

## AIRCRAFT, PANAMA AND THE CANAL ZONE DURING THE WAR

### PART 2 – AIRFIELDS, BASES AND LANDING FIELDS

Note: Previously I have touched upon air defences of the Canal Zone<sup>1</sup> and how aviation, both that of the US Army and the Navy, was of such importance in defending Panama, the Canal Zone and its environs during World War 2<sup>2</sup>. Now I intend to take a brief look at the air bases, airfields and landing strips used.

Note 2: As the maps from the USAF Historical Research branch make clear, somewhat confusingly to some (including initially myself), the isthmus of Panama actually lies on an east-west axis, while the Panama Canal (which connects the Caribbean in the east with the Pacific in the west) actually runs north-south. Panama City is on the Pacific, with its opposite number at the other end of the Canal on the Caribbean coast – or the “Atlantic” end of the Canal. The top of South America, in the form of Colombia, lies to the east, and Costa Rica and the rest of Central America (which stretch northwards towards Mexico and the US) lies to the west. The majority of US bases outside the Canal Zone lay to the west, with much of the eastward end of the country taken up by the dense and largely impenetrable jungle of the Darién.

The first US air unit had arrived in Panama in 1917, and during World War 1 this squadron<sup>3</sup> was used for U-boat patrol from Cristobal, the port near Colón at the Atlantic end of the Canal. It used several airfields before being permanently based at the airstrip at Coco Field, which became France Field<sup>4</sup> in May 1918 (and was subsequently renamed France Army Air Force Base in 1941).

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<sup>1</sup> <https://wordpress.com/post/raytodd.blog/39465>

<sup>2</sup> <https://wordpress.com/post/raytodd.blog/42155>

<sup>3</sup> The 7<sup>th</sup> Aero Squadron, equipped with Curtiss JN-4 Jenny two-seater biplanes and Curtiss R-3 and R-3 float-equipped biplanes, was commanded by a Captain HH Arnold - the later General “Hap” Arnold, the World War 2 USAAF commander and its only five-star general.

<sup>4</sup> Located just east of the current harbour in Colon, it is now the Enrique Adolfo Jiménez Airport (*Aeropuerto Enrique Adolfo Jiménez*). It was established by the US Army in 1918. It was renamed again as the France Air Force Base from March 1948, but closed in November 1949 and turned over to the Panamanian

Prior to 1939, the US Army Air Corp (USAAC) had maintained in the Canal Zone only as many aircraft and men as its limited appropriations would allow – but usually with equipment which was outmoded and regarded as of doubtful value in the role of protecting the Canal.<sup>5</sup>

By April 1939, the air defences of the Canal consisted of a total of 71 tactical aircraft of all types, either in commission or in temporary storage, and split more-or-less evenly between the two main air bases of France Field and Albrook Field. This force consisted of 33 Douglas B-18 and B-18A Bolo medium bombers, 15 Northrop A-17 single-engine attack aircraft (all of which were assigned to the Albrook-based 74<sup>th</sup> Attack Squadron) and 24 Boeing P-26A Peashooter pursuit (fighter) types<sup>6</sup>. All of these, and particularly the P-26A, were, at best, obsolescent.

As late as September 1939, with war breaking out in Europe, official records maintained that the 19<sup>th</sup> Wing based in the Canal Zone would have provided little worthwhile opposition for any attacker. Its actual complement of aircraft was less than half required to fully equip the two pursuit, one bomber, one attack, two reconnaissance and two airbase squadrons that should have made up the Wing. At Albrook Field and France Field, numbers were unchanged since April, except for having one less A-17. The 31 more modern Curtiss P-36A Hawk fighters that were then arriving would take the number of tactical aircraft available to the Wing to 102, and supplant to obsolete P-26A. The immediate objective at the time was to have, by January 1940, two pursuit (fighter), a bombardment (bomber) and two reconnaissance squadrons to be effective<sup>7</sup>.

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Government. It was turned into a civilian airport, although US jurisdiction over it actually continued until 1973, seeing occasional use as a satellite of Albrook Air Force Base (the former Albrook Field).

<sup>5</sup> *Air Defense of the Panama Canal, 1 January 1939 – 7 December 1941* (Army Air Forces Historical Office), January 1946: <https://www.afhra.af.mil/Portals/16/documents/Studies/1-50/AFD-090602-096.pdf>

<sup>6</sup> Until the USAAC was reorganised into the US Army Air Force in 1941, it persisted in designating its fighter aircraft as “pursuit” (hence the “P” designation letter, which the new service would retain, with it only be dropped in favour of “F” designations with the advent of the independent US Air Force in 1947.

<sup>7</sup> *Air Defense of the Panama Canal, 1 January 1939 – 7 December 1941* (Army Air Forces Historical Office), January 1946: <https://www.afhra.af.mil/Portals/16/documents/Studies/1-50/AFD-090602-096.pdf>

Even if large numbers of additional, and better, aircraft had been available, there was a shortage of bases for them. The landing fields used at the time, other than the established bases France Field and Albrook Field, were very much seen as “emergency” ones, this including even those municipal fields of a number of towns in the Republic. In some cases, the landing grounds were regarded as “treacherous”,<sup>8</sup> and some of the landing fields had periods without being used, before being restored to use some time later.

It is worth mentioning that the use of the additional landing fields, with the notable exception of that at Rio Hato (see below), was often acquired in a high-handed way, with Army pilots having little understanding or regard for local sensitivities or ownership. They made arrangements with local municipalities or landowners, the Army pilots then often gave the sites names that meant little to locals.

In 1939, an expansion plan was agreed which included –

- acquiring additional land at Rio Hato (a site in the west of the country which had been used since the mid-1930s under an arrangement with the local landowner) was to be purchased to provide training and housing facilities;
- a new base at Bruja Point was to proceed – this would become Howard Field;
- the Panama Aircraft Depot (PAD) was to move from France Field to Albrook Field (see below for more on PAD).

On 2 September 1939, with war in Europe, the 19<sup>th</sup> Wing ordered that Albrook Field and France Field should be prepared to patrol the sea approaches to the Canal, escort any vessels found and intercept any unidentified aircraft over the Canal Zone. At the same time, while troop numbers were increased, the USAAC was unable to supply any

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<sup>8</sup> Ibid.

additional aircraft – although by then more P-36A had begun to arrive, together with a few more B-18 medium bombers and a single dedicated cargo aircraft (a Douglas C-32<sup>9</sup>).

### **ARMY AIRFIELD USE UNTIL THE 1930s**

The original 1903 Treaty between Panama and the US had set out a procedure (to be available in perpetuity, like the rights granted to the US in respect of the Canal and Canal Zone) whereby the US could acquire, use, occupy and control land outside the Canal Zone, where this was regarded (by the US) as necessary for the operations and security of the Canal.

Where private land was involved this involved a payment to the owner, based on pre-1903 land values (and determined by the US Treasury) and in such cases (or, indeed, public land occupied by squatters), no formal agreement from the Panamanian Government was necessary, it being, in effect, a purely commercial arrangement<sup>10</sup>.

Where public land was involved, the procedure was for the Commanding General of the Panama Canal Department<sup>11</sup> to forward a formal request to the Governor of the Canal Zone, who would in turn notify the President of Panama that the defined areas were “necessary and convenient for the construction, maintenance, sanitation and protection of the Panama Canal”. The President would then issue a Decree which prevented any subsequent transfer of the land for speculation and, if the land were owned by the Panamanian Government, no further negotiations were required<sup>12</sup>.

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<sup>9</sup> This was a military version of the Douglas DC.2, the predecessor of the legendary DC.3.

<sup>10</sup> *Acquisition of Air Bases in Latin America June 1939 – June 1943* by Captain Bynum E Weathers Jr (USAF Historical Study No.63, USAF Historical Division, Research Studies Institute, Maxwell AFB, Alabama (1943): <https://apps.dtic.mil/sti/pdfs/ADA529923.pdf>

<sup>11</sup> The US Army command in the Canal Zone.

<sup>12</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

During and just after World War 1 the US did acquire small additional areas outside the original Canal Zone, but it was not until the late 1930s, when the US felt that it needed considerably more, suitable territory for the establishment of airfields and other essential defences, that real problems arose. These problems led in due course to an impasse with the Panamanian Government, not finally settled until the signing of a new Bases Agreement (or “Defense Sites Agreement”) in May 1942 (which did not officially come into effect until May 1943).

In 1933, the War Department notified the State Department of the military need for additional airfields within Panamanian territory, with seven sites being identified. This need was then communicated to the Government of Panama. The latter expressed a willingness to enter into negotiations over public land, reminding the US of the need for the payment of rent for private land, as well as expressing a need for any facilities to also be available for official and private aviation of Panama itself. In 1935, a report said that 25 landing field had been identified, reconnoitred, and improved, with the list of such sites forwarded to Panamanian officials.

During the period 1931-41, the USAAC is said to made use of some 60 places described as airfields in Panama, but except for Rio Hato (see below), none were in continuous operational use and most remained what were essentially ordinary fields<sup>13</sup>. Most were seemingly used based on being available, rather than for any strategic or tactical importance. As we have seen, arrangements were generally made, usually informally, with the local landowner. In one example, a landing site was used, without formal lease, for an annual payment of \$600 to a landowner who had, in turn, leased the property involved from the Panamanian Government.

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<sup>13</sup> Which was sufficient for the aircraft types then in use. Furthermore, it seems no accurate records of such use was kept until 1933, when sites then in use were surveyed, and notes on them prepared for use by USAAC pilots: <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

There were two commercial airfields in the Republic – at Paitilla Point, close to Panama City, and David in Chiriqui Province in the south-west of the country. However, in early 1939, Paitilla Point was thought suitable only for emergency landings, and David had only an unimproved (not paved) runway and was used mainly by Pan American Airways.<sup>14</sup>

The airport at Paitilla was established in 1930 at Paitilla Point, with a single runway, a hangar, small repair shop and small office building. The first inter-province airmail service began from here in 1931, only ending due to the Depression. By 1935 it was home to a flying school and a daily airline service to David via Aguadulce.<sup>15</sup>

Before we look at the sites the USAAC felt that it needed, and which it wanted greater leeway in how it used, improved and controlled, let us consider the background to the two main airfields in use in 1939-40, and Rio Hato, the one more or less established base outside the Canal Zone.

## **FRANCE FIELD**

Established at Coco Solo in March 1918, near Colón on the Atlantic coast on a former area of swamp and originally known as Coco Walk (or colloquially “Camp Misery”)<sup>16</sup>, this had hosted the first US Army Air Service (USAAS)<sup>17</sup> unit in Panama, the 7<sup>th</sup> Aero Squadron, organised there in 1917<sup>18</sup>. The base was named France Field after the first Army pilot

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<sup>14</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

<sup>15</sup> The service relocated to Albrook Field that same year because of inadequate facilities at Paitilla:

<https://docplayer.net/53932747-Panama-s-worst-air-disaster.html>

<sup>16</sup> <https://docplayer.net/53932747-Panama-s-worst-air-disaster.html>

<sup>17</sup> Originally the Aviation Section of the Signal Corps from 1914, the USAAS would become the US Army Air Corps (USAAC) in 1926, and the US Army Air Force (USAAF) in 1941. In 1947, the US Air Force (USAF) was separated from the Army (although the Army retained aviation units and aircraft) as a distinct service in its own right.

<sup>18</sup> In 1914, although war had broken out in Europe, little progress had been made toward expanding the Army’s infant air arm. The US Congress had created an Aviation Section as part of the Signal Corps by an Act approved on 18 July 1914, but provided little money for the new service. The Signal Corps naturally used the meagre resources to develop aviation as a means of communication, observation, and reconnaissance, rather than as an instrument for combat. The 2<sup>nd</sup> Aero Squadron was organised in 1915 and sent to the Philippines, with five more squadrons organised in 1916-17, with the 7<sup>th</sup> Aero Squadron formed in February

killed in the Canal Zone, 1<sup>st</sup> Lieutenant Howard J France, who crashed in a seaplane in Gatun Lake in April 1918.

During the early 1920s France Field was expanded. At the time, the defence of the Canal was the principal overseas responsibility of the USAAS (and considered more important than that of the Philippines, another US protectorate, or even Hawaii). Therefore, though reduced in size in the postwar period, and undergoing several changes in name<sup>19</sup>, what had been the 7<sup>th</sup> Aero Squadron remained active in the Canal Zone. It was joined by the 24<sup>th</sup> Pursuit Squadron<sup>20</sup> and the 25<sup>th</sup> Bombardment Squadron with fighters and bombers respectively, which were activated in January 1923<sup>21</sup>. These air assets were assigned to the Panama Canal Department, the US Army command in the Canal Zone.

France Field had been the only operational airfield in the Canal Zone, but then from 1924 what became Albrook Field (see below)<sup>22</sup> began to be used, being near the Pacific end of the Canal.

By the early 1920s it had become clear that there were risks in basing the entire air strength of the Canal Zone in a single airfield, at one end of the Canal, with the administrative and military headquarters of the Panama Canal Department located some 60 miles (96.5 km) away on the other side of the isthmus in Balboa. The only connection at the time, aside from the Canal itself, was a single-track railway<sup>23</sup>. However, it would

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1917 for duty in the Canal Zone: *Air Force Combat Units of World War II* edited by Maurer Maurer (Office of Air Force History Washington DC, 1983): <https://media.defense.gov/2010/Sep/21/2001330256/-1/-1/0/AFD-100921-044.pdf>

<sup>19</sup> Becoming, for example, the 7<sup>th</sup> Observation Squadron in 1922.

<sup>20</sup> Under the 1922 designation system adopted by the USAAS and USAAC, “pursuit” meant “fighter”.

<sup>21</sup> In the early 1920s, there were a composite group in each of the Philippines, Hawaii and the Canal Zone, the 6<sup>th</sup> Composite Group being that in the latter.

<sup>22</sup> This was named for 1<sup>st</sup> Lieutenant Frank P Albrook, who had been killed in an aircraft accident in 1924. The airfield had originally been named Balboa Fill Landing Field (the “Fill” denoting the spoil removed from the excavation of the Canal, also used to link the offshore islands in Bay of Panama to the mainland).

<sup>23</sup> Alternative highways were only built during the war.

take into the 1930s for the second permanent airfield, at the other end of the Canal, to be constructed<sup>24</sup>.

France Field had a runway that was built on silt and, as this settled, by 1939 you could stand at one end and see the undulations.<sup>25</sup> It was also noted between the wars that the greater rainfall on the Atlantic coast made France Field a “sea of mud” for nine months of each year<sup>26</sup>, having a “coral runway” of only 2,700 feet (823 metres), incapable of extension, and considered unsuitable for large or heavily-loaded aircraft. These characteristics help explain why the newer Albrook Field rapidly become the centre of both USAAC and commercial aviation activities in the Canal Zone.

Nevertheless, during the 1930s, France Field was modernised and upgraded, with additional units assigned to it as international tension rose. In 1935, it received its first monoplanes, Martin B-10 twin-engine bombers for the 25<sup>th</sup> Bombardment Squadron.

In 1939, France Field was surveyed for the purposes of the Airfield Expansion Program. This revealed that what was needed was a minimum 5,000-feet (1,524 metres) hard surface runway to be suitable for medium bombers and long-range bombers. However, the high costs involved meant that it was 1940 before plans to improve the airfield were drawn up and partially approved. As a result, a “New France Field” would be constructed with two the 5,000-feet runways to the east of the new Transisthmian Highway, and some way from the “Old France Field”. Then, in February 1942, \$185,000 in funding was approved for an extension of the “Old France Field” runway and new road communications.

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<sup>24</sup> *Sentimental Journey, The Air Fields of the Sixth Air Force, New France Field* by Dan Hagedorn (American Aviation Historical Society).

<sup>25</sup> *P-38 in Latin America* by Dan Hagedorn (Aviation Art & History, 2022).

<sup>26</sup> As now, Panama enjoys a “dry season”, November-April, with increasing rain and severe thunderstorms from then, peaking in September/October. Whilst it does experience the side or after-effects of tropical storms, it does not suffer hurricanes in the same way as other parts of the Caribbean and Central America.



The names for the two sites were to be used until well after the war, they being collectively named France Field (and then France Air Force Base after the USAF was established in the late 1940s).

At the time of Pearl Harbor in December 1941, France Field was home to the 32<sup>nd</sup> Pursuit Group, with three squadrons<sup>27</sup> equipped with P-40 Warhawk fighters<sup>28</sup>, the 6<sup>th</sup> Bombardment Group with two bomber squadrons<sup>29</sup> using the largely obsolescent B-18 Bolo twin-engine medium bombers (soon supplemented by early model B-17B Flying Fortress four-engine bombers which, though later supplemented by improved B-17E models, were then surrendered, with one unit continuing to use various marks of B-18 and a single A-17A single-engine attack bomber), and the 1<sup>st</sup> Air Depot Group which consisted of a single transport squadron<sup>30</sup>.

During World War 2, units based at France Field, with improved equipment that became available as the war progressed, were involved in protection of the Atlantic end of the Canal, and deploying aircraft on anti-submarine patrols over the Caribbean.

At the end of the war, France Field was downgraded, with most units moving to Albrook Field or Howard Field (see below). It was renamed France Air Force Base by the new US Air Force (USAF) in March 1948, but was deactivated on 1 November 1949 and became Colón Airport, a civilian airport for the Canal Zone – originally as the Coco Walk Aerodrome, and latterly as the Enrique Adolfo Jiménez Airport. However, the USAF

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<sup>27</sup> The 51<sup>st</sup>, 52<sup>nd</sup> and 53<sup>rd</sup> Pursuit Squadrons.

<sup>28</sup> While a great improvement over previous fighter equipment in Panama (including the P-36, from which it was developed), the Curtiss P-40 was generally inferior to other contemporary fighters, such as the Zero and Me 109. Nevertheless, it continued in frontline service until the end of the war, including with allied air forces, with over 13,000 built.

<sup>29</sup> The 3<sup>rd</sup> and 25<sup>th</sup> Bombardment Squadrons.

<sup>30</sup> Activated in 1940, initially with just one aircraft, what became the 20<sup>th</sup> Transport Squadron operated in Panama until deactivated in 1949.

retained jurisdiction over the airport until 1973 and occasionally used it as a satellite of what had become Albrook Air Force Base<sup>31</sup>.

## **ALBROOK FIELD**

After France Field, the second permanent Army airfield was Albrook Field, which opened in 1932, construction having been authorised in 1928 and with actual work begun 1930. During the 1930s it was expanded, and the runways improved, with hard surface runways being introduced in 1939, the original runways having been considered unsuitable for all-weather flying.

Albrook Field fulfilled a need for air defence facilities at the Pacific end of the Canal, and was located near to Panama City. To the north of the airfield was the Army's Fort Clayton, with Balboa, "capital" of the Canal Zone, to the south.

During the war, Albrook Field was home to many fighter and bomber units, as well as being the headquarters of the Sixth Air Force<sup>32</sup> and the Panama Air Depot (see below). It was also known as Albrook Army Airfield, until it became Albrook Air Force Base in 1948 (with the creation of the new US Air Force)<sup>33, 34</sup>

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<sup>31</sup> [https://military.wikia.org/wiki/France\\_Air\\_Force\\_Base](https://military.wikia.org/wiki/France_Air_Force_Base)

<sup>32</sup> The Panama Canal Air Force was established in November 1940, as the command for the USAAC units based in and defending the Canal Zone. It became the Caribbean Air Force in August 1941, and then became the Sixth Air Force in September 1942<sup>32</sup>, retaining that title until 1946.

<sup>33</sup> In 1975, it was downgraded to become Albrook Air Force Station, the control tower closed and aircraft and units moved to Howard AFB. Much of the site was transferred to the Panamanian Government in 1979. It was officially closed altogether and handed over to the Panamanian Government in 1997. It was refurbished and reopened in its current form as a civilian airport in 1999.

<sup>34</sup> It is now found alongside Albrook Mall, the largest shopping mall in Latin America<sup>34</sup>, and is known as Albrook Airport or Marcos A Gelabert International Airport:

<https://pacificwrecks.com/airfields/panama/albrook/index.html>

Ironically, the Army and Air Force Exchange Service, a Department of Defense agency, operated postwar an "Albrook Mall" in various buildings on the base that became the primary shopping area for troops stationed there, not just USAF personnel: [https://military.wikia.org/wiki/Albrook\\_Air\\_Force\\_Station](https://military.wikia.org/wiki/Albrook_Air_Force_Station)

On the south-east side of the airfield was a commercial air terminal, camouflaged during the war and used by Pan American. The so-called Canal Zone Airport Building was, for all intents and purposes, a Pan American Airways operation, although TACA<sup>35</sup> and others also used the facility – much to the annoyance of the security conscious USAAC. The USAAC had been unhappy at the presence at France Field of the Pan American Airways hub, which it felt had been foisted on it by Washington. After lengthy negotiations, the USAAC and Pan American had agreed to move the facilities from France Field to Albrook Field.

The primary runway was finally concreted by the Panama Canal Company in 1939. Further proposals to extend the runway were not finally approved until late 1945, by which time the improvements became redundant. However, during the war, 30 asphalt hardstands were constructed for fighters and another 15 for heavy bombers, and these appear prominently in wartime photos of the base.

Units at Albrook Field practised bombing and aerial gunnery on the Bay of Panama and fired at ground targets on a range the Panama Canal Department developed at Rio Hato<sup>36</sup>.

## HOWARD FIELD

A third airfield opened in the Canal Zone 1939, on the other side of the Pacific entrance to the Canal (that is to say, the South American side), on the Canal Bruja Point Military Reservation. Originally called Bruja Point Airfield, on 1 December 1939 it was renamed

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<sup>35</sup> *Transportes Aereos del Continente Americano*, founded in El Salvador by a New Zealander, Lowell Yerex, in 1931. By 1934, it had expanded into Central America, operating in El Salvador, Guatemala, Nicaragua, Costa Rica and Panama and flying a fleet of 14 aircraft.

<sup>36</sup> The 74<sup>th</sup> Attack Squadron also experimented bombing targets at sea using aluminium slicks, with an aircraft dropping a glass bottle containing aluminium powder which spread on the surface of the water for bombers and gunners to aim at. Flyers could usually see it easily from 7,000 or 8,000 feet (2,133 to 2,438 metres) but sometimes had trouble spotting it when approaching the sun. The slick disappeared swiftly, lasting about an hour in a calm sea, less in rough water. But aluminium powder often enabled the bombers and gunners to practice when they lacked other targets:

<https://media.defense.gov/2016/Mar/17/2001481634/-1/-1/0/PAGES%20FROM%20AVIATION%20IN%20THE%20US%20ARMY%201919-1939.PDF>

Howard Field<sup>37</sup>. Hosting both fighters and bombers during the war from 1941, it was deactivated in 1950 and the property (which had become by then a USAF site<sup>38</sup>) turned over to the US Army<sup>39</sup>.

Howard Field was originally part of Fort Kobbe, and expanded dramatically from 1940. Hurriedly completed, 10,000 acres (4,047 hectares) of impenetrable vegetation at Howard were transformed into a “thriving, highly-industrialised city of 5,000 inhabitants”. The work was completed in less than a year and it became an independent installation from Fort Kobbe in June 1941. All structures were permanent buildings of concrete and steel, designed to withstand the rigours of the harsh climate. As part of the work, more than 85,000 square yards (71,070 square metres) of concrete were laid by Panamanian labourers in 21 days. The new concrete was first covered with water-soaked burlap, followed by a coat of black asphalt emulsion to avoid cracking caused by high temperatures and rapid evaporation during curing<sup>40</sup>.

In an experiment in 1942, a simulated bombing run on the Howard Field runway was conducted. Explosive charges under one end of the runway were ignited without warning, to see the damage produced and to test the repair crews. The 23-feet (seven metres) diameter crater was filled and other damage repaired within six hours, when the runway re-opened for operations<sup>41</sup>.

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<sup>37</sup> <https://ufdc.ufl.edu/AA00022175/00001/pageturner#page/43>

<sup>38</sup> The USAF had been formed in 1947, replacing the former US Army Air Force.

<sup>39</sup> The USAF continued to make use of Howard in training and, in 1961, all USAF flight operations relocated to Howard once more – becoming an important asset, with a 8,500-feet (2,590 metres) runway, described as best US airfield south of the Rio Grande. The last US fixed-wing aircraft left in May 1999, and the base turned over to Panama in November. It is now Panama Pacifico International Airport and, under Law 41 in 2004, the Panama Pacifico special economic zone (or ‘free zone’).

<sup>40</sup> <https://media.defense.gov/2015/Apr/02/2001329844/-1/-1/0/AFD-150402-022.pdf>

<sup>41</sup> <https://weaponsandwarfare.com/2019/11/18/panama-canal-zone-defences-ii/>

## RIO HATO

Formal use of Rio Hato by the USAAC began in 1931. It was in the Coclé province east of Panama City and outside the Canal Zone. It would later become the Rio Hato Army Air Base and was used until 1948, when facilities outside the Canal Zone were returned to Panamanian Government control<sup>42</sup> – though it continued as an auxiliary landing field for Howard Air Force Base until 1990.

Prior to World War 2, Rio Hato became regarded as the most important USAAC air base in Panama. It was then the only major US defence installation outside the Canal Zone and was 50 miles (80.5 km) south-west of the Pacific entrance to the Canal and 65 miles (104.6 km) from Albrook Field.

During World War 1, the site had operated as an Army disciplinary camp, and then as an artillery range. Its use for aircraft began in the mid-1920s when the landowner prepared a landing strip and invited Army pilots to use it (for no costs, it appeared, and under what has been described as a “gentleman’s agreement”).

By 1931, the airfield had acquired something like a semi-official status and, in 1934, it was recommended by the commanding officer of the 16<sup>th</sup> Pursuit Group that the site be considered for use as an operational base. The site was accordingly improved and developed using USAAC funds. Then, in 1935, another part of the site was formally leased<sup>43</sup> by the USAAC (for a nominal cost of \$1 per year) for use in aerial bombing and gunnery training, without affecting any other use of the airfield (nor the continued free use of the rest).

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<sup>42</sup> See <http://raytodd.blog/2022/10/08/panama-operating-outside-the-zone-the-1942-agreement-and-the-1947-row/>

<sup>43</sup> For six months, with annual renewals until June 1939; with the USAAC obliged to vacate the property within 30 days should it be sold by the lessor.

In 1936, representations were made to the owner about leasing the entire site of around 19,000 acres (7,689 hectares), and he offered to sell it, or to give a 10-year lease with an option for a 10-year extension (with the USAAC paying any property taxes due to the Panamanian government).

However, in 1936, the new US-Panama treaty<sup>44</sup>, was signed and this would make the defence of the Canal (and the associated responsibility for acquiring the necessary land outside the Canal Zone) the mutual responsibility of both the US and Panamanian governments. This also saw the US losing its more or less automatic right to acquire public land in the Republic necessary for the defence of the Canal. While the Treaty did not take effect until 1939, its signing nevertheless affected the attitude to the acquisition of additional property.

In 1937, the Commanding General of the Panama Canal Department recommended to the US War Department that the entire Rio Hato site be purchased and developed. He expressed concern that military interests would be adversely affected should the lessor die or the property change hands. In fact, the owner had told the Commanding General that other parties had expressed an interest in buying part of the site, and had proposed a new, amended lease of extended periods be implemented instead. As a result, on 1 January 1938, a new lease for \$200 a month for the entire Rio Hato site was signed, the lease running to at least 31 December 1942, and with a purchase option.

In August 1939, the US Army Corps of Engineers acquired \$2.5 million to improve the road from the Canal Zone to Rio Hato, and, in late 1939, the 11<sup>th</sup> Engineers Battalion began to improve the airfield. Construction accelerated in the summer of 1940 when necessary materials and heavy equipment arrived by sea. That year, during the rainy season from May to December, the Canal Zone's department engineer, complained that "the clayey

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<sup>44</sup> <https://www.encyclopedia.com/humanities/encyclopedias-almanacs-transcripts-and-maps/hull-alfaro-treaty-1936>

earth became a soft sticky gumbo”. Nevertheless, the Engineers also built a 2,000-man camp for the 9<sup>th</sup> Bombardment Group, which arrived in November 1940.

Despite having safeguarded use of the site, at least for the time being, in 1939, the Commanding General still maintained that the site should be purchased outright<sup>45</sup>. As the 1936 Treaty was not yet then in force, he recommended that War Department move to purchase under the terms of the original 1903 Treaty<sup>46</sup>. The War Department rejected the recommendation, partly on budgetary grounds, but also because, should it become necessary in the event of a war, the Army would be able use any land in Panama for defence purposes. However, this decision would lead to something of a crisis in 1941.

With war seeming increasingly likely, in June 1941, the War Department called for Rio Hato to be formally transferred to US control, as the original lease only ran until 31 December 1942, with an annual renewal process thereafter. However, the Land Lease Board in Panama (see the footnote below for an explanation of the role of this Board) told the US representative that, as Rio Hato had not been included in a list of defence sites regarded as necessary for the defence of the Canal and already under discussion, the formal authorisation of new President Arias Madrid (who had been inaugurated in 1940) would be necessary<sup>47</sup>. However, this brought difficulties and delays as the Arias Madrid

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<sup>45</sup> He also mentioned that a local bank held a mortgage on the property, and if foreclosed use of the site could be affected.

<sup>46</sup> While the 1936 Treaty was not finally ratified until mid-1939, the US Government was minded not exercise its rights under the 1903 Treaty over land and property in Panama but outside the Canal Zone. Thus, covering the hiatus between the signing of the 1936 Treaty and its ratification in 1939, the 2 Governments agreed an Exchange of Notes to be attached to the 1903 Treaty. This Exchange of Notes, between the US Secretary of State and the Panamanian Minister to the US on 1 February 1939 provided that, in the event of an emergency that arises so suddenly as to preclude consultations with Panama, the US would not be required to delay action pending consultation, but would be obliged to consult with Panama as soon as possible thereafter: <https://apps.dtic.mil/sti/pdfs/ADA529923.pdf>

<sup>47</sup> A land commission of five people — three Panamanians and two Americans — was established to decide on expansion of sites outside the Canal Zone. In July 1941, two more US-Panamanian boards were established, one of which investigated sites that were to be taken over immediately, while the other arranged for their formal transfer, after investigations were completed, to the US. A new difficulty arose in October 1941 when President Arias was replaced by Ricardo Adolfo de la Guardia. In the change of administration, the Panamanian members of the land boards lost their places and the land transfer question was stalemated again: [https://history.army.mil/html/books/010/10-6/CMH\\_Pub\\_10-6.pdf](https://history.army.mil/html/books/010/10-6/CMH_Pub_10-6.pdf)

administration<sup>48</sup> was not disposed to honour agreements from previous administrations, and requested a new, formal lease be submitted. Whilst some resolution was reached on other sites, the problems around Rio Hato remained, only being fully resolved after President Arias Madrid was removed in 1941<sup>49</sup>.

Panamanian politicians seized upon the expansion of Rio Hato as a violation of treaty provisions, perhaps with some justification, claiming that the expanding base had been built on the strength of a private lease, rather than via government-to-government agreements. The nationalist protest was picked up by the local press, and some minor acts of sabotage were reported at Rio Hato, where local Panamanian citizens demanded unfettered access. The publicity was said to have ended any idea that Axis agents known to be at large in Panama might have missed the expansion of a “secret” base 80 miles (128.7 km) to the west of the Canal Zone.<sup>50</sup>

In addition to USAAC operations, an Army training camp and firing range was established at Rio Hato in early 1942, and the Rio Hato Gunnery Camp was established for practice firing of anti-aircraft guns in 1941.

In due course the negotiations for the lease of Rio Hato would eventually lead to a procedure for the acquiring of additional defence sites by the US military.<sup>51</sup>

Rio Hato Army Air Base did not close immediately in 1946 when the bomber squadrons based there were deactivated. At that time, it also was home to the 23<sup>rd</sup> Tow Target Squadron, 4<sup>th</sup> Tactical Reconnaissance Squadron, 414<sup>th</sup> Night Fighter Squadron, and the 319<sup>th</sup> Fighter Squadron. The Caribbean Air Command, the successor to the Sixth Air Force, began withdrawing these Rio Hato units and transferring them to other stations in

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<sup>48</sup> See <http://raytodd.blog/2022/10/31/panama-the-wartime-president/> for more on the Arias Madrid administration.

<sup>49</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

<sup>50</sup> American Aviation Historical Society Journal, Winter 2016.

<sup>51</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>



December 1947. Rio Hato Army Air Base was returned to the Government of Panama in February 1948, when the US forces were compelled to withdraw from all the defence sites outside the Canal Zone. A 1955 treaty later allowed the US forces access to Rio Hato again, but only until 1970, when the Torrijos government refused to renew the 15-year lease.

### **PANAMA AIR DEPOT (PAD)**

Originally known as the Curundu Project, the Panama Air Depot was initially developed by the Panama Canal Commission as an industrial area, with motor car repair workshops and a garage, the district quartermaster stores, construction quartermaster workshops, municipal division workshops and storage facilities. Initially, PAD was not actually a part of Albrook Field but, rather, an installation on the Curundu Military Reservation.

An air depot had originally been located at France Field from 1928, but in 1931 it was proposed to relocate it to the Pacific end of the Canal at Albrook Field, where housing, supply facilities and climate were seen as more favourable. However, funding was not available at the time, but in 1934 the Secretary of War approved the move (despite objections from the commander of the 19<sup>th</sup> Wing, who recommended that it remain at France Field). However, in 1937, the move had not taken place.

In 1936, it had 80% military personnel, this reducing gradually to 50% by 1946<sup>52</sup>. The only other such organisation in the region was the Puerto Rico Air Depot.<sup>53</sup>

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<sup>52</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/1-50/AFD-090602-096.pdf>

<sup>53</sup> *P-38 in Latin America* by Dan Hagedorn (Aviation Art & History, 2022).

The PAD had been a separate command of the Army's Panama Canal Department since 1936<sup>54</sup>, and in 1937 a reorganisation saw it come under the supervision of the 19<sup>th</sup> Wing, though it continued to operate as a separate command of the Department.<sup>55</sup>

In 1939, was reassigned under the jurisdiction of Albrook Field, and then had around 700 civilian employees. Its roles were to store and supply USAAC supplies, and provided maintenance and repair facilities for all aircraft in the Canal Zone. As well as repairs and modifications, PAD also assembled newly-arrived aircraft.

The old warehouses at France Field remained full of supplies in 1939, and the new buildings planned at Albrook Field were not completed, and the main supply warehouse at France Field was at risk of being flooded in heavy rains. Another problem faced at the time was the low morale of its civilian employees, who were paid less than other employees of the Panama Canal Department – though this was remedied in December 1939, when their pay was put on the same scales as other Department employees. Meanwhile, the move to total civilianising of PAD continued.<sup>56</sup>

During the war, a large hangar, begun in September 1940, was constructed at Albrook Field to house PAD, accompanied by many ancillary buildings that eventually constituted the PAD. The main hangar remained, for many years, the single largest structure in all Central America and the Caribbean. By November 1940, 95% of the PAD buildings had been completed.

On 27 September 1943, PAD became administratively an independent station, although it was always thought of as a part of Albrook Field. Quarters for military personnel and the significant number of civilian technicians needed to operate the PAD became a problem,

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<sup>54</sup> Previously it had come under the commanding officer at France Field.

<sup>55</sup> *Air Defense of the Panama Canal, 1 January 1939 – 7 December 1941* (Army Air Forces Historical Office), January 1946: <https://www.afhra.af.mil/Portals/16/documents/Studies/1-50/AFD-090602-096.pdf>

<sup>56</sup> Ibid.

as housing of any kind for such personnel in the Canal Zone was in short supply. The problem had become so critical by October 1941 that practically all of the civilian employees recruited from the US to work at the PAD had resigned and returned to the US because of totally unsatisfactory living conditions. Funds were eventually made available and, by August 1942, and PAD had 332 apartments available for civilian personnel, but this was barely adequate to meet the needs.<sup>57</sup>

It was transferred to the Panamanian Government on the so-called “Treaty Day”, the 1 October 1979, with the last of the PAD area being transferred in 1982<sup>58</sup>.

### **THE NEED FOR ADDITIONAL AIRFIELDS IN PANAMA**

In 1941, the commander of the Caribbean Air Force pressed for the completion of nine auxiliary airfields in the Republic. Technically, the Quartermaster Corps was still responsible for the construction, but the Constructing Quartermaster was over-extended and the US Army Corps of Engineers insisted that its engineers be allowed to complete the work. Therefore, beginning in March, two companies of the 11<sup>th</sup> Engineers Battalion were assigned to work on the airfields, assisted by the 805<sup>th</sup> Engineer Aviation Company. Their goal was to accomplish as much work as possible before the start of the rainy season (which normally last from May to December). By June 1941, six emergency landing strips

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<sup>57</sup> Journal of the American Aviation Historical Society, Spring 2005.

<sup>58</sup> *An American Legacy in Panama: a Brief History of the Department of Defense Installations and Properties, The Former Panama Canal Zone, Republic of Panama* (US Army South (USARSO) Panama):

<https://ufdc.ufl.edu/AA00022175/00001/1?search=pad>

“Treaty Day” saw the entry into force of the 1977 Panama Canal Treaty, with Panama gaining jurisdiction over the former Canal Zone. It was also the first day of operations of the Panama Canal Commission, the new agency of the US Government responsible for managing, operating, maintaining and improving the Canal until 31 December 1999, when it was the role was handed over to Panamanian authorities. A former US Southern Commander-in-Chief assumed the position of Canal Commission administrator for the 10-year period, with a Panamanian as deputy administrator. The Panama Canal Company and Canal Zone Government had ended operations the previous day:

<https://www.pancanal.com/eng/ctransition/milestones.html#:~:text=September%2030%2C%201979%20%2D%20Final%20day,signed%20on%20September%207%2C%201977.>

were graded and ready to receive aircraft<sup>59</sup>, and two auxiliary fields — at Aguadulce and Chame — were also under construction<sup>60</sup>.

In June 1941, the Air Corps News Letter reported that –

*“Portable landing mats to permit the use of all sorts of unprepared fields within the theater of operations are being developed for the Army Air Forces by the Corps of Engineers, the Under Secretary of War disclosed this month...It is reported that the Panama Canal Department wants a heavy landing mat for use with heavy traffic on auxiliary fields, in the event that tactical operations require this traffic. Some fields which are suitable for use by lighter types of aircraft could not be used by heavier craft without reinforcement of this type”.*<sup>61</sup>

Aside from Rio Hato, various other airfields or airstrips would be established in the Republic during the war, including –

- Aguadulce Aerodrome – established at Aguadulce (“Sweetwater”) in Coclé Province on the Pacific coast and to the west of Panama City. It was established on 1 April 1941 and played host to various bomber units and P-40 fighters. The Brazilian Air Force fighter unit that trained in (and formed part of the defences of) Panama were based here. At the end of the war, it was reduced in scope, with only a skeleton staff, and finally closed on 1 March 1948, as the US military withdrew from bases in the Republic. For several years afterwards it was used as a civil airport, but was later closed, and abandoned, with the runway still visible but in poor condition;<sup>62</sup> although in 2020 it was said to be still in use;

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<sup>59</sup> *Leading the Way: The History of Air Force Civil Engineers 1907-2012* by R. Christopher Goodwin & Associates Inc on behalf of the Air Force Civil Engineering Support Agency, 2012: <https://media.defense.gov/2015/Apr/02/2001329844/-1/-1/0/AFD-150402-022.pdf>

<sup>60</sup> [https://history.army.mil/html/books/010/10-6/CMH\\_Pub\\_10-6.pdf](https://history.army.mil/html/books/010/10-6/CMH_Pub_10-6.pdf)

<sup>61</sup> Air Corps News Letter, Vol. XXIV, No 11, June 1 1941. Remnants of these mats can still be seen in some places in Panama, particularly in the more remote areas, having been “rescued” and recycled for other uses by farmers, landowners etc.

<sup>62</sup> Although in 2020 it was said to be still in use.

- Anton Army Airfield, an auxiliary to Howard Field.<sup>63</sup> It was located in Coclé Province on the southern coast, near the Pacific entrance to the Canal and Panama City, and close to Albrook Airfield. During the war it hosted P-40 fighters and A-17 attack aircraft until 1943;
- Calzada Larga (“Long Causeway”) – later renamed Madden Airfield (see below);
- in the province of Panama, which was used 1942-44, including for the training of glider transport pilots<sup>64</sup>;
- Chame Army Airfield, aka Airdrome or Chame Airfield #1, in the province of Panama Oeste and used as an auxiliary of Howard Field 1942-45.<sup>65</sup> It was 2.5 miles (4 km) inland from Panama Bay, and 42 miles (67 km) from Panama City<sup>66</sup>;
- David Army Airfield (aka San Jose Field)<sup>67</sup>, another auxiliary of Howard Field but located in the far east of Panama, near the city of David Sur in Chiriqui Province, near the Costa Rican border, and built by the US under the 1941 agreement for bases outside the Canal Zone, with bomber units based there until 1945. The original runway (surfaced with sod) was later replaced by a new, asphalt one. It was used mostly for training and as a base for patrol missions over the Pacific approaches, from Honduras to Peru in the south, with B-18 Bolo, B-17 Flying Fortresses<sup>68</sup> and LB-30 and B-24 Liberator bombers;
- La Chorrera Army Airfield, on the southern side of the Canal, associated with Albrook Field and later Howard Army Air Base, with mainly fighter units being based there 1941-44. It was about 40 miles (64 km) from Balboa, the “capital” of the Canal Zone. It consisted of an emergency fighter airfield with hard runways, and was used for dispersal and overflow. It was occupied for a short time in 1944

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<sup>63</sup> This airfield no longer exists.

<sup>64</sup> This continues to exist as Calzada Larga Airport, a general aviation airport for the town of Caimitillo. See later reference to the Striking Force, which included glider landing troops.

<sup>65</sup> This still exists.

<sup>66</sup> In 2021, the 1,200-foot (366 metres) runway and a hangar converted into a residence was advertised for sale as a “pilot’s paradise”: [https://regionpanama.com/estate\\_property/chame-airport-home-with-hangar-id-cc-10-cha4/](https://regionpanama.com/estate_property/chame-airport-home-with-hangar-id-cc-10-cha4/)

<sup>67</sup> Now the Enrique Malek International Airport.

<sup>68</sup> An accident recorded there, on 13 July 1943, saw 12 airmen die when their B-17 stalled and crashed on approach: <https://pacificwrecks.com/airfields/panama/david/index.html>

by the Navy, who set up stick portable stick masts, together with special helium equipment to service submarine patrol blimps. The station was officially disestablished in November 1945<sup>69</sup>;

- La Joya – to the north-east of Panama City, and having two airstrips, it was an expanded former emergency landing field used as landing field for fighter units;
- Madden Army Airfield, established in 1944 in the province of Panama and used as a base for fighters, with the intended role of defending the Madden Lake and Dam (which were part of the reservoir arrangements to main water levels for the Canal). The 29<sup>th</sup> Pursuit Squadron<sup>70</sup> moved from Albrook Field to become the first to be based at what was originally called Calzada Larga Airfield (being later named Madden Field).<sup>71</sup> It was also used 1942-44, including for the training of glider transport pilots<sup>72</sup>;
- Paitilla Point Army Airfield, also established in 1944 and overlooking Panama Bay on the Pacific, this was another base for fighters for the defence of the Canal; and
- Pocri Army Airfield (aka Pocri Auxiliary Aerodrome), like others, this was established in 1944 as a P-39 fighter base and an auxiliary to Howard Field<sup>73</sup>. It was located on the Azuero peninsula on the eastern edge of Panama Bay (and is now covered in housing).

Other sites included –

- Garachiné on the Pacific coast in Darién Province<sup>74</sup>;

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<sup>69</sup> [https://www.ibiblio.org/hyperwar/USN/Building\\_Bases/bases-18.html](https://www.ibiblio.org/hyperwar/USN/Building_Bases/bases-18.html)

<sup>70</sup> Redesignated as the 29<sup>th</sup> Fighter Squadron on 15 May 1942.

<sup>71</sup> In August, a detachment was deployed to Peru. In January 1943, the squadron began reequipping from the P-40 to the P-39K Airacobra. In October, a flight was detached to operate from Aguadulce Army Airfield.<sup>71</sup> In March 1944, the squadron left Panama and moved to the US. From May 1942 to march 1944, the renamed 29<sup>th</sup> Fighter Squadron flew the USAAF A-24 version of the navy's SBD Dauntless dive-bombers on anti-submarine patrols.

<sup>72</sup> This continues to exist as Calzada Larga Airport, a general aviation airport for the town of Caimitillo.

<sup>73</sup> It no longer exists, having been built over.

<sup>74</sup> Here, the Army had made a "trail" to the site to determine its feasibility.

- Jaque<sup>75</sup> - originally an emergency landing field, was located at Piñas Bay in Panama Province, approximately 30 miles (48 km) north-west along the Pacific Coast from the Colombian border;
- Mandinga - on the Caribbean coast, 75 miles (120.7 km) west of Coco Solo, a lighter-than-air (LTA, in other words, airship or blimp<sup>76</sup>) base was established by the Navy in 1944, for use in aerial patrols of the eastern approaches of the Canal. It was constructed by the Army on land leased from the Panamanian Government, and the airfield transferred to the Navy in February 1944. It comprised three asphalt strips, 3,000 by 150 feet (914.4 x 45.7 meters), which had been used by the Army as an emergency fighter field. Fuel was stored in drums, and a few temporary buildings were set in land cleared from the jungle<sup>77</sup>. From January 1944, jungle was cleared by Seabees and a portable mooring mast, helium-storage building, and a small radio station were erected. However, in August 1944, the blimp and its equipment were transferred to Barranquilla on the coast of Colombia, Colombia, and the Navy vacated the site, which was returned to the Army<sup>78</sup>;
- La Lajas on the Pacific coast in Chiriqui Province; and
- Changuinola on the Caribbean coast in the banana-growing region of the province of Bocas del Toro near the Costa Rican border<sup>79</sup>; and

Emergency fields including –

- La Mesa;
- the Patilla Point commercial airport;

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<sup>75</sup> Originally an emergency field, it was one of 12 sites the US sought to retain postwar under the abortive Filos-Hines Agreement: <https://www.panamaviejaescuela.com/rechazo-convenio-filos-hines> This agreement would have seen the US retaining bases on or at Taboga, San José, Taboguilla, Isla Salud, and Isla del Rey, Jaqué, Pocrí, Punta Mala, San Blas, Isla Grande, Victoria and Las Margaritas for 10 years; and for 15 years the base in Rio Hato.

<sup>76</sup> Strictly speaking, a non-rigid airship, lacking an internal structural frame or keel and relying on the pressure of their lifting gas to maintain their shape. The iconic Goodyear blimp, as seen at sporting events etc in the US in a modern example of the form.

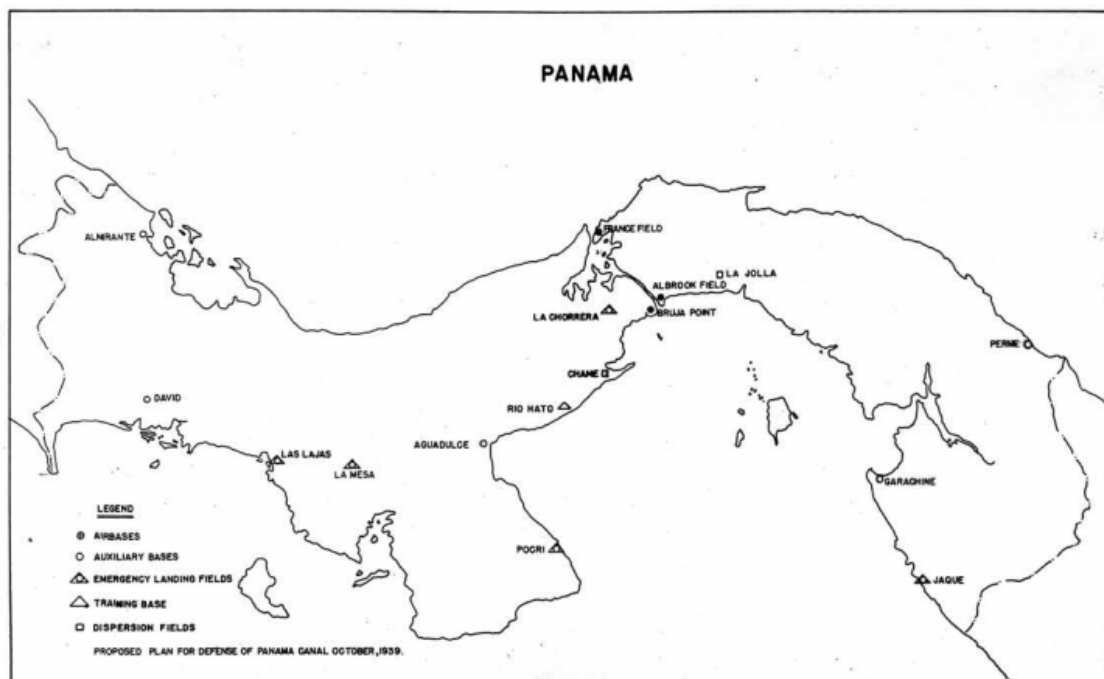
<sup>77</sup> [https://www.ibiblio.org/hyperwar/USN/Building\\_Bases/bases-18.html](https://www.ibiblio.org/hyperwar/USN/Building_Bases/bases-18.html)

<sup>78</sup> Ibid.

<sup>79</sup> Which had fallen into disuse over the preceding two years.

- Almirante on the Caribbean coast near to Costa Rica in the banana-growing region of Bocas del Toro Province<sup>80</sup> (and where a refuelling base for PT Boats was established in 1943);
- Perme in the San Blas islands off the Caribbean coast of eastern Panama ; and
- Puerto Mensabe in the Las Tablas district and the Pacific coast of Los Santos Province on the Azuero Peninsula.

Of course, the airfields established in the Republic would also be accompanied by the necessary defences, including anti-aircraft guns and positions to defend against attacks on the ground. In the US Army terminology of the time, the secondary or dispersal airfields were known as “Aerodromes” or “Auxiliary Aerodromes”.



*This map shows the locations of Airbases, Auxiliary Bases, Emergency Landing Fields, Training Bases and Dispersion Fields (a total of 16) of the 53 Sixth Air Force stations completed and used through the area of Caribbean responsibility by the end of the war. This map makes clear that the Isthmus of Panama actually runs east-and-west, and that the Atlantic (Caribbean) entrance of the Canal, near France Field, is actually farther west than the Pacific terminus near Bruja Point (which became Howard Field). Rio Hato is almost dead-center on the south coast and, in the circa 1940 map, is still designated as a Training Base. (USAFHRA)*

<sup>80</sup> Having been built by the United Fruit Company for the export of bananas.



## MOVES TO ACQUIRE ADDITIONAL AIRFIELDS IN THE REPUBLIC OF PANAMA

### 1: PRIOR TO THE ARIAS ADMINISTRATION

In the Spring of 1931, the Chairman of the US House Military Affairs Committee carried out an inspection of the Panama Canal Department, and indicated the need for additional airfields in the Republic. Following a survey of potential sites, in February 1933, the War Department notified the State Department of the military requirement for landing fields in the Republic<sup>81</sup>. Seven sites were identified<sup>82</sup> –

- Belén on the Caribbean coast in Colón Province;
- Jaque and La Palma in the Darién Province near the Colombia border;
- Puerto Mensabe in Los Santos Province;
- Almirante in Bocas del Toro Province; and
- Mandinga and Perme in San Blas Province<sup>83</sup>.

Accordingly, the US Minister to Panama<sup>84</sup> informed the country's foreign affairs minister. The Panamanian Government responded that it was open to make public land available, and it also had no object to the US Army entering into agreements for use of private land. The only condition was that any of the landing fields involved should also be available to Panamanian official and private aviation.

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<sup>81</sup> The formal diplomatic channel between the US and Panamanian Governments was through the State Department.

<sup>82</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

Note the exclusion of Rio Hato, for obvious reasons, it already being in active and regular use. However, its exclusion from the first list would cause difficulties later.

<sup>83</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

<sup>84</sup> Until the 1936 Treaty provisions took effect, the US representative in Panama was not an Ambassador, but was described as the "Envoy Extraordinary and Minister Plenipotentiary". As a result of the (eventual) ratification of the 1936 Treaty, on 14 July 1939, his status was upgraded to that of an Ambassador, as an "Ambassador Extraordinary and Plenipotentiary".

Under Article II of the 1903 Treaty, which remained in effect pending the 1936 Treaty changes coming into effect, the formal procedure should have been for the Governor of the Canal Zone to notify the President of Panama that certain defined areas were required, and the President would issue the necessary decree. As it was, all the sites involved were on private land and so no formal agreement between the two governments was needed. An example of the informal nature of the acquisition of these landing fields was at Jaque, where the landowner received \$600 for use and maintenance of the site, using land which he in turn had leased from the Panamanian Government.

In January 1939, the War Department notified the Panama Canal Department that \$200,000 had been made available under the Air Corps Augmentation Program, and in February, the Department supplied the War Department with a list of 10 sites –

- Rio Hato – privately owned;
- Jaque – privately leased from the Panamanian Government;
- Almirante – privately owned;
- Perme – where there is no surviving record of ownership;
- La Chorrera – owned by the Panamanian Government;
- La Joya – privately owned;
- Poci – owned in large part by the Government;
- Garachine - where there is no surviving record of ownership;
- La Mesa – owned by the Government; and
- Mandinga - where there is no surviving record of ownership<sup>85</sup>.

However, by early 1939 the airfield situation for the Panama Canal Department was considered as “critical”, with just Albrook and France Field in use (Rio Hato had not yet had necessary improvements carried out), plus the two commercial airfields in the Republic – Paitilla Point (but thought suitable only for emergency landings), and David.

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<sup>85</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

The Panamanian Government indicated at the time that it would be open to the US acquiring 999-year leases for certain sites (thus avoiding any question of a loss of sovereignty over the land)<sup>86</sup>. The Commanding General is said to have favoured this idea, it requiring no mention of governing treaties.<sup>87</sup>

The plan was to acquire the sites by using two instruments –

- one would grant the US full jurisdiction over the site without affecting Panama's sovereignty (with the Panamanian Government acquiring title from their owners),; and
- the second would be the actual lease.

The arrangements would also allow Panama to share the right to use of the airfields with the US. Any intruders apprehended by the US military would be turned over to the Panamanian authorities to be dealt with (and Panama should enact legislation to make such trespass a serious offence). However, the Secretary for War requested that the State Department take no further action until the question of rents had been settled.

A new Commanding General, recognising the importance of Rio Hato, made it clear in January 1940 that he wished the Rio Hato lease to be used as a model for the new sites.

The Commanding General and Governor agreed that the changes made by the 1936 Treaty did not affect the degree of jurisdiction the US wished to exercise over the sites in question. It was noted that the sites in question were said to be uninhabited, with therefore no Panamanians facing eviction or loss. The State Department, having previously expressed an opinion<sup>88</sup> that any lands leased by the US would come under its exclusive jurisdiction, reversed its position in May 1940, contending that any attempt to assert such exclusive jurisdiction would be strongly opposed by the Panamanian

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<sup>86</sup> The question of creating further mini "Canal Zones" would be a sticking point in subsequent negotiations with the Arias Administration, and would be a factor in the rejection of the 1947 agreement for the retention of some of the sites postwar.

<sup>87</sup> The 1936 revision of the original 1903 Treaty would take effect in 1939, with ratification on 27 July.

<sup>88</sup> In a note to the Treaty Commission in 1936.

Government. As a result, the War Department said it would impractical to insist on exclusive jurisdiction, and the draft model lease had to be revised again.

The revised draft was presented to the Panamanian foreign ministry on 16 July 1940, but the absence of a foreign minister meant it had to be resubmitted in August. However, by then Presidential elections had been held and the outgoing President was hesitant to commit the new administration to any definite proposals.

Meanwhile, an Emergency Landing Field Project Board, appointed by the Commanding General in September 1939, had submitted its findings, naming the sites required (but excluding Rio Hato, as that was already available and in used<sup>89</sup>) as –

- as auxiliary bases<sup>90</sup> - David (national airport), Chame, Aguadulce, Garachine<sup>91</sup>.
- as auxiliary airfields – Jaque, Pocri, La Lajas, La Chorrera, La Joya, Changuinola<sup>92</sup>.
- as emergency fields – David (a new site), La Mesa<sup>93</sup>.

On 9 October, with the European war having begun in the previous month, the War Department ordered the Commanding General by radio to take immediate action for preparation of the airfields. The Commanding General estimated that it would cost \$600,000 to improve the sites recommended by the Board. However, he and the US Government had not yet had to deal with the new administration of Arnulfo Arias Madrid.

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<sup>89</sup> In November, following unsatisfactory meetings with the President and foreign minister, Rio Hato was added to the list for the first time as among the airfield to be acquired by the US military.

<sup>90</sup> As noted earlier, in the US Army terminology of the time, the secondary or dispersal airfields were known as “Aerodromes” or “Auxiliary Aerodromes”.

<sup>91</sup> Here, the Army had made a “trail” to the site to determine its feasibility.

<sup>92</sup> Which had fallen into disuse over the preceding two years.

<sup>93</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

## 2. THE ARRIVAL OF THE ARIAS ADMINISTRATION IN 1940

Arnulfo Arias Madrid was inaugurated as President on 2 October 1940<sup>94</sup>. In his campaign he had made an anti-American, nationalist stance part of his appeal, and in his inaugural address he had complained that the US military had occupied Rio Hato and other sites in the Republic without having a binding agreement with the Panamanian Government.

Shortly after the inauguration, the foreign ministry received from the US Ambassador a list of no less than 71 defence sites, including 12 airfields, thought to be necessary for effective defence of the Canal. The Panamanian Government accused the US military with having occupied sites without proper authorisation and delayed its response. The foreign minister told the Ambassador that the new administration did not recognise any authority bestowed by an earlier regime, and that no definitive commitments could be made until the new President had reached a decision.

In November, the Ambassador and the Commanding General met the President and his foreign minister. The President expressing a willingness to cooperate with the US in the defence of the Canal and the Western Hemisphere; however, he also suggested their presence could invite an attack in the event of war<sup>95</sup>. The President also wanted to include the question of the defence sites as part of a wider settling of various outstanding matters<sup>96</sup>, while the US saw the defence sites question as being urgent, and that any delay could be dangerous. To avoid committing future administrations, the President suggested limiting any agreement to the term of the Presidency (which had been four years, although was increased to six years by Arias Madrid). The new administration was willing to extend any short-term lease by a further year, to allow time for an incoming

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<sup>94</sup> For more on Arias Madrid and his administration, see <http://raytodd.blog/2022/10/31/panama-the-wartime-president/> For more on the negotiations for the additional defence sites outside the Canal Zone, see <http://raytodd.blog/2022/10/08/panama-operating-outside-the-zone-the-1942-agreement-and-the-1947-row/>

<sup>95</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

<sup>96</sup> Such as the question of the commissaries, holdings of the railway, water and sewerage works etc.

administration to decide its policy on the matter. It was also proposed that either side could cancel a lease by giving a year's notice.

The one proposal acceptable to the Commanding General was that of establishing a joint commission for a formal inspection of proposed sites and to settle terms. On 16 December 1940, the first meeting of the Land Lease Board took place. At this first meeting it was made clear that the Panamanian representatives felt that the US Army could not be allowed to occupy the sites until the Panamanian authorities had visited them and determined ownership. However, in January 1941, the foreign minister informed the US Ambassador that the Government would authorise the US Army to begin preparations as soon as the two sides reached agreement on the general terms of the lease.

The Commanding General proposed an annual rental payment of \$18,661 for all the Army defence sites in the Republic – comprising a total of 30,644 acres (12,401 hectares), including 21,854 acres (8,844 hectares) for airfields, at \$50 per hectare for private land and \$5 for public land – making the total estimated value of all the sites as \$186,611 per year.

In January 1941, President Arias Madrid provided a list of 12 points, dealing with various grievances, which he wanted included part of the agreement on the proposed defence sites. This was forwarded to Washington, and the response on behalf of President Roosevelt was that –

- in view of the terms of the 1936 Treaty, Panama should transfer the necessary defence sites to the US;
- the transfers should be carried out swiftly because of the international situation;
- the US would be willing to consider the 12 points raised by Arias Madrid *after* the transfers had taken place; and

- the US would be unwilling to accept such preconditions as part of an agreement over the defence sites, it would be an “unbearable” position to accept such concessions as a price for its treaty partner meeting treaty obligations.<sup>97</sup>

On 5 March, the foreign ministry supplied the US Ambassador with a draft proclamation in which the President would allow the US to occupy the defence sites, on condition that this was merely for the duration of the European war, and that the US would vacate and pay compensation for use of the sites when it ended.<sup>98</sup> The War Department said that this was unacceptable, the Commanding General favouring a 10-year lease, rather than one limited to the duration of the European war. The State Department view was that the sites be made available for the duration of the “unforeseen emergency” referred to in the 1936 Treaty, or for as long as they may be needed for the defence of the Canal<sup>99</sup>. It also made clear that the US would not relinquish control over civil and military personnel, or their families, on- or off-duty, but that Panamanian sovereignty would not be affected. It conceded that anyone apprehended for a crime unconnected to trespass and safety and security of the defence site would be handed over to the Panamanian authorities for appropriate treatment.

### 3. OCCUPATION OF THE AIRFIELDS IN 1941

While the eventual Bases Agreement would not formally come into effect until May 1943<sup>100</sup>, in April 1941, the US Ambassador reported to the Commanding General an agreement for the US Army to acquire the airfields required.

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<sup>97</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

<sup>98</sup> This, in essence, would, of course, become the basis (and source of future disagreement in 1947-48) of the eventual Bases Agreement in 1942.

<sup>99</sup> It also made clear that the US would not relinquish control over civil and military personnel, or their families, on- or off-duty, but that Panamanian sovereignty would not be affected. The US did concede that anyone apprehended for a crime unconnected to trespass and that safety and security of the defence site would be handed over to the Panamanian authorities for appropriate treatment.

<sup>100</sup> See <http://raytodd.blog/2022/10/08/panama-operating-outside-the-zone-the-1942-agreement-and-the-1947-row/>

On 3 April 1941, Chame and La Chorrera became the first to be officially turned over to the US Army. This was followed by La Joya (4 April), David (5 April), Pocri and La Mesa (7 April), La Lajas (8 April), Aguadulce (9 April) and Jaque (12 April). With Rio Hato already occupied, there were now 10 airfields for the defence of the Canal strategically located in the Republic.

The Land Lease Board would handle all the necessary details for the transfers. However, there were still delays, disputes etc and, in July 1941, two new Boards replaced the original one – Joint Lease Boards Numbers 1 and 2. The first would examine a particular site and, if no objections were raised, the Army would move in. The second Board would then visit and complete the formal transfer pending the final lease being signed.

Rio Hato, unlike the other defence sites, was, of course, already in use by the USAAC under a 1938 private lease, renewable on an annual basis until 31 December 1942. Due to its importance, in June 1941, the War Department requested that it be formally transferred to the US control. However, it had been excluded from the original list of sites provided to Panama, and the latter's position was that specific authorisation would be required from President Arias Madrid; and the President's position was that Rio Hato was a special case and could not be included in the single lease agreement for the other sites<sup>101</sup>.

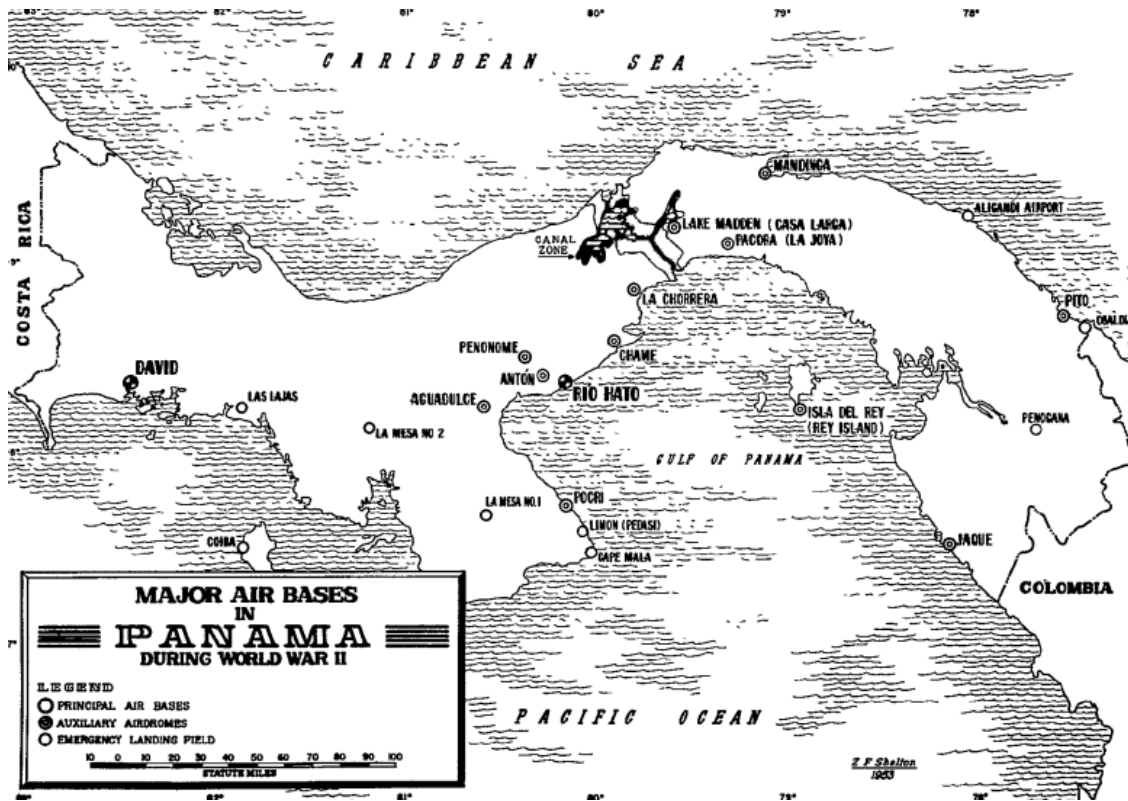
It would eventually take an agreement, amounting to a new treaty, between the US and Panama to finally settle the question of the additional airfields in the Republic<sup>102</sup>.

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<sup>101</sup> <https://www.afhra.af.mil/Portals/16/documents/Studies/51-100/AFD-090601-032.pdf>

<sup>102</sup> See <http://raytodd.blog/2022/10/08/panama-operating-outside-the-zone-the-1942-agreement-and-the-1947-row/>





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### OTHER AIRFIELDS ETC

Also having a presence in the Canal Zone was the Army Airways Communications System (AACS), a USAAF service which provided reliable long-range radio communications as the USAAC/USAAF began operations worldwide. It was also involved in navigational facilities, including radio guide beams and blind-landing electronic aids. In Panama, there was AACS Station WYYT at Rio Hato. This, and the nearby Station WYRF in Guatemala City, used Signal Corps cryptographers and, unable to replace them, the AACS retained and then absorbed them into its service.<sup>103</sup>

Of course, while the preponderance of air power in Panama and the Canal Zone belonged to the Army, there was also the naval aviation facility, with three aircraft hangars and a

<sup>103</sup> *The Signal Corps: The Test (December 1941 to July 1943)* By George Raynor Thompson, Dixie R Harris, Pauline M Oates & Dulany Terrett (Center of Military History, US Army, Washington DC), 2003

blimp hangar<sup>104</sup>, plus ramps for flying-boats<sup>105</sup>, at the Coco Solo submarine base near Colón<sup>106</sup>. A naval air station had existed on the site since 1918. Known as Naval Air Station Upham, during the war the base hosted USAAF P-38 Lightning fighters, as well as the flying-boats, and later landplane patrol bombers, of the Navy.

The facilities at Coco Solo in 1939 included a small landing field, three aeroplane hangars and a hangar for a blimp<sup>107</sup>, barracks, officer's quarters, three seaplane ramps<sup>108</sup>, and a few miscellaneous buildings. Further development of the station began in August 1940, with the approved plan contemplating expansion sufficient to serve seven patrol squadrons of flying-boats (as proposed by the Hepburn Board recommendations<sup>109</sup>). The original site, though limited, was regarded to be the most advantageous that could be found in the Canal Zone; and therefore, expansion at Coco Solo was advocated rather than construction of an additional base in another locality<sup>110</sup>.

The greatest single deficiency of the station was the lack of sheltered water for full-load take-off immediately adjacent to the base. There was a wide gap of open water between the eastern breakwater and Margarita Point, through which heavy ocean swells entered Manzanillo Bay, frequently making seaplane operations hazardous – and this was tackled

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<sup>104</sup> Blimps were non-rigid airships, which the Navy used for patrol and reconnaissance duties. Though used widely for anti-submarine duties off the US east coast and in the European theatre, as well as the Caribbean, no operations appear to have been conducted from Panama during the war.

<sup>105</sup> Coco Solo was an early base for examples of the famous PBY Catalina, with PBY-1 of US Navy squadron VP-3 in the mid- to late 1930s.

<sup>106</sup> The Coco Solo Naval Reservation was officially established by Executive Order in 1920. The air station originally occupied 185 acres of hard land, on the east side of Manzanillo Bay.

<sup>107</sup> A non-rigid airship used for naval patrols (see the Chapter on advance bases for a little more on the use of such blimps).

<sup>108</sup> The terms “flying boat” and “seaplane” are often used (as here) as if interchangeable. Seaplane is a more generic term that covers both flying boats (which have a boat hull, with or without floats) and floatplanes, which use floats to land and take off from water. An amphibian or amphibious flying boat also features a wheeled landing gear. Pure flying boats employed a wheeled trolley for launching and recovery from land. The famous PBY Catalina, for example, was originally a pure flying boat, while later versions were amphibians.

<sup>109</sup> Established in 1938 *“to investigate and report upon the need, for purposes of national defense, for the establishment of the additional submarine, destroyer, mine, and naval air bases on the coasts of the United States, its territories and possessions”*.

<sup>110</sup> The Navy also used Army facilities for the operation of its landplanes in the Coco Solo area

first. This involved closing the 3,800-feet (1,158 metres) gap in the Margarita breakwater, using coral and rock, armoured with pre-cast concrete blocks. It was built entirely from a temporary timber trestle, without the use of floating equipment other than the hydraulic dredge used for placing the foundation and core. The dredging involved also produced coral fill for the construction of new runways at the Army's nearby France Field.<sup>111</sup> In addition, the station also lacked sufficient hangars, ramps, parking aprons, housing, storage, and repair facilities.

At the air station itself, the work from 1940 saw three large steel hangars, four seaplane ramps, 700,000 square feet (65,032 square metres) of concrete parking area, engine test stands, and a large aircraft assembly and repair shop added to the operating area fronting on Manzanillo Bay. To make expansion possible, 30 acres (12.1 hectares) of beach was reclaimed, with a steel sheet-pile sea wall, 2,100-feet (640 metres) long, to enclose two edges of this reclaimed area<sup>112</sup>. Other work included new barracks, a bombproof command centre, an operations building, and a large administration building to house the administrative offices of both the air station and the adjoining submarine base. Also added were several large warehouses<sup>113</sup>.

Such was the inter-service rivalry, a wartime agreement had to be brokered in 1943 to allow the Navy to operate the land-based patrol bombers that were found essential for the patrol, convoy escort and anti-submarine roles<sup>114, 115</sup>.

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<sup>111</sup> [https://www.ibiblio.org/hyperwar/USN/Building\\_Bases/bases-18.html](https://www.ibiblio.org/hyperwar/USN/Building_Bases/bases-18.html)

<sup>112</sup> [https://www.ibiblio.org/hyperwar/USN/Building\\_Bases/bases-18.html](https://www.ibiblio.org/hyperwar/USN/Building_Bases/bases-18.html)

<sup>113</sup> [https://www.ibiblio.org/hyperwar/USN/Building\\_Bases/bases-18.html](https://www.ibiblio.org/hyperwar/USN/Building_Bases/bases-18.html)

<sup>114</sup> A conflict over the use of land-based aircraft dated from the late 1920s, when the US Navy began stationing torpedo-bombers at land bases in Hawaii and the Canal Zone. The resolution of the resulting dispute in 1928, described as “ambiguous” (leaving the question of responsibility for aerial coastal defence unresolved into the 1930s), authorised the Navy to base some strike aircraft ashore if the primary functions of these planes were scouting and patrol: but it also recognised the Army’s chief responsibility in resisting attacks on the coasts of the US and its possession: <https://media.defense.gov/2010/Sep/24/2001330068/-1/-1/0/AFD-100924-038.pdf>

<sup>115</sup> For much more on pre-war planning by the USAAC, including the inter-service rivalry with the Navy, see *Foulois and the US Army Air Corps 1931-1935* by John F Shiner (Office of Air Force History, USAF. Washington DC, 1983).

## AIRLINE FACILITIES AT ALBROOK FIELD

France Field served as the primary airfield for Pan American Airways until 1936, when commercial services moved to the recently opened Albrook Field, where a more serviceable runway was available<sup>116</sup>. Here was the so-called Canal Zone Airport Building which, for all intents and purposes, was a Pan American Airways operation.

Initially, Pan American set up at the northern end of the primary runway adjoining Hangar 1, but this location soon resulted in congestion and interfered with the growing USAAC operations, and so the airline opted to build its own temporary facilities on the east side of the site. These soon proved to be inadequate and approval was soon granted to use some discretionary funds (part of the Airport Development Program<sup>117</sup>) to erect a modern, permanent terminal building.

Approval for the new facilities was contingent upon consent from Pan American to lease part of the finished structure to other airlines operating into the Canal Zone. At the time, these consisted of only two airlines: rival TACA, operating up through Central America, and UMCA (Uraba, Medellin and Central Airways Inc), which was a wholly-owned Pan American subsidiary formed to penetrate the neighbouring Colombian market. In all its literature and in the actual route awards, Pan American listed the terminal on Albrook Field as “Balboa, Canal Zone”.

In early 1940, Pan American it flew one of its brand new, four-engine Boeing SA.307 Stratoliners<sup>118</sup>, the “*Clipper Flying Cloud*” to Albrook - and promptly offered excursions

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<sup>116</sup> <https://weaponsandwarfare.com/2019/11/18/panama-canal-zone-defences-ii/>

<sup>117</sup> This was secretly funded by the US Government, whereby the airline developed a string of airfields across Latin America before and after the US entry into the war, these then being available for both the airline and US military operations.

<sup>118</sup> Developed in parallel with its B-17 Flying Fortress, this was the first fully pressurised airliner to enter service, able to fly at an altitude some 20,000 feet (6,096 metres) higher than existing airliners. It carried

aboard the beautifully appointed aircraft to 30 officers and their wives from Albrook's complement.<sup>119</sup>

As Panama did not have an airport in Panama City and Colón, and cargo and passenger aircraft travelling to and from the Republic had to use Albrook Field in the Canal Zone. The same applied to aircraft on internal flights within the Republic, causing complaints from the Arias Madrid Administration. The state of emergency in 1939 brought in a series of procedures for the control of Panamanian passengers, who were confronted by both Panamanian immigration inspectors and US officials. Army or navy intelligence officials might also make meticulous examinations of luggage and/or passengers. Intelligence officials also subject passengers arriving from David on internal flights to questioning, which violated Article 40 of the Panamanian Constitution, which guaranteed free movement within the Republic. It was only after constant demands from the Panamanian Government that these measures were relaxed by order of the Governor of the Canal Zone. The passengers also had to comply with Canal Zone quarantine rules, which was in contradiction to their status as Panamanian citizens.

When construction began on the new Pan American terminal, the Panamanian Government objected, saying that treaty provisions meant that the us aerodromes for civilian purposes in the Canal Zone was not permitted. The State Department maintained that Pan American, despite being a private company, was not exclusively involved in commercial matters, given that its services and facilities were used by the US forces *"in the interest of the defense and security of the hemisphere"*. It was also argued that the new building at Albrook Field was needed as soon as possible, and that *"the strategic geographical locations of the Isthmus of Panama, the progress made in the methods of modern warfare, and the recent expansion of the theatre of war have made it increasingly*

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five crew members and 33 passengers and was the first land-based airliner to have a flight engineer as a member of the crew.

<sup>119</sup> Journal of the American Aviation Historical Society, Spring 2005 and Fall 2009.

necessary to increase the controls of the aviation system in order to govern the entry, interior navigation and departure from the Isthmus of military and civil aircraft”.

When the Panamanian Government argued that the new building should only be temporary, for use during the “emergency”, the US Secretary of State stated that while no-one could be sure what the postwar situation would be, it was considered that an administrative building at Albrook Field would be “*always necessary as a measure of military preparation*”.

AIR BASES ACQUIRED UNDER THE DEFENSE SITES AGREEMENT OF 18 May 1942 \*

<u>NAME OF SITE</u>	<u>FORMALLY REQUESTED</u>	<u>OFFICIALLY AUTHORIZED</u>	<u>OCCUPATION DATE</u>	<u>TOTAL AREA (Hectares)</u>	<u>PRIVATE LAND</u>	<u>PUBLIC LAND</u>	<u>APPRAISED VALUE</u>	<u>ANNUAL RENT PAID BY US</u>
La Chorrera # 1	11 Oct 1940	-----	3 Apr 1941	75.06	29.54	45.52	1501.20	1477.00
La Chorrera # 2	17 Jan 1942	-----	27 Nov 1941	1180.94	957.47	223.47	23618.88	47873.50
Chame # 1	11 Oct 1940	3 Apr 1941	16 Apr 1941	142.65	74.40	68.25	2853.00	3220.00
Chame # 2	17 Jan 1942	17 Jan 1942	22 Jan 1942	359.15	143.95	215.20	3591.50	7197.50
La Joya # 1	11 Oct 1940	4 Apr 1941	10 Jan 1942	143.93	143.93	00.00	19761.45	65114.50
La Joya # 2	17 Jan 1942	17 Jan 1942	15 Jan 1942	404.98	404.98	00.00	8678.72	20249.00
La Joya # 3	17 Jan 1942	17 Jan 1942	7 Jan 1942	565.76	565.76	00.00	10183.63	28288.00
David # 1	11 Oct 1940	-----	5 Apr 1941	43.30	40.09	3.27	2598.00	2001.50
David # 2	21 Jan 1943	5 Nov 1943	15 Jan 1942	265.84	212.24	53.60	15950.40	10587.50
David # 3	13 May 1943	5 Nov 1943	11 Dec 1941	239.88	152.01	87.87	14392.80	7600.50
David # 4	2 Feb 1943	5 Nov 1943	1 Jan 1943	93.33	30.96	62.37	5599.80	1548.00
Poerti	11 Oct 1940	7 Apr 1941	7 Apr 1941	149.69	14.62	135.07	2634.54	731.00
La Mesa	11 Oct 1940	7 Apr 1941	7 Apr 1941	196.15	00.00	196.15	2353.80	00.00
Las Lejas	11 Oct 1940	9 Apr 1941	9 Apr 1941	232.20	232.20	00.00	2786.40	00.00
Aguadulce # 1	11 Oct 1940	-----	9 Apr 1941	94.08	76.72	17.36	1554.20	3836.00
Aguadulce # 2	20 Dec 1941	-----	8 Apr 1942	597.98	320.37	277.61	9878.63	16018.50
Jaque	11 Oct 1940	12 Apr 1941	12 Apr 1941	139.99	00.00	139.99	249.85	448.00
Rio Hato	26 Aug 1940	-----	1 Jan 1943	7675.96	7675.96	00.00	59181.65	10000.00
Rio Hato (Addn)	9 Oct 1943	15 Oct 1943	7 Dec 1941	12.32	12.32	00.00	1232.00	616.00
Mandinga	17 Jan 1942	17 Jan 1942	20 Jan 1942	783.36	00.00	783.36	3681.79	00.00
Madden Field	17 Jan 1942	17 Jan 1942	15 Jan 1942	215.54	215.54	00.00	2155.40	10777.00
Madden Field (Addn)	8 Jul 1942	15 Jul 1942	16 Jul 1942	408.10	408.10	00.00	4081.00	20405.00
Anton	17 Jan 1942	17 Jan 1942	5 Feb 1942	304.92	238.63	66.29	6098.40	11931.50
Penonome	17 Jan 1942	17 Jan 1942	5 Feb 1942	440.61	273.74	166.87	6521.03	13687.00
Ray Island	17 Jun 1942	22 Jun 1942	22 Jun 1942	83.38	00.00	83.38	1250.70	00.00
Pito Airport	19 Nov 1942	11 Dec 1942	15 Jun 1942	196.77	00.00	196.77	4919.25	00.00

\* The material contained in this Chart has been taken from  
PCD Historical Study, Acquisition of Land, Panama Canal  
Department, Oct 1945, Appendix B and B-1.  
1 On 4 Sept 1941, this land was sold to a private owner; however,  
before this transaction took place, the Panamanian Government had  
authorized the Army to use it at no charge. This arrangement  
continued in effect under private ownership.

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Lay Todd  
Panama City  
Republic of Panama  
3 January 2023

