history in the second quarter of the 20th century.

The catalogue contains a short introduction, which briefly sets out the background to Luftwaffe activity over Scotland in WWII, and a descriptive gazetteer listing all the Luftwaffe images in the NMRS collection. It is followed by topographical and thematic indices providing a means of cross-reference to the information contained in the photographs.

