



**Overview of
GERMAN
U-BOAT BASES AND
BUNKERS
1941 - 1945**

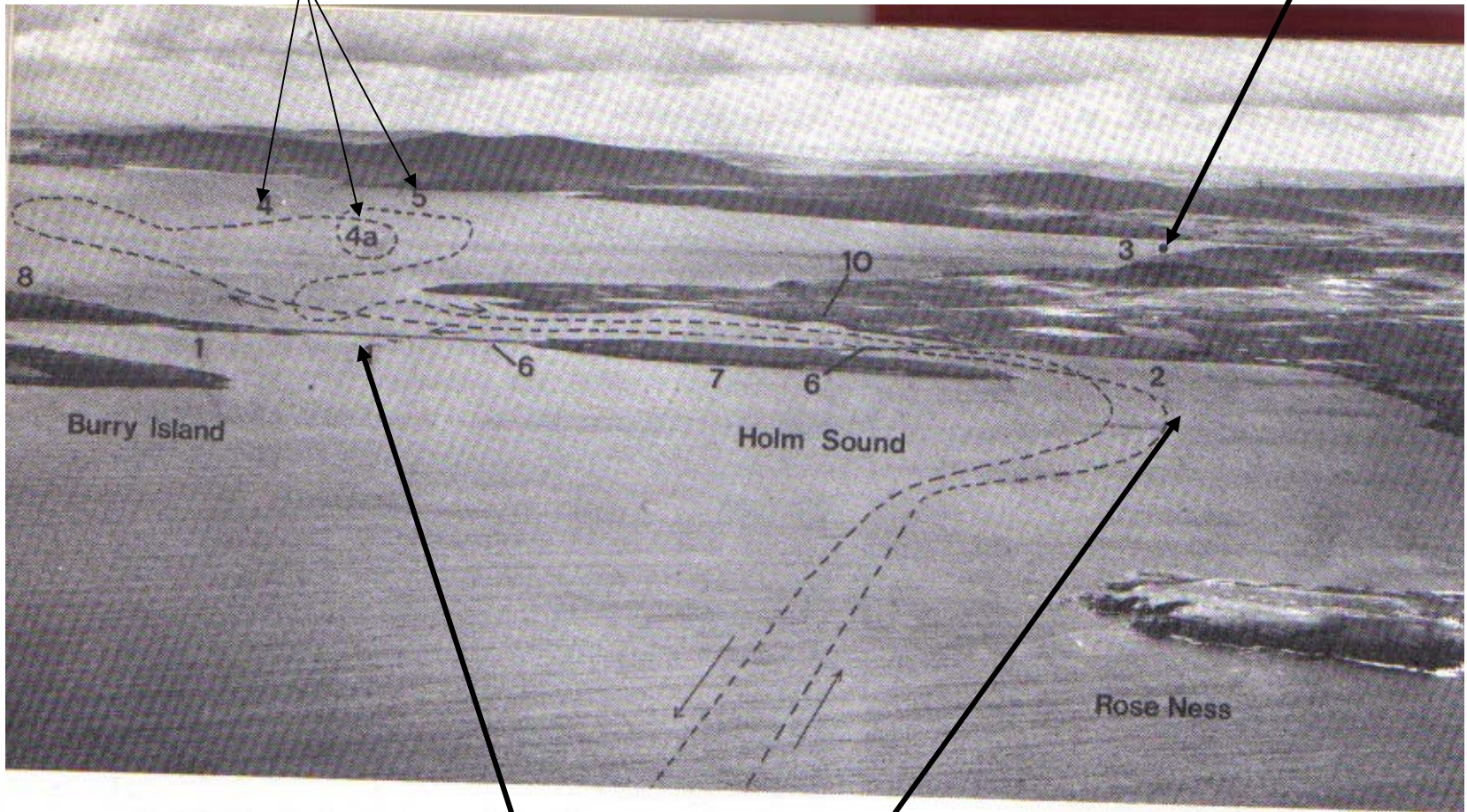
J. David Rogers

BACKGROUND 1

- **German U-Boat fleet under the command of Konteradmiral Karl Donitz.**
- **As World War II erupts in September 1939, the U-Boat shows it's potential:**
 - **Penetrated Royal Navy Home Fleet anchorage at Scapa Flow, Scotland**
 - **Sank the battleship *HMS Royal Oak***
 - **Escaped with ease**

Shots fired

Location of the Royal Oak



Underwater obstacles

BACKGROUND - 2

- **Late spring and summer of 1940, the German juggernaut invaded Norway, France and the Low Countries, overwhelming all of them in a matter of weeks.**
- **Germany took control of the port facilities available to them.**
 - **Prior to this acquisition, the distance to open sea from German ports in the Baltic limited their range while also increasing wear and vulnerability.**
 - **The down side was that all the new ports were within easy striking distance of British bombers.**

English Channel

Paris

FRANCE

Bay of Biscay

SPAIN

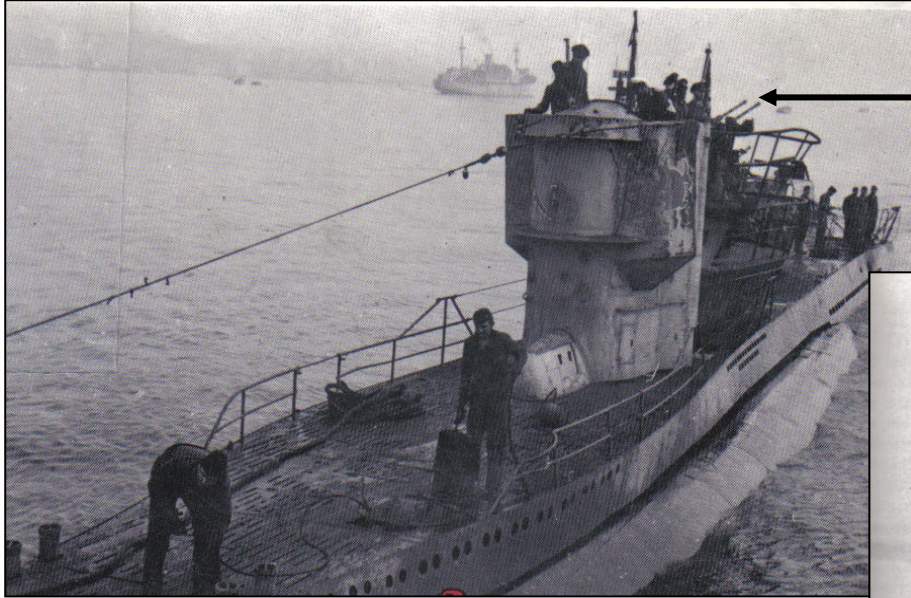
- 1170 Patrols made from these 3 locations



BACKGROUND - 3

- **Prior to war, U-Boats were usually serviced alongside their designated flotilla tender.**
- **U-Boats are more vulnerable to damage than surface vessels:**
 - **If their pressure hull integrity is compromised, a U-Boat would be unable to dive.**
 - **Most U-Boats were not fit with adequate firepower to protect themselves on the ocean surface.**
 - **Biggest vulnerability was detection and attack by enemy aircraft**

Limited Anti-Aircraft firepower



U-Boats were initially fitted with a single 20 mm AA gun; later increasing to two (shown at left) and then four barrel configuration, shown below

Some specially-fitted U-flak boats were equipped with quad mount 2.2 cm anti-aircraft guns to provide additional AA protection for Wolf Packs.



Concrete Pens Constructed to Protect the U-Boats in coastal ports

- **The German's pre-war labor force consisted of approximately 300,000 laborers.**
- **After the outbreak of WW2, POWs and concentration camp inmates were put to work.**
- **Approximately 15,000 laborers were needed to construct a massive U-Boat bunker.**

Construction of U-Boat Pens

- **Construction proceeded 24 hours a day using two 12 hour shifts**
- **Lights were used to facilitate work throughout the night (except when under attack)**
- **Hazardous working conditions**

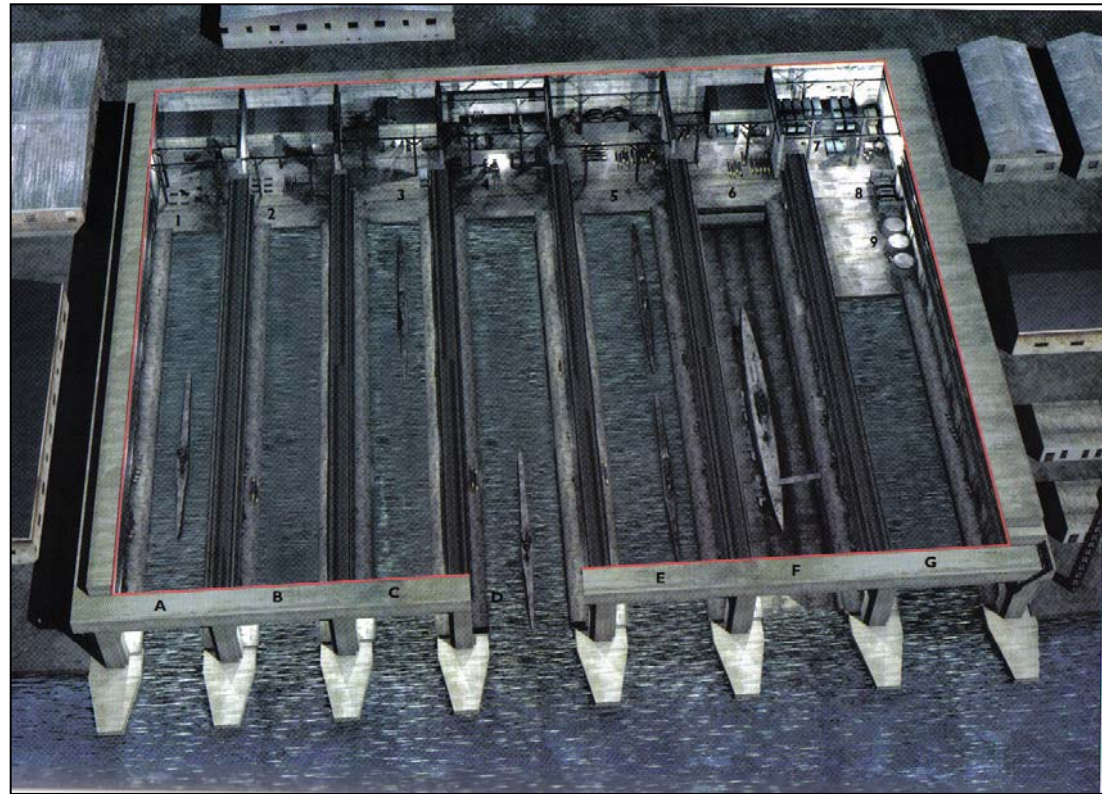


Construction Operations

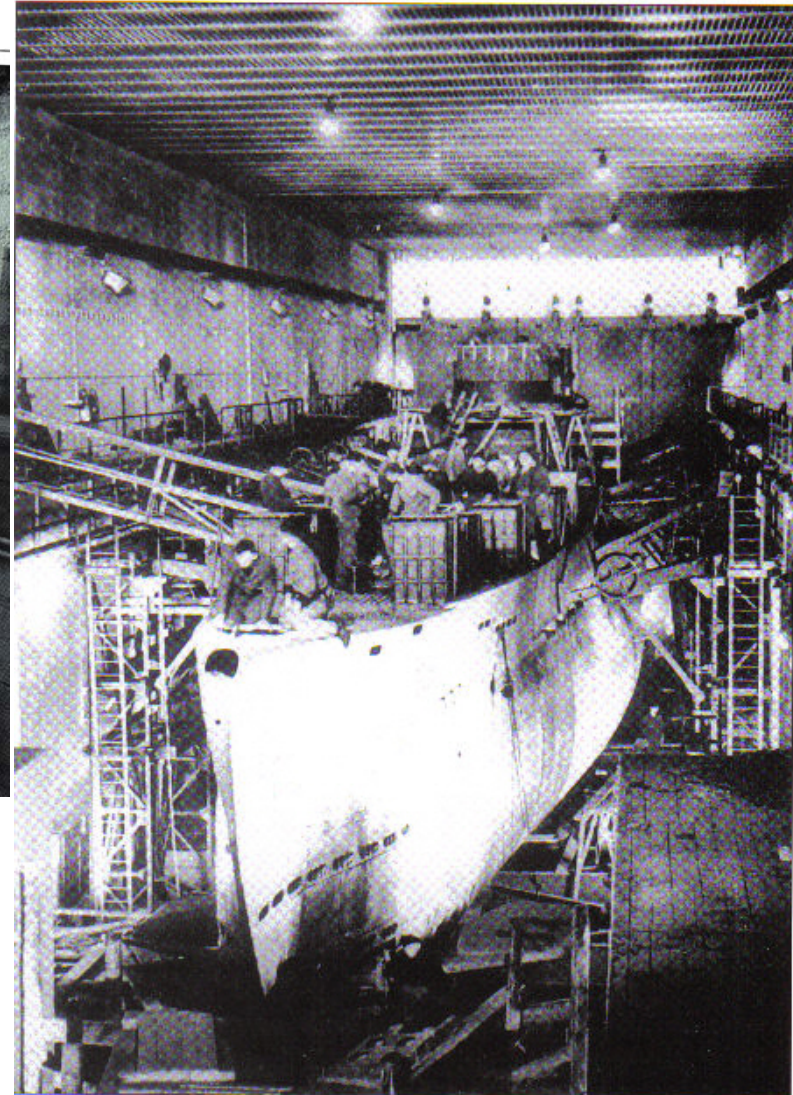
- **Materials were initially transported from Germany**
 - **Cement in 50kg sacks**
 - **Reinforcing Steel**
- **Material requirements were vast, they were sourced locally and transported:**
 - **Railroad**
 - **Barges**
 - **Trucks**

BUNKER DESIGN

- Wet and Dry Docks in covered bomb-proof bays
- Lock gates
- Offices
- Storage facilities
- Machine Shops
- Generators



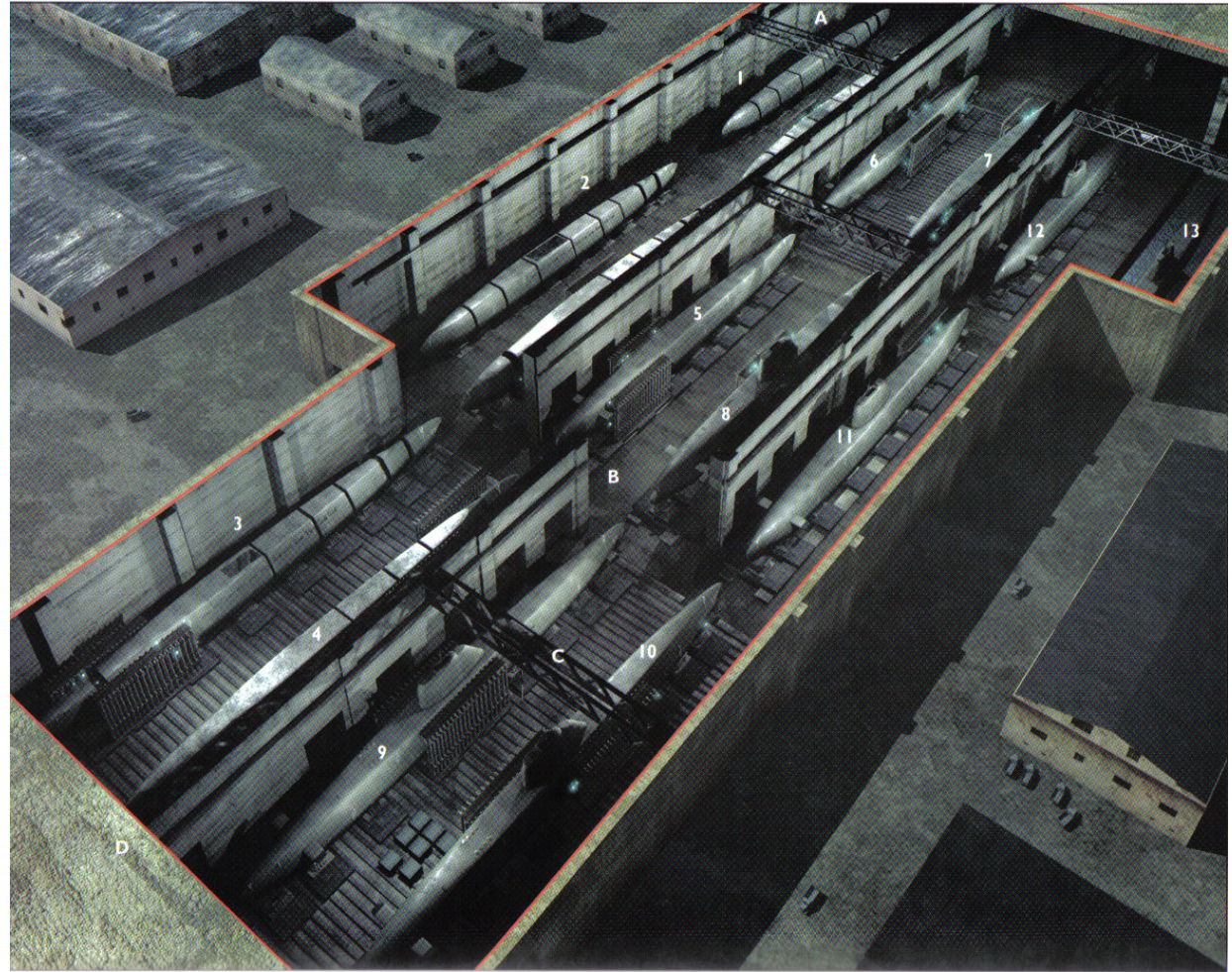
BUNKER DESIGN



- Each pen was designed as a free-standing drydock so essential maintenance and battle damage repairs could be carried out between combat deployments

PRODUCTION BUNKER LAYOUT

The Germans also enclosed all their U-Boat production facilities to resist Allied bombing



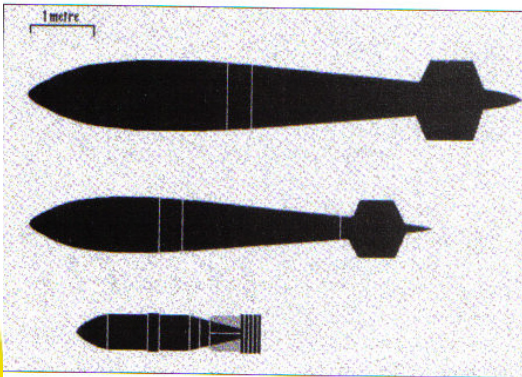
COASTAL BUNKER DESIGN

- **Biggest design concern was overhead protection from Allied bombing**
- **Initial construction was bomb proof; but the bombs got bigger as war dragged on**



PROTECTION UPGRADES

- Re concrete roof reinforced thickness up to 7 meters
- Fangrost screens constructed on roofs

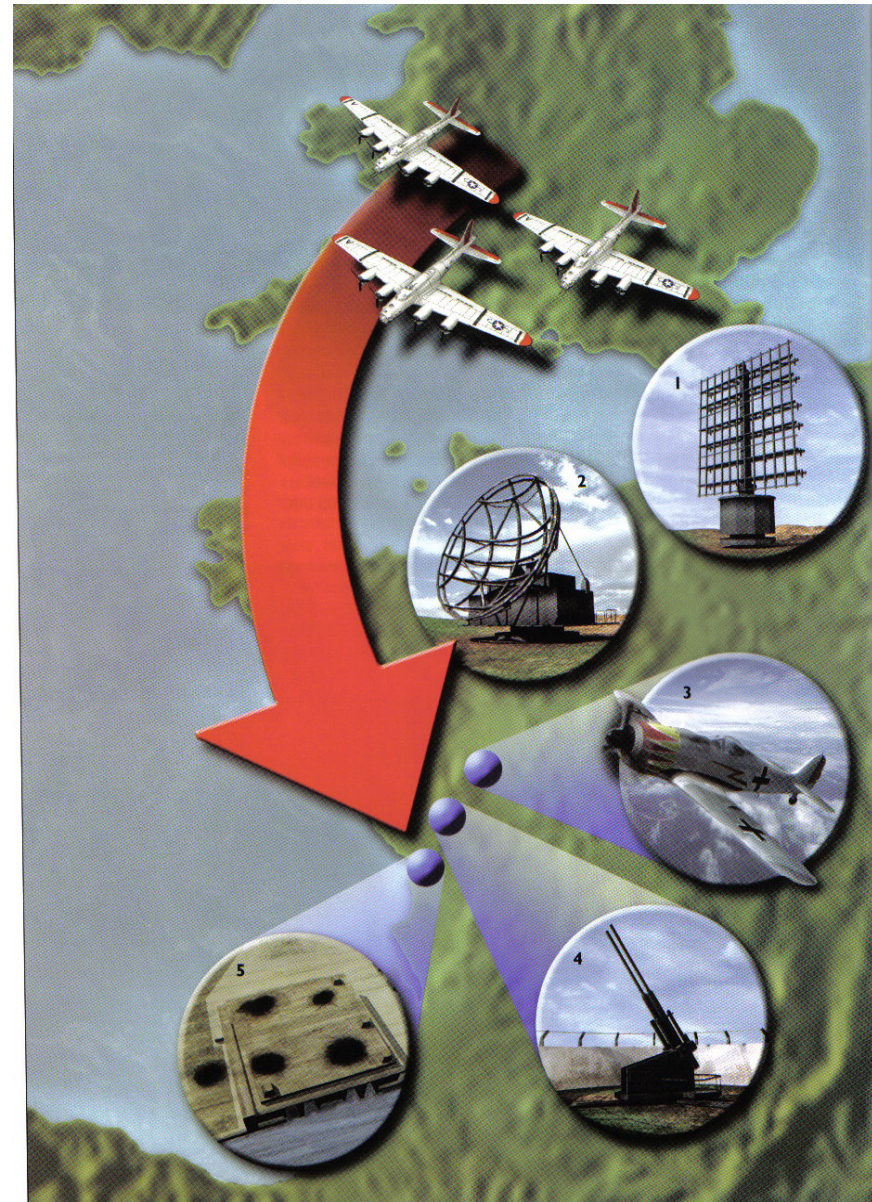


- The RAF developed 12,000 lb Tallboy and 22,000 Grand Slam bombs to interdict U-Boat pens



DEFENSIVE STRATEGY

- Incoming raid detected by radar
- Scramble fighters
- Intercept with AA fire located in cities/ports
- Rely on strength of bunker to resist bomb penetration

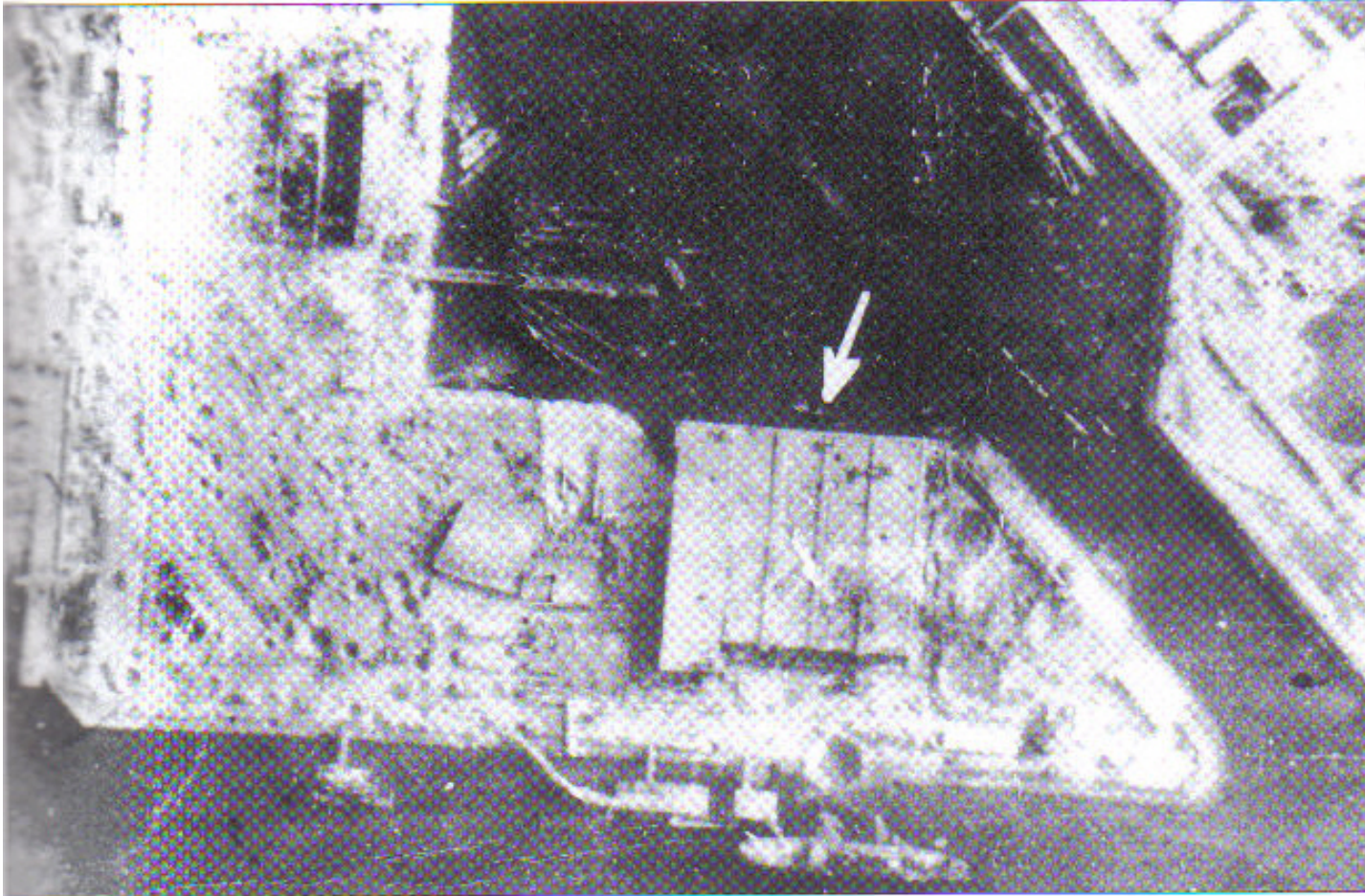


DEFENSIVE OPERATIONS

- As war progressed, biggest fear was low flying fighters
- Torpedo or bomb lob
- Barrage balloons, torpedo net, AA positions, steel doors



BOMB DAMAGE ASSESSMENT



This aerial image shows craters caused by Allied air attacks before emplacement of fangrost covers to absorb bomb detonations.

PRESENT DAY USE

- **After the war it proved impractical to scrap the U-Boat bunkers. All the windows of Trondheim, Norway were blown out by a series of detonations aimed at razing their bunkers. They gave up.**
- **Several bunkers are still in use today by:**
 - **Military arms European nations**
 - **Civilian agencies**
- **Many still stand, but not in use and are becoming unsafe areas, difficult to patrol or keep closed from vagrants**

PRESENT DAY USE

- **The Lorient, France bunkers are used by the French Navy as storage for nuclear submarines**



PRESENT DAY USE

- **The bunkers at Brest, France are still operated by the French Navy**



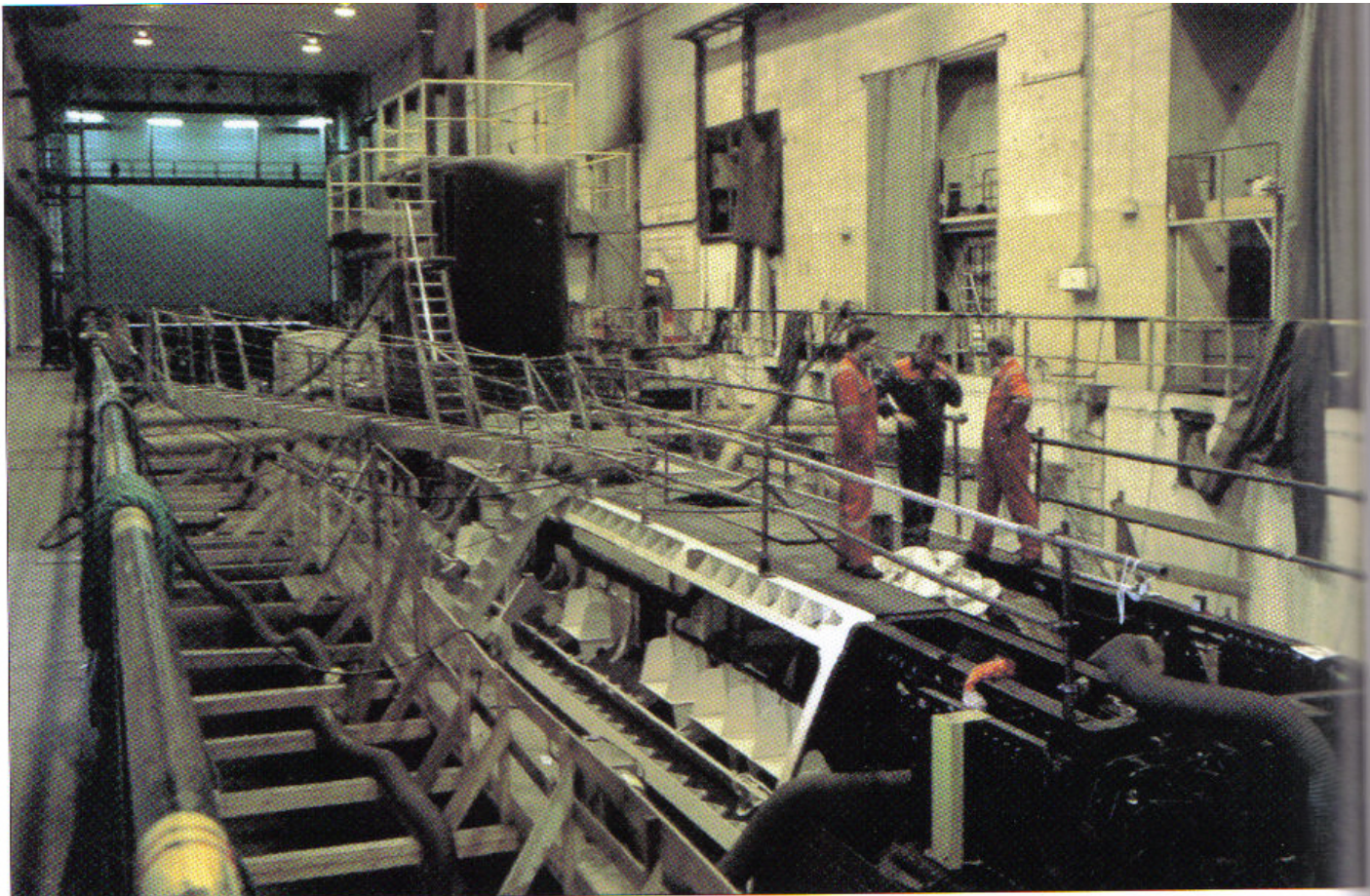
PRESENT DAY USE

- **The massive bunker complex in Bordeaux, France is privately held and used for storage.**



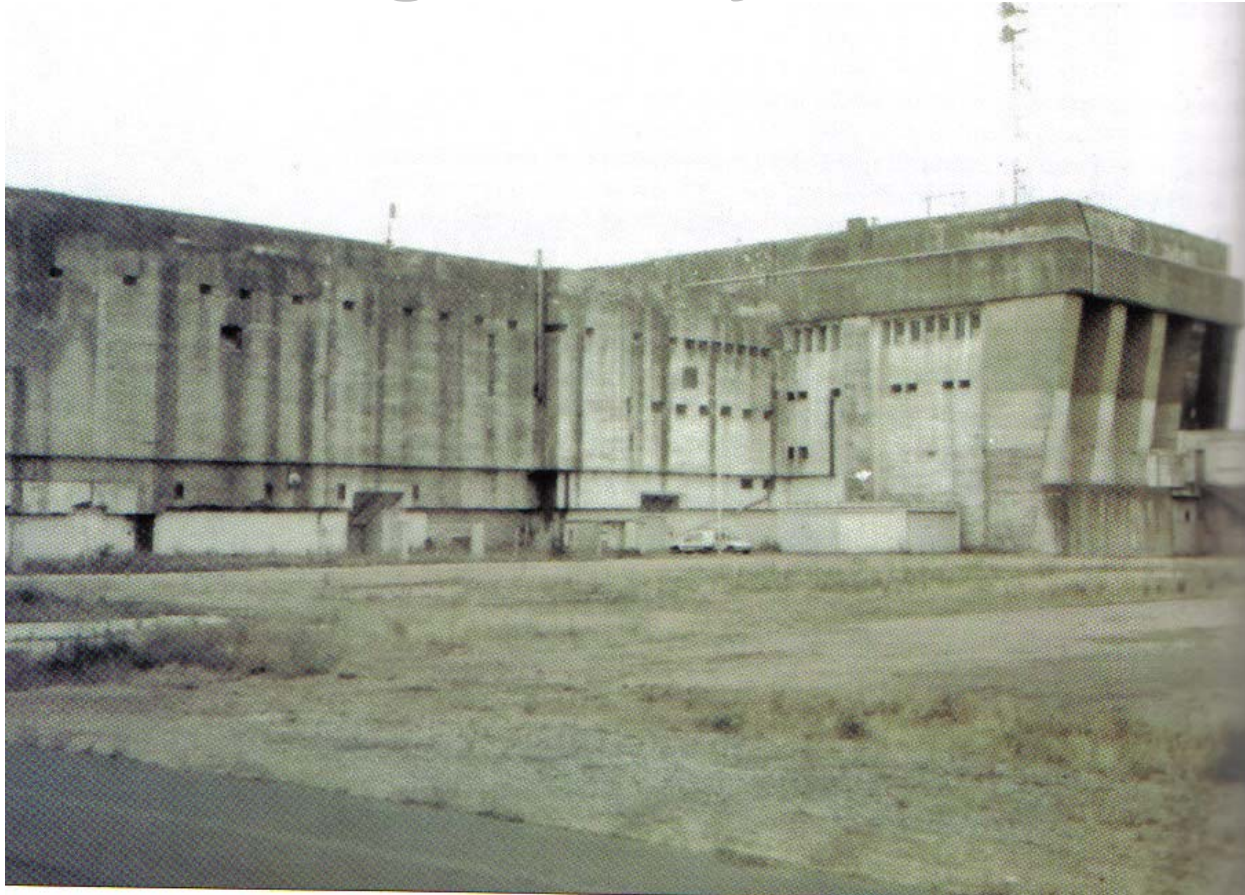
PRESENT DAY USE

- **The bunkers in Bergan, Norway are still used by the Norwegian Navy**



PRESENT DAY USE

- **St. Nazaire, France was a French Naval facility for awhile, and is now used as civilian storage facility**



REFERENCES

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