The World War II Heritage of Ladd Field, Fairbanks, Alaska

Prepared by

Kathy Price

Edited by

Glenda Lesondak

For the

Center for Environmental Management of Military Lands
Colorado State University
Ft. Collins, CO 80523

and Conservation Branch
Directorate of Public Works
U.S. Army Garrison Alaska

May 2004
CEMML TPS 04-07

Table of Contents

1.0 Introduction 1
Purpose of the Project 2

2.0 HISTORICAL OVERVIEW OF LADD FIELD 5

3.0 AIRFIELD FACILITIES 11
Original Plans and Construction 11
Wartime Expansion 15
Construction Challenges 16

4.0 COLD WEATHER TEST 21
History of the Testing Program 21
Testing Activities 29

5.0 ALSIB LEND-LEASE AND THE AIR TRANSPORT COMMAND 35
Lend-Lease Overview 35
Lend-Lease Operations at Ladd 37
International Cooperation... 40
...And International Intrigue 42
Russians in Fairbanks 44
Other Air Transport Command Activities 46

6.0 SUPPORT 51
4th Infantry 51
Alaska National Guard 52
Base Operations 53
Coast Artillery/Arkansas National Guard 53
Communications 54
Depot Organizations/6th Air Depot Group 57
Engineers 59
Medical and Veterinary 60
Quartermaster Corps 61
Search and Rescue 62
Weather 65
Women's Army Corps 66
Other Military Units 71
Civilian Efforts 71

7.0 LIFE AT LADD FIELD 75
Military Quarters 75
Civilian Housing 78
Clothing 79
Entertainment and Recreation 81
An Influx of People 87

8.0 LADD FIELD NATIONAL HISTORIC LANDMARK 89
The National Register and National Historic Landmarks 89
Ladd Field NHL 90
Ladd Field NHL and the Cold War Historic District 91

9.0 CONCLUSION 93
Acknowledgments 95
Bibliography 97

APPENDICES
A: Ladd Field NHL Contributing Buildings 103
B: Acronyms and Abbreviations 113
C: National Historic Landmarks Associated with the War in the Pacific 115
D: Ladd Field Plot Plans, 1942 and 1946 117

LIST OF FIGURES

Cover photo: Cold Weather Test Detachment Fighter Section officers pose in front of P-38 at Ladd Field, ca. 1944. Left to right, Capt. Hubbard, Lt. Montgomery, Capt. Champion, Capt. Aubrey, Maj. Allerdice, Capt. Grazier, Capt. Acord, Lt. Rockerbrond, Lt. Anderson. Courtesy Randy Acord.
Figure 1. Parade ground, Ladd Field, 1945 3
Figure 2. Maj. Ladd 6
Figure 3. Brig. Gen. Dale V. Gaffney 8
Figure 4. Ladd Field operations area ca. 1941 12
Figure 5. NCO quarters as they appear today 12
Figure 6. Hangar One, ca. 1942 12
Figure 7. Constructing Quartermaster's party arriving in Fairbanks 13
Figure 8. Ladd under construction, ca winter 1940-41 13
Figure 9. North Post and runway, ca. 1942 13
Figure 10. Detail, Rex Wood panoramic photo, ca 1944 16
Figure 11. Hangar One with B-17E, June 1942 18
Figure 12. Hangar One under construction, ca winter 1940-41 22
Figure 13. Ladd officers posing with Commanding General, ... 23
Figure 14. CWTD Fighter section crew, ca. 1944 27
Figure 15. Fighters in front of the CWTD's T-Hangar 27
Figure 16. CWTD ground equipment test area, east side of Hangar One 29
Figure 17. P-38 readied for flight 29
Figure 18. Emergency rations 31
Figure 19. Explorers and CWTD officers at Ladd, ca. 1942-43 32
Figure 20. Parka Test 32

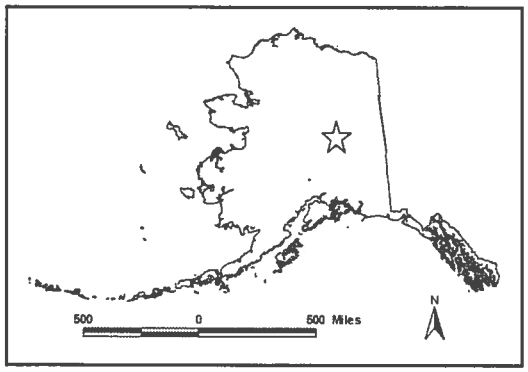
Figure 21. 5,000th aircraft delivery at Ladd Field, Sept. 1944 35
Figure 22. Russian pilots' briefing room, Hangar One 38
Figure 23. Early in the program, the Soviet red star was painted on the aircraft at Ladd 39
Figure 24. A B-17 taxis between two rows of Lend-Lease aircraft, ca 1944 40
Figure 25. Russian interpreter Natalie Fenelova assists two mechanics 41
Figure 26. Russian airmen shop in Fairbanks 45
Figure 27. Russian airmen, American servicemen and townspeople 46
Figure 28. Published portrayal of ATC routes, 1944 46
Figure 29. Loading a C-47 Skytrain 47
Figure 30. Warehouse operation 47
Figure 31. Vice President Henry A. Wallace dines at Ladd Field, July 1944. 49
Figure 32. Officers at 4th Infantry building, Ladd Field, May 1941 51
Figure 33. Maj. Hobart Murphy, CO of 4th Infantry at Ladd 52
Figure 34. Lts. Dunphy and Rager in Co. L's boat 52
Figure 35. Left to right, Lt. Dunphy, Lt. Dennison, east of Ladd Field, winter 1940-41 52
Figure 36. Antiaircraft emplacement, May 1942 54
Figure 37. Entrance to Signal Corps office, ca 1944 (Bldg 1562) 55
Figure 38. Radio transmitter building with signal array 56
Figure 39. Helen Baker Bowles featured in Western Construction News 60
Figure 40. Post Engineer offices, 1945 60
Figure 41. Hospital/barracks, today's bldg 1555, ca. 1943 61
Figure 42. Nurses quarters, Bldg 1021, as it appears today 61
Figure 43. Kennel area, post-war 61
Figure 44. Quartermaster building, now 1562 62
Figure 45. Lt. Milton Ashkins 64
Figure 46. Ladd sled dog, ca. 1941 64
Figure 47. Russian weather officer reading decoded weather report from Siberia 65
Figure 48. Ladd Field weather office ca 1943 65
Figure 49. WACs arrive at Ladd Field. Note Arctic clothing being worn or carried. 67
Figure 50. WAC sergeant and cooks celebrate a birthday, June 1945 68
Figure 51. Audrey Virden and unidentified Sgt Major, Personnel 68
Figure 52. WAC driver and dispatcher 68
Figure 53. WAC barracks 1945, south elevation facing Marks Road 69
Figure 54. WAC barracks interiors. Clockwise from top left: enlisted bay, day room, ... 69
Figure 55. Off duty time 70
Figure 56. Waiting for the bus in the 300 area 70
Figure 57. Verna R. Buckner and unit mascot "Chena" 70
Figure 58. WACs in Army parkas. 70
Figure 59. WAC squadron passing in review in front of Hangar One, August 10, 1945 70
Figure 60. Military and civilian staff, Signal Corps film library 71
Figure 61. Power plant ca 1944 72
Figure 62. Junior officers' cabin, ca 1940-1941 75
Figure 63. Pacific huts with connecting wood frame building, Zone 100 77
Figure 64. Quonset or Pacific hut barracks interior snapshot 77
Figure 65. Inside Russian NCO quarters 78
Figure 66. Russian and American enlisted men in chow line 78
Figure 67. Aerial view looking east June 1945 79
Figure 68. Gaffney attired in a DVG 80
Figure 69. Ladd Field permanent pass, courtesy Augie Hiebert 82
Figure 70. Contractor pass, courtesy Kenneth Bailey 82
Figure 71. WACs and dates at NCO club, 1945 83

Figure 72. Carnival photo, Ladd Field Midnight Sun 83
Figure 73. WAC softball team, July 1945. Because there were few women's teams 83
Figure 74. 557th AAF Band plays at a War Bond rally in Fairbanks, spring 1945 84
Figure 75. North Post Chapel, ca. 2000 85
Figure 76. *Midnight Sun* headlines collage, fall 1944 86
Figure 77. Seder service, 1943 87
Figure 78. Cover of soldier's pocket guide 87
Figure 79. Ladd decal 93

LIST OF MAPS

Map 1. Location of Ladd Field, now Ft. Wainwright 1
Map 2. Original Ladd Field in relation to Fairbanks 11
Map 3. Ladd Field's wartime growth 15
Map 4. ALSIB route, North American side 36
Map 5. Ladd Field National Historic Landmark, 2003 92
Map 6. Ladd Field plot plan ca. 1942 117
Map 7. Ladd Field plot plan, ca. 1946 119

CHAPTER 1.0 Introduction



Map 1. Location of Ladd Field, now Fort Wainwright.

On September 1, 1939, bulldozer crews were clearing a swath through the woods east of the frontier mining town of Fairbanks, Alaska. There, at a site along the Chena River, the U.S. Army Air Corps was preparing to construct a new research airfield for cold weather testing. On the same day on the other side of the world, Germany suddenly invaded Poland, launching World War II in Europe. That day, the new airfield on the Chena was nothing more than a road scraped out of willow and spruce thickets, but it was destined to grow rapidly. It would become known as Ladd Field and would play a part in the worldwide conflict that followed.

By 1945, Ladd Field had become a very different place. Geography and circumstance had handed the airfield unforeseen missions. Cold weather testing remained a primary task, but over the course of the war, Ladd Field also became a military air traffic hub and an aircraft repair and supply depot. Ladd also served as the transfer point for Lend-Lease aircraft deliveries to the Soviet Union along the Alaska-Siberia (ALSIB) flight route.

To serve these varied wartime missions, the airfield grew from the small, carefully planned permanent garrison that the Air Corps had originally envisioned into a vastly expanded complex. By 1945, the original base had doubled its acreage and had acquired a sprawling bombing range to the south. At war's end, the airfield boasted more than 700 buildings which could accommodate over 4,500 troops. Many of them had been hurriedly constructed and were never intended to last beyond the war's duration.

After the war ended, Ladd's missions continued to evolve and the installation's infrastructure adapted to these changes. In 1947, when the Air Force became a separate service, the installation was renamed Ladd Air Force Base. By then, the temporary wartime alliance between the United States and the Soviet Union had collapsed. A tense Cold War developed between the two nations, and ironically, the same airfield which had hosted the Lend-Lease program in WWII became one of its first outposts. The first decade of the Cold War placed more unforeseen demands on Ladd's facilities. The base expanded again with new construction to accommodate Cold War missions that included strategic reconnaissance, air defense, and Arctic research. In 1961, Ladd AFB was transferred to the Army and renamed Fort Jonathan Wainwright. During the remainder of the Cold War, the post hosted infantry, artillery, and aviation units assigned to defend Alaska and support Arctic training. Since 1986, rapid worldwide deployment has also been a component of Army missions at Fort Wainwright. Today, the post prepares for another transformation into a Stryker Brigade.

With each incarnation, the installation's infrastructure and design philosophies were adapted to the missions and needs of the time. Today, Ft. Wainwright is an active Army post. A core of Ladd Field's original permanent buildings and a

small number of other World War II buildings remain and are managed by the U.S. Army Garrison Alaska as part of the Ladd Field National Historic Landmark (NHL). Building numbers on the post have changed since the wartime era. When extant buildings are mentioned, the modern numbers are used for convenience.

Purpose of This Project

The Ladd Field NHL was designated in 1985 after Congress directed the National Park Service to identify World War II heritage sites associated with the war in the Pacific.[1] During the past decade, the Department of Defense, also under Congressional direction, implemented a facilities reduction program which required military installations to reduce excess square footage. This mandate led to the removal of a number of buildings at Fort Wainwright that were not directly tied to current Army missions. Some of the buildings within the Ladd Field NHL were affected by the demolition program. In 2001, a Memorandum of Agreement took effect, providing stipulations to mitigate the demolition of certain buildings that contributed to the Ladd Field NHL.[2] Two of these stipulations require interpretation of the NHL, that is, educational displays and publications about the NHL resources.

The cultural resources program at Ft. Wainwright conducted this project, in part, to provide documentation for the development of this interpretive material. To assist future interpretation, the program has attempted to collect elements of Ladd Field's history together in one place, research some of the units that had escaped attention, and supplement existing histories with new material from personal recollections and oral histories. This was necessary because there is no detailed published overview focusing specifically on Ladd Field's role during the war. Most of the published material on Ladd Field is embedded within the histories of larger topics, such as Lend-Lease or Alaskan military history. Articles and unpublished reports recorded by contemporary observers are scattered in various archives and libraries. Some aspects of the story had received very little historical attention.

The Ft. Wainwright Cultural Resources Working Group also identified a need to collect oral histories from those who served and worked on Ladd Field during World War II.[3] Recorded interviews were done in the Fairbanks area and deposited with the University of Alaska Fairbanks Archives.[4] Because many of the people contacted now reside outside the Fairbanks area, personal recollections were also added through correspondence and telephone interviews. The cultural resources program extends its thanks to all of those who participated, and

[1] By then, most of the temporary World War II buildings had already been removed. See Chapter Nine and Appendix A for additional information on the NHL.

[2] "Memorandum of Agreement Among the U.S. Department of the Army, the Advisory Council on Historic Preservation and Alaska State Historic Preservation Officer Regarding United States Army Alaska Demolition of Buildings in the Ladd Field National Historic Landmark," June 2001. In addition to the three named parties of the MOA, other interested parties that participated in the development of the MOA included the National Park Service, the Fairbanks Historic Preservation Commission, the Tanana Chiefs Conference, the Tanana-Yukon Historical Society and the Interior Alaska and Arctic Aeronautical Foundation. The MOA addressed the proposed demolition of nine buildings within the landmark.

[3] The Ft. Wainwright Cultural Resources Working Group includes federal, state, and local agencies and groups interested in cultural resource management on the post.

[4] References for each interview are available in the bibliography. Quotations from project interviews are not individually footnoted in the text.

recognizes contributors individually in the acknowledgements at the end of this publication.

Because the overall goal of the research project was to collect and develop background material for the interpretation of the landmark, this report is not intended to be a standard cultural resources survey or a definitive historical study on any single aspect of Ladd Field's history. It is not a command or unit history, although those topics are addressed when they are helpful in understanding the events taking place at Ladd. Instead, the aim of this publication is to provide a description of the variety of Ladd's wartime activities and to begin making this heritage more accessible to the public, post residents, and future researchers.

This report is limited to the activities that took place at Ladd Field itself and only summarizes the larger contexts that affected these events. Readers interested in a wider historical picture may want to consult some of the sources listed below. Overviews of military history in Alaska include Jonathan M. Nielson, *Armed Forces on a Northern Frontier: The Military in Alaska's History, 1867-1987;* Lyman L. Woodman, *Duty Station Northwest: The U.S. Army in Alaska and Western Canada 1867-1987;* and John H. Cloe and Michael F. Monaghan, *Top Cover for America: The Air Force in Alaska 1920-1983.*

The ALSIB Lend-Lease program is described in numerous publications. These include Otis Hays, Jr., *The Alaska-Siberian Connection: The World War II Air Route;* Blake W. Smith, *Warplanes to Alaska;* Stan Cohen, *The Forgotten War: A Pictorial History of World War II in Alaska and Northwestern Canada;* and Everett Long and Ivan Neganblya, *Cobras over the Tundra.* Scholarly studies of Lend-Lease diplomatic history include Hays' study of ALSIB and Hubert van Tuyll's *Feeding the Bear: American Aid to the Soviet Union, 1941-1945.*

The Aleutian campaign and other Alaskan World War II history is detailed in Cloe, *Top Cover for America;* Cloe, *The Aleutian Warriors: A History of the 11th Air Force and Fleet Air Wing 4;* Cohen, *The Forgotten War;* and Brian Garfield, *The Thousand Mile War.* Historical papers presented at the 1993 Alaska at War Symposium are collected in *Alaska at War 1941-1945,* Fern Chandonnet, editor. Military construction in Alaska is addressed in Cloe, *Top Cover for America;* James D. Bush, Jr., *Narrative Report of Alaska Construction 1941-1944;* Lisa Mighetto and Carla Homstad, *Engineering in the Far North: A History of the U.S. Army Engineer District in Alaska;* and Benjamin B. Talley and Virginia Talley, "Building Alaska's Defenses in World War II" in Chandonnet.[5]

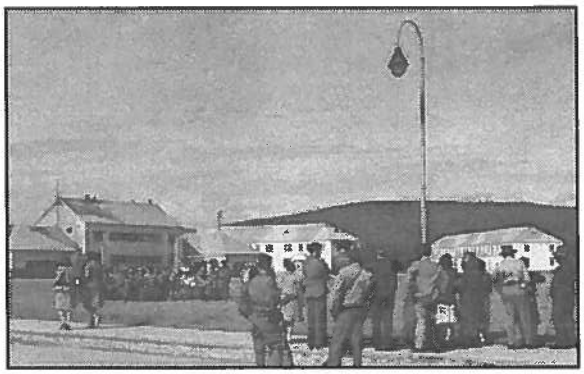


Figure 1. Parade ground, Ladd Field, 1945. Courtesy Audrey Virden.

Ladd Field was part of the national war effort in World War II and had a lasting impact on Fairbanks. The people of Ladd Field played their part in these events. Today others follow in their footsteps and respond to the challenges of our time. As they do, they carry forward the history of Ladd Field at Fort Wainwright and beyond.

[5] See bibliography for references.

CHAPTER 2.0 Historical Overview of Ladd Field

> "The people were grand, the atmosphere was exciting, and the work was demanding and strict."
>
> – Marie Haggard[6]

In the 1930s, Alaska was essentially an enormous undefended region.[7] Aside from Signal Corps stations, the Army had only one active installation in the entire Territory: the Chilkoot Barracks in Haines. No military airfields existed in Alaska at all.

Anthony J. Dimond, Alaska's Territorial delegate to Congress, had been attempting to secure better defenses. At the same time, the Army Air Corps, the predecessor of today's Air Force, was evaluating Alaskan defense needs. During the summer of 1934, then-Lt. Col. Henry H. "Hap" Arnold led a flight of ten B-10 bombers from the Washington, D.C. area to Alaska, scouting potential airfield sites and assessing Alaska's defenses. Among other things, Arnold's report recommended that the Air Corps should establish an air base at Fairbanks which could support cold weather testing and serve as a tactical supply depot. Military advisory boards and prominent officers also recommended action to establish air bases in Alaska. Testifying before Congress on this issue, Brig. Gen. Billy Mitchell offered his now-famous words, "I believe in the future, he who holds Alaska will hold the world...."[8]

In 1935, Congress passed the Wilcox National Air Defense Act. This legislation authorized the construction of new airbases, including one in Alaska for cold weather testing and training. It did not provide funding. In spite of Delegate Dimond's best efforts, Congress did not appropriate any construction money for four more years. With the tone of events in Europe and Asia, Dimond was not the only one to be concerned about that delay.

Still, some of the planning could move forward after the Wilcox Act passed. The Air Corps selected Fairbanks as the location for the cold weather test station because of its sub-arctic climate and because it had the basic infrastructure that would assist the builders: it had a rail link to the sea and an existing municipal airfield. In July and August 1936, Lt. Col. Wilmot A. Danielson led a site selection team that visited Fairbanks for a few weeks to search out sites for the proposed airfield. The team canvassed locations near the town that would offer the resources for what would essentially be the construction of a twin city. They sought an area with a good water supply and inquired about climate, timber supply, geology and permafrost, habitation fog, and utility systems.[9] The group departed without announcing the airfield's location, but a few months later, in March 1937, President Franklin Roosevelt withdrew nearly six square miles of public domain land east of Fairbanks in Executive Order 7596. The chosen area

---

[6] Interview, Marie Haggard, Fairbanks, AK, 30 July 2002.

[7] Although there had been earlier military activity in Alaska, including reconnaissance expeditions and the establishment of interior outposts under the command of Ft. Seward (later renamed Chilkoot Barracks) in Haines, that activity had diminished significantly by the 1930s.

[8] Quoted in Cloe, *Top Cover,* 21.

[9] "Air Chiefs at All-Alaska Dinner," *Fairbanks Daily News-Miner,* 29 July 1936, 1,5. "Air Base Staff is Completed and All Now Hard at Work," *Fairbanks Daily News-Miner,* 31 July 1936, 1. "Army Board Leaves Here Next Week," *Fairbanks Daily News-Miner,* 15 August 1936, 1. "Air Base Site Within 10 Miles," *Fairbanks Daily News-Miner,* 17 August 1936, 1.

Figure 2. Maj. Ladd. In December 1940, the new airfield was named in honor of Maj. Arthur K. Ladd, an Air Corps pilot who had been killed in a South Carolina air crash. Courtesy Alaskan Air Command History Office, Elmendorf AFB.

lay along the Chena River, extending one to three miles upstream of town. In later years, the airfield would expand and encompass more of the surrounding land.

Preliminary construction finally began late in August 1939 with surveys, road work and site clearing. Within days, World War II started in Europe when Germany invaded Poland. Despite the new urgency of the situation, construction at Ladd could not get underway in earnest until the spring of 1940 when shipments of material arrived. Gen. "Hap" Arnold was now the Chief of the Army Air Corps, and that summer he ordered the air station to go into operation a year ahead of schedule. In September 1940, although the runway was the only permanent facility which was completed, ceremonies marked the dedication of the airfield. Ladd Field was in business, if just barely.

During its first two years of operation, Ladd Field was strictly a cold weather test station. The first winter, Ladd was staffed with an Air Corps detachment and with a company of ground troops from the 4th Infantry who provided airfield security. Maj. Dale V. Gaffney was the station commander. By the time the second testing season approached, a coast artillery unit had also arrived to provide anti-aircraft defense. Small detachments of engineers, quartermaster corps, signal, ordnance, and medical staff rounded out the personnel at the field.[10]

Gen. Arnold's Firsthand View

During the summer of 1940, General Arnold visited the Alaskan installations and described his visit to the nation in an article in the *National Geographic* magazine. In the face of war in Europe, Arnold acknowledged that the U.S. military had "no aviation experience in the Arctic" but that the construction of airbases near Fairbanks and Anchorage was providing valuable lessons in engineering and would secure the air frontier of the north. It would be a challenging prospect. "We had spent only a few hours in Alaska before it was evident that it is one thing to decide that national defense requires air bases up near the Arctic Circle... and quite another to accomplish these results."

Maj. Gen. H. H. Arnold,
"Our Air Frontier in Alaska,"
National Geographic,
October 1940, 487.

The first winter, testing took place under primitive conditions. According to one writer, the mechanics worked on the airplanes "in raw wind and incredible temperatures on naked runways."[11] That may not have been much of an exaggeration. The permanent buildings, including the hangar and its maintenance shops, were not yet ready. Aircraft mechanics used temporary shelters for their work. The Army Airways Communication System (AACS) spent part of the winter operating its radio equipment from a lean-to on a log cabin garage measuring only 12 feet by 15 feet. Its men considered that an improvement over their original assignment to an unfinished building, which could not yet provide the proper electrical current for their equipment.[12]

Cold weather testing focused primarily on aircraft performance and maintenance. Its major goals were to develop standard procedures for servicing and operating aircraft in subzero temperatures and to test all kinds of aircraft parts from engine components to armament, tires, heaters and fluids. The testing program also investigated other important aspects of

[10] "Report of Operations...," 86. Letter, Lt. Col. Dale V. Gaffney to Lt. Col. Earl S. Hoag, 23 September 1941, copy at Elmendorf AFB Office of History, "Cold Weather Operations at Ladd Field."

[11] Capt. Richard L. Neuberger, "Wing Commander," *Alaska Life*, May 1944, 43.

[12] "Report of Operations...," 71. Re nose hangars, p. 86.

Wake Up, There's a War On!

Word of the Pearl Harbor attack came to Lt. Col. Gaffney from commercial radio engineer Augie Hiebert, who had picked up the news on short wave stations early in the morning of December 7th.

"I was the first to hear about it, and I had to call up the commander of Ladd Air Force Base and tell him about it. Got him out of bed one Sunday morning....

"I listened to KGEI, the GE, General Electric short wave station in San Francisco. They were transmitting all about the fact that Pearl Harbor had been bombed, was being bombed right then. I turned across amateur bands and they were alive with reports coming from Pearl Harbor that Honolulu was being attacked. And that's how I heard it. I knew that the military had a very uncertain short wave system if any at all. So I called up Col. Gaffney, who was the Military Commander here. He was a sort of a party guy; he had been up the night before. I got him out of bed and I asked him, 'did you know there was a war on, Dale?' And he said, 'no,' he said, 'you've got to be kidding.' And I said, 'come on out, I've got a recording of it.' So he came out, he put the town on military alert right away. We went black that same night. And he got on the air then and told people what to do or what not to do, and that's the way it got started. He called up Gen. Buckner's office down in Ft. Richardson. The Army in Ft. Richardson, which was the headquarters of the Alaska Defense Command, hadn't heard about it for two hours. We just were out of touch when it came to communications in those days."

arctic operations such as clothing, communications equipment, survival gear, medical issues, and ground support.

Shortly after the second winter of testing got underway, Japan attacked Pearl Harbor, drawing the United States into World War II. After an initial disruption following the attack, cold weather testing continued through the end of the season. However, events in 1942 changed the operations and character of Ladd Field for the duration of the war.

Only a few months later in June 1942, Japanese forces bombed Dutch Harbor and occupied the Aleutian islands of Attu and Kiska. Ladd's Cold Weather Test Detachment was deactivated and its men sent to assist defense efforts in Nome and the Aleutians. Ladd Field temporarily came under the control of the 11th Air Force, part of the Alaska Defense Command headquartered at Ft. Richardson outside of Anchorage.[13] Until this time, Ladd had been considered an "exempted station" devoted to research, not combat, whose commander reported directly to the headquarters of the Army Air Forces.

By early fall of 1942, the Cold Weather Test Detachment was reactivated. Ladd Field once again became an exempted research station reporting to the AAF headquarters.[14] The Alaska Defense Command retained the responsibility for Ladd's air and ground defense and all non-technical service and supply. At the same time, a new Lend-Lease mission was starting to operate at the field (see chapter 5). Under Lend-Lease agreements, the United States provided warplanes and materiel to the Soviet Union to use against Nazi Germany. Ladd Field was selected as the transfer point for Lend-Lease aircraft transiting the Alaska-Siberia (ALSIB) route. More than 7,900 aircraft were eventually delivered to Soviet representatives at Ladd Field. Soviet pilots then ferried these planes to Nome and across Siberia to the eastern war front. Lend-Lease deliveries and support functions soon overtook all others at the field. Within a year Ladd would change hands again to facilitate this new mission.

The Lend-Lease program required considerably more infrastructure and personnel than the original cold weather testing activities for which Ladd Field

[13] Gen. Simon B. Buckner commanded forces of the Army and the Army Air Corps in Alaska as part of the Alaskan Defense Command. He reported to Gen. John L. DeWitt, who headed the IX Corps, later the Western Defense Command. Maj. (later Col.) Everett S. Davis was the chief of aviation of the Alaskan Defense Command under Buckner. Cloe 30, 36.

[14] Memo, Adjutant General, 25 October 1942, "Status of Ladd Field, Fairbanks, Alaska". Elmendorf AFB History Office, Cold Weather Operations at Ladd Field file.

Gaffney's Field

Brig. Gen. Dale V. Gaffney's career was closely tied to the development of Ladd Field. Arriving with the first survey crews, Gaffney saw the airfield grow from a small test station in 1939 into a large Cold War air defense base ten years later. Ladd's growth paralleled his own rise in rank from Major to Brig. General. Known to some as the "Screaming Eagle of the Yukon," Gaffney served as the commander of Cold Weather Test Detachment and Ladd Field for most of the period between 1940 and 1943. He then became the commander of the Air Transport Command's Alaskan Wing from 1943 until the end of the war, corresponding to the time that the ATC controlled Ladd Field. Gaffney returned to Ladd AFB in 1948 as base commander. He died in 1950. According to Capt. Clyde Sherman, Gaffney was a "fine fellow to work with; he would talk to you, and he didn't think he knew it all about this country."

Figure 3. Brig. Gen. Dale V. Gaffney.
Kay Kennedy Aviation collection, # 91-098-856, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

had originally been designed. It was necessary to house Russian representatives, mechanics, translators, and transient crews. A large supply and repair depot was needed on-site to ensure that all aircraft met the specifications of the agreements when they were transferred to the Russians. The original permanent garrison mushroomed as hundreds of temporary buildings were erected and a new runway and hangars were constructed.

On October 1, 1943, Ladd Field was transferred to the Air Transport Command (ATC) and remained under its control for the remainder of the war. The Cold Weather Test Detachment continued its work and expanded its efforts, reporting to the military research agencies as a tenant unit at Ladd. A large civilian staff assisted the many support units at Ladd during the peak years. In August 1944, at least 1,750 civilians were working at Ladd, engaged in construction and engineering, base operations, quartermaster support, and other areas. At around the same time, 2,000 enlisted men and 155 officers served in the ATC, and an additional 1,300 enlisted men and 113 officers served in other units. By June of 1945, the base was able to garrison 4,555 troops and officers.[15]

When the war ended in 1945, military personnel rapidly left Ladd Field for stateside installations and subsequent discharge from the service. In November, Ladd Field was transferred from the ATC to the 11th Air Force, also known as the Alaskan Air Command. Activity at the base diminished, although cold weather testing continued on a reduced basis during the demobilization and beyond.

It was not long before world events created a new role for Ladd to play in the developing stand-off between the Soviet Union and the United States. In 1947, Ladd Field was renamed Ladd Air Force Base. It hosted strategic reconnaissance, air defense, and research missions in the early years of the Cold War and was the northern sector command headquarters for air defense. To accomplish those missions, many World War II buildings were removed and new construction changed the face of the installation. At the end of the 1950s, the Air Force moved its remaining operations to Eielson and Elmendorf AFBs, and in 1961, the Army took over Ladd. Renamed Fort Jonathan Wainwright, the post has now served Army needs for four decades.

[15] Figures from: Monthly Historical Reports, Station #3 ATC, May 1944, and 1466th AAF Base Unit, August 1944, microfilm AO177, Elmendorf AFB History Office. "Alaska Military Construction," in Summary of Field Progress reports, Corps of Engineers, Seattle District June 1945, in UAA Archives, Alaskan Air Command collection, series III f 23.

Ladd Field's Phases of Activity, 1940-1947.

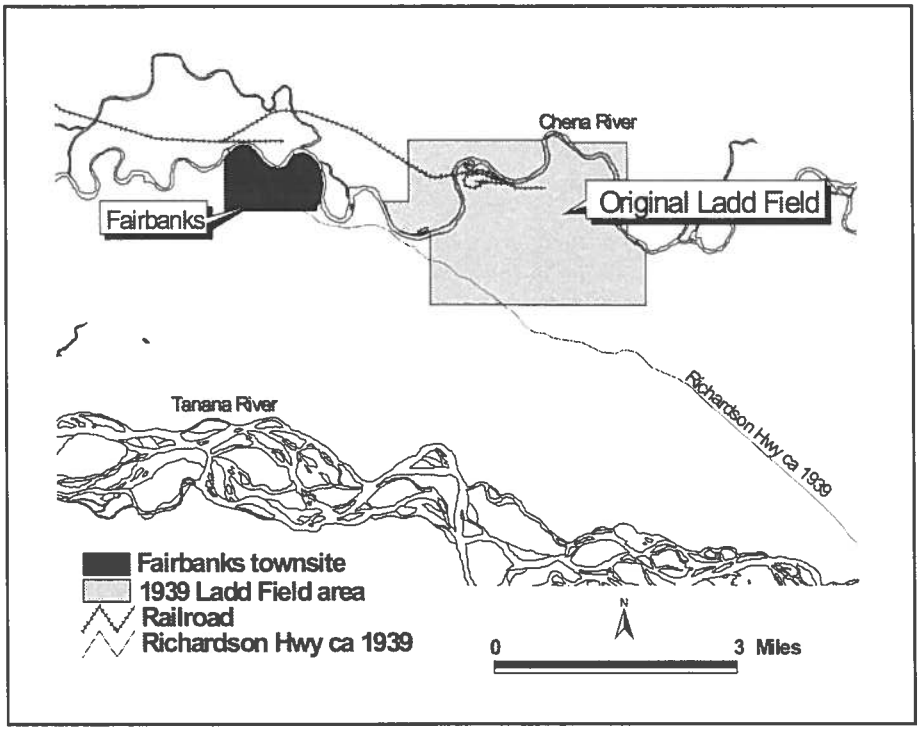
Initial Operations as Cold Weather Experiment Station 1940-1942		*Ladd Field dedicated Sept. 1940*	*Exempted Air Corps cold weather research station*
Wartime Transformation 1942	*Lend-Lease transfers begin Sept. 1942*	*CWTD disbanded, re-established.*	*Air Depot functions gain importance*
Standardizing the Wartime Operations 1943-1945		*ATC takes over Ladd, October 1943*	*CWTD continues as tenant organization*
Demobilization and Transition to Cold War Air Base 1945-1947		*Lend-Lease ends Sept. 1945*	*Ladd transferred to 11th Air Force, 1945*

CHAPTER 3.0 Airfield Facilities

> "[A] handsomely laid out, well built, and well kept place..."
> – Henry Varnum Poor, 1945

Original Plans and Construction

Ladd Field was designed to be a small permanent testing facility. The original facilities included a 5,000-foot concrete runway and aircraft parking apron, nine administration and housing buildings, six technical buildings, a medical corps building, and tactical fuel storage. Utilities were placed in heated underground utilidors large enough to serve as walkways. The operations area was located inside a bend of the Chena River, and a rail spur crossed the river to connect with the Alaska Railroad terminus in Fairbanks. An access road on the south side of the river connected to the Richardson Highway near the western boundary of the airfield.



Map 2. Original Ladd Field in relation to Fairbanks.

The site layout of this permanent garrison followed the Beaux Arts design philosophy. The Beaux Arts movement featured formal planning and spacing between buildings, and bilateral symmetry of design. These elements are seen in the horseshoe-shaped layout of the original station. The center of operations was Hangar One, located adjacent to the airfield at the southern anchor of the design plan. Straight up the axis to the north across the parade ground was the commander's house. Branching off the semicircle on both sides of this house were long two-story quarters for married officers, NCOs, and bachelor officers.

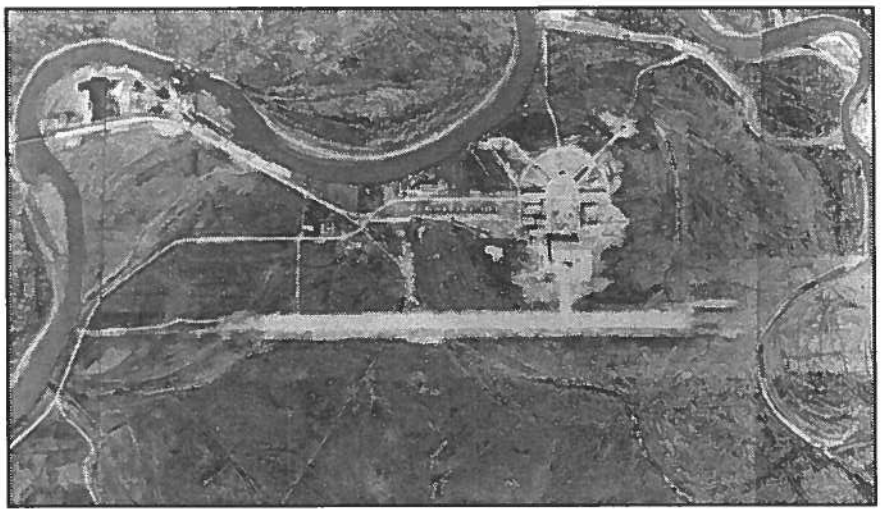


Figure 4. Ladd Field operations area ca. 1941.

Figure 5. NCO quarters as they appear today.

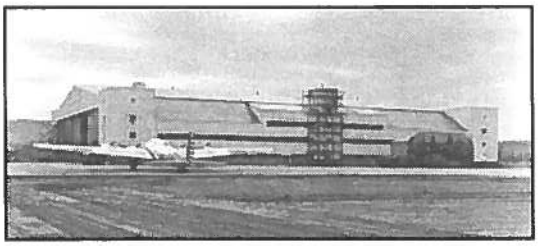


Figure 6. Hangar One, ca. 1942. AAF photo.

An office/warehouse and power plant stood on the west side of the parade ground. On the east side was a multipurpose U-shaped building serving as Air Corps enlisted barracks, hospital, PX, and theater. The quarters were designed in a simplified neocolonial American style popular in the 1930s while the administration buildings were modern industrial.

Initially the Quartermaster Corps was the agency in charge of construction at Air Corps bases including Ladd Field. In August 1939, when the first funding became available, Quartermaster Major E.M. George arrived with a party of surveyors and engineers to supervise the work. It was very late in the season, but the surveyors and bulldozer operators got to work. They cleared a right-of-way for the rail spur, and engineers coordinated the laying of an experimental concrete runway slab. Crews also cleared a road from the Richardson Highway into the building site.

One former Fairbanks resident recalled bulldozing that first road. The new road diverged from the Richardson Highway near the boundary of Ladd Field, which at that time cut across a riverside homestead occupied by Bob and Tiny Buzby. Engineers had marked the road route with rags attached to trees. The dozer operator mucked out the trail, clearing vegetation and ground cover. Then gravel was laid. The dozer driver recalled that all in all, they had a "hell of a time" in the boggy, mosquito-infested area.[16]

[16] Personal communication, R.D., 17 September 2002. See Price, *Homesteads on Ft. Wainwright, Alaska,* for more information on homesteads.

Figure 7. Constructing Quartermaster's party arriving in Fairbanks. Left to right: Cadet John Lee, Jr., Maj. Newton Longfellow, Maj. Dale Gaffney, Col. John Lee, Maj. E.M. George, Capt. C.W. Gibson. Kay Kennedy Aviation collection, # 91-098-837, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

In the spring of 1940, shipments of material arrived and the construction got underway in earnest. Up to 1,000 men were at work on the runway, hangar, warehouse and permanent quarters. Many had previously been equipment operators and laborers in the gold mines of the region, lured to Ladd by the higher pay. Some men were skilled laborers with experience operating heavy equipment and "mucking" or clearing top layers of ground. Others had done other mining jobs such as laying pipe and running giants on cleanups. One participant recalled that almost everybody from the mines came over to Ladd for the higher wages. He estimated that during the first months of the project, about 200 people were working at Ladd but that soon the number increased to as many as 1,200 when they began pouring concrete and putting up the structures. Concrete pouring was very labor intensive. Men moved the wet concrete manually using wheelbarrows they called "cement buggies," pushing them across planking to get the load where it was needed. When loaded, these two-wheeled wheelbarrows were so heavy that one person could barely move one.

Figure 8. Ladd under construction, ca winter 1940-41. AAF photo.

Edmund A. Hinke arrived at Ladd in June 1940. "I landed the hardest and dirtiest job on the base," he wrote. "I was a cement dumper, one of a crew of two. We had to dump seven sacks of cement into the hopper every few minutes. Had to wear 'tin clothes,' goggles and respirator all the time in the hot Fairbanks summer." He added, "The dust was terrible and most persons assigned to the job quit immediately. This gave me the opportunity to keep asking, and getting, raises...."[17]

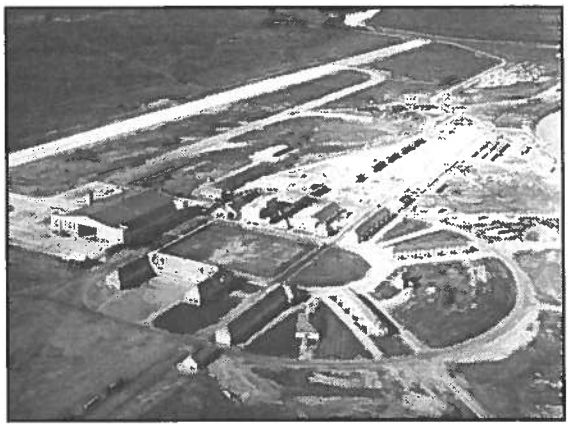


Figure 9. North Post and runway, ca. 1942. Clockwise around parade ground from Hangar One on the left: Service club/bus station, power plant, quartermaster, NCO quarters, NCO quarters, commander's house, officers' quarters, garage, BOQ, barracks/BX/hospital. Rail facilities, access road, and warehousing are visible to the west behind the QMC area.

Gen. Arnold visited Ladd during that summer to observe the progress of construction. He decided to open the field for operations ahead of schedule in September 1940 as soon as the runway was ready. Many of the buildings, notably the hangar and most quarters, were still incomplete. In January 1941, the entire project was turned over to the Army Corps of Engineers as part of a national realignment of responsibility for military airfield construction. At the time of the transfer, records showed that about 80% of the overall work had been done, although only the runway was considered completely finished.[18]

[17] Correspondence, Edmund A. Hinke, 12 September 2002.

[18] Bush, 19. U.S. Army Corps of Engineers, Seattle District, Technical Center of Expertise for Preservation of Structures and Buildings, "Historic American Buildings Survey, Five Buildings At Ladd Field," September 1996, 6-7.

Just the Facts, Fellas

A June 1940 article in *Alaska Life* magazine featured Helen Van Campen, a colorful Alaskan figure who, like so many others, was taking part in the construction craze at Ladd. A world traveler and one-time New York society writer, Helen's adventurous streak had brought her to Alaska years before, when she'd spent several years living and mining in the Alaska bush. She liked rugged pursuits and made herself at home with people from all walks of life. For a while, according to the article, she manned the personnel office at Ladd. "Bulldozer and carryall operators, gas and diesel mechanics, shovel runners, mixer men, tool sharpeners, axemen, heavy construction bosses and electricians come to her desk and talk themselves in – or out. She expertly grades their qualifications.... 'Ever drive on construction under a shovel? Where? When was this? Whom for? Okay. Do you double clutch? Thank you. No hiring for thirty days yet. Come in and say hello if you get nervous meantime.'"

"The big men and small curly grey headed woman got along. She understood them and handed out no bunk! Just facts."

– Kay Kennedy,
"Helen Van Campen,"
Alaska Life, June 1940, 20

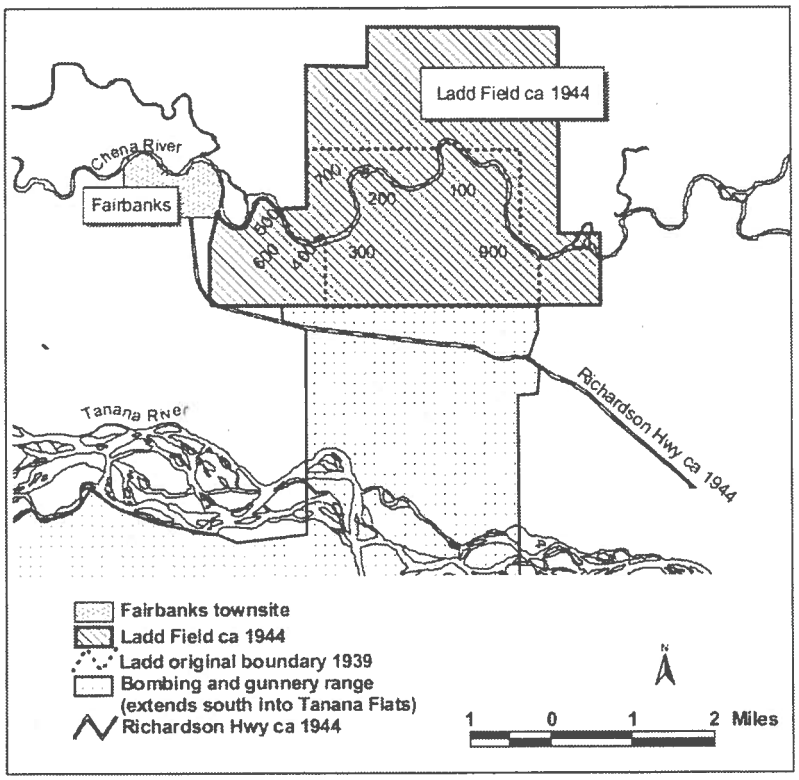
The apron, utilidors and utility systems, commander's quarters and married officers' quarters were nearly completed. A considerable amount of work remained on the NCO quarters, BOQ, warehouse, garage, telephone system, ammunition storage, fuel storage, hospital/barracks, and hangar.

Construction continued at a busy pace that winter in spite of the difficulties of working in the sub-arctic cold. Ladd's Resident Engineer reported that ice and snow had to be scraped off lumber to allow pieces to fit properly. Workers were assigned to indoor work when temperatures dropped below minus thirty degrees. Bruce I. Staser (Brig. Gen, ret) worked for a short time at Ladd in the early winter of 1941. He later transferred to the steel gang on one of the Elmendorf Field hangars before attending the U.S. Military Academy. He described his job at Ladd as "chipping ice out of recesses in the basement wall of the hospital-to-be." He recalled that a local man he knew, Arnold Holm, worked as a riveter on Hangar One that winter. "He would hold the rivet gun under one arm and hang onto the steel with the other, barehanded. He was one tough man."[19]

As construction continued through the summer of 1941, the number of people employed on the projects remained substantial, and opportunities opened for those who were in the right place with the right skills. H.O. Williams of Fairbanks joined the construction projects during this time. He was hired as a laborer but moved quickly into a surveying position, and then became first aid director, based out of an office in today's Bldg 1562. While he was on the survey crew, he recalled that one of the tasks was to check the runway. "[T]he runway was laid out in big square sections," he recalled, "and once a week we ran a level on every one of these sections all the way down the runway, to see whether it was shifting." The crew also ran levels for new construction when foundations were being poured, and located corner points. He described the process: "These are big buildings," Williams explained, "and you could vary from one end to the other if you didn't have somebody with a level, an instrument there to tell you this is how high you want it here,...keep it in a level position. ....Once you got the foundation on, the dimensions of the steel, which were accurately machined, would take care of the leveling of the upper stories."

One by one, the buildings that made up the original Ladd Field plan were completed. The smaller quarters around the horseshoe were completed in 1941, while the more complex buildings such as Hangar One were not considered complete until 1942. The hospital/barracks building was finished in sections, with some portions being occupied in 1942.

[19] Correspondence, Bruce I. Staser, 21 June, 2002.



Map 3. Ladd Field's wartime growth.

Wartime Expansion

"War caught the Alaska defense construction program far from complete," wrote a contemporary war correspondent. "Work was speeded up, temporary construction was substituted for permanent designs, barracks building could scarcely keep up with the inrush of troops. Quiet easy-going Alaska became a feverish armed camp overnight."[20] Ladd Field followed suit as it prepared to take on new roles during the war. By 1943, construction had been authorized or completed for a 280-man ground garrison camp, additional air depot housing and technical facilities for 911 enlisted men and officers, housing for Air Transport Command transients, Quartermaster truck company housing for 110, and additional ATC housing for 2,088 personnel. Technical facilities including gasoline reserve storage tanks, four Birchwood hangars, two Kodiak T-hangars, a 4,000-foot runway extension and a second runway, as well as additional warehouses, shops and utilities, were also added to Ladd Field.[21] Except for the runway and fuel facilities, most of the new construction was temporary.

Several people recalled the hurried pace of construction after war broke out. Ladd veteran Bill Stroecker summed it up. "[T]hat was the expansion. You started out with a new fine set of buildings, and then they got in a rush, why then they just threw up whatever they could."

The boundaries of Ladd Field also expanded during this time from the original six-square-mile area. Land to the south was withdrawn by executive order for bombing and gunnery ranges in 1941. The cantonment area expanded north to the crest of Birch Hill, west towards Fairbanks, and slightly to the east in 1943 and 1944. As Ladd grew, new construction was added in areas on the east and west of the original horseshoe (designated as zones 100 and 200), to the southeast of the runway (zone 900), the southwest of the runway (zone 300), and west along the Chena River (zones 400, 500 and 600).

By 1945, Ladd had grown to accommodate 4,555 personnel. The airdrome itself had two runways, over 248,000 square feet of concrete aprons, 15,000 linear feet of taxiways, seven gasoline operational storage tanks and 42 bulk storage tanks,

[20] Waldo G. Bowman and Harold W. Richardson, et al, *Bulldozers Come First: The Story of U.S. War Construction in Foreign Lands*, (New York: McGraw-Hill, 1944) 113.

[21] Summary from Bush, 19.

During wartime, camouflage was an important consideration. However, at Ladd Field it was an afterthought. Engineer Col. James Bush reported that cantonments originally designed in peacetime, like Ladd's, were nearly impossible to camouflage. "Because so much had been done in violation of the simple rules of camouflage, the toning down of buildings...was, in many cases, all that could be accomplished," he wrote. "Camouflage, other than toning down with paint, was virtually impossible at the several bases, construction of which was initiated in pre-war days. The soldierly, closely grouped and peacetime layouts of these bases precluded the installation of effective camouflage."[23] Nonetheless, commanders made an attempt. Following the Pearl Harbor attack, amid rumors that Alaska would be the next target, painters were called in to provide emergency camouflage.[24] Roof camouflage patterns can be seen in Figure 10.

Figure 10. North Post in camouflage, ca 1944. View shows, left to right, Quartermaster building (1562), NCO quarters (1051), NCO quarters (1049), Commander's quarters (1048), Post chapel to rear (1043), WAC barracks, Officers quarters (1047), and BOQ (1045). Rex Wood photo, courtesy Randy Acord.

six reinforced ammunition magazine igloos, a runway lighting system, repair and operations facilities in multiple hangars, Air Corps supply, and miscellaneous shops and storage facilities. Support facilities included the Canol pipeline, a station hospital, motor pools, drill hall, bakery, dry cleaning, laundry, fire station, utilities, expanded rail spurs, power and heating plants, barracks, mess halls, and over 229,000 square feet of warehouse space, not including cold storage and ordnance warehouses. All in all, excluding structures such as storage tanks and magazines, Ladd Field had approximately 700 associated buildings at the end of the war[22] (see diagrams in Appendix D).

Construction Challenges

Challenges faced the engineers and builders at Ladd. The permanent buildings were constructed of reinforced concrete and steel. Designed with peacetime construction conditions in mind, they required skilled construction crews and were expensive and time-consuming to erect. Hangar One, for example, was the largest hangar in Alaska, slightly larger than those constructed at Elmendorf/ Fort Richardson. Other installations, most notably Fort Richardson, also had permanent construction. However, according to the Corps of Engineers, none of these facilities were "as elaborate and costly" as the buildings at Ladd.[25]

[22] Compiled from Corps of Engineers Seattle District, "Summary of Field Progress Reports," June 1945, 23 UAA Alaska Air Command collection, series III, f 23; MHR January 1945 appendix.

[23] Bush 355.

[24] Helen Van Campen, "They Were Alaskans," *Alaska Life*, January 1944, 129-133.

[25] Bush, 280-81. Re hangar size, Bush 314.

Utilidors

Imagine a subarctic airfield where temperatures get so cold that engine oil can congeal and the bottoms of rubber tires can freeze flat overnight, and where mechanics working on aircraft outdoors must be careful not to catch flesh on metal surfaces. Then imagine at this same airfield that one can walk in warmth and comfort from the main hangar to some of the mess halls and quarters without even setting foot outside, using a system of underground utilidors.

Heated utilidors were necessary to keep water pipes from freezing, and at Ladd they were also designed to serve as hallways. They were placed directly under the main sidewalks in the North Post, and the heat they gave off could also keep the sidewalks free of snow. The utilidors were quite a novelty. One visitor remarked in a bit of an exaggeration that at Ladd "you do everything underground, and don't come up except to fly."[26]

Josephine Johnson remembered how the utilidors intensified the experience of winter darkness. At a time of year when it was dark before and after work, people in windowless offices would miss the day's brief sunshine entirely. "If you went anywhere... you'd go through the utilidor so you never saw any daylight," she remarked.

Utilidors did not reach to areas of the field that were not connected to the steam heat system, such as Quonset hut quarters. Richard Dennison, who was with the infantry, recalled that the infantrymen took pride in "roughing it" in their coal stove-heated barracks. "We were not jealous of the Air Corps and their utilidor," he reported.

After the United States entered the war, skilled construction workers were in short supply in Alaska as men joined the armed forces or departed for defense work elsewhere. At the same time, military construction projects in the Territory were increasing. Engineer troops handled some of the projects, but luring new civilian workers to Alaska was difficult. "Contractors, industrial, and engineering firms were sending recruiters throughout the country, offering a variety of inducements," historian Lyman Woodman wrote. "Even so, the chances were strong that a worker, successfully recruited and started toward the job, would be intercepted somewhere along the way and lured away by a rival employer."[27] Not surprisingly, skilled locals continued to be in high demand for the ongoing Ladd projects. Oscar Tweiten was qualified in all trades and recalled that he worked in the shops welding fuel storage tanks. Although his draft category was 1A, he was never inducted because his construction skills were too valuable at Ladd.[28]

Soils posed another difficulty. Some parts of the site contained permanently frozen ground called permafrost. Disturbance of the natural ground cover or the placement of a heated building on such soil causes it to melt and subside. Military construction engineers knew very little about permafrost in 1940, since few scientific studies had yet been done on the phenomenon. When Ladd's initial runway was laid out, the ground beneath it was excavated only to a depth of two feet. Unfortunately, a section of the first runway failed after melting permafrost caused significant heaves and sags in its surface. It was replaced after the ground was excavated to a depth of 15 feet and filled with insulating material. Some local people, especially miners who had hands-on experience with the region's geology, had been skeptical of the engineers' original site preparation methods, and when the runway failed, a low rumble of "we told you so" floated through their ranks.[29]

[26] George Racey Jordan, *Major Jordan's Diaries* (New York: Harcourt Brace Jovanovich, 1952; reprint Bookmailer Inc, 1958), 55.

[27] Woodman, 260.

[28] Personal communication, 25 June 2002.

[29] Re runway repair, Bush 20. Local lore holds that local experience in these matters was not taken into account during initial planning and construction.

The Heart of Ladd Field

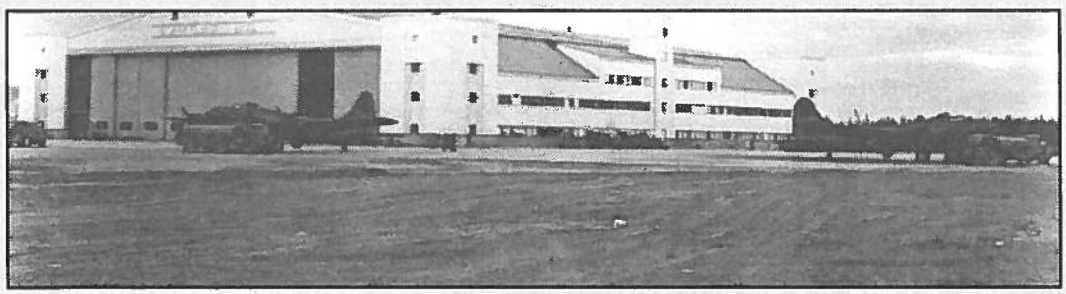


Figure 11. Hangar One with B-17E, June 1942. AAC photo 33253.

Hangar One was the heart of Ladd Field and continues to be a centerpiece of Ft. Wainwright today. Completed in 1941, it was the original hangar at the field, and was Ladd's command headquarters until 1955. There was no building anywhere in Fairbanks at the time that could compare with Hangar One in immensity and appearance. Fairbanks businessman William Stroecker, a former sergeant at Ladd Field, remembered that, "[a]lmost everything was in that building....The post commander was there, and his staff, the administration....It was quite an active area. All the activity on the field stemmed from that particular location."

Architecturally, Hangar One was the monumental anchor of Ladd's permanent garrison, designed in peacetime to serve as the operational center of the cold weather test station. It was a massive structure measuring 327 feet by 271 feet, with open bay space, 268 feet by 263 feet, which could be divided in half using sliding panels. The original aircraft doors also featured huge sliding panels over three stories high, at the east and west ends of the building. Above the doors, then as now, was a sloping triangular gable whose angularity camouflaged the barrel steel truss structure of the roof supports. The angularity continued in the shape of the exterior roof covering and in the squared-off stairwell towers at each of the building's four corners. Bands of windows appeared to run the length of the north and south elevations, where shops and offices bordered the hangar bay space. The first floor contained primarily shops and supply rooms, while the second floor housed offices and records storage. On the south side, overlooking the taxiways and runway, a smaller third floor containing offices rose up from the middle section of the building. In the center, a four-sided control tower commanded a view of the airfield and the Tanana Valley.

During the Lend-Lease years of 1942-1945, the bay was divided and secured into east and west halves. The west side was a service area for the Russian detachment that accepted the transfer of Lend-Lease planes. Along the southwest side of the ground floor, the Russians had shops and a pilots' briefing room. Across the bay on the north side were more Russian shops. The east end of the hangar was the cold weather test area. In addition to its bay space, Cold Weather Test had an engineering office on the ground floor. There, they kept all the maintenance records on the test aircraft and also had a library of technical orders in loose-leaf binders containing maintenance procedures and specifications. Along the outer perimeter there were other shops for sheet metal work, radio maintenance, and other work, including a parachute and fabric shop. Parachutes often dangled from the top of nearby stairwells to dry or air out.

On the second floor, the Base Commander's office occupied the northeast corner of the hangar, overlooking the parade ground and permanent garrison. Next to the Base Commander's office and staff space was the Cold Weather Test Commander's office. It overlooked the parade ground on the west end. In that area, at least half a dozen secretaries and file clerks worked on files and reports for testing projects, typing up the handwritten test reports that the project officers submitted to headquarters. The clerical staff also kept track of the massive numbers of photographs that were produced in conjunction with the test projects.

The south side of the second floor looked out on the runways. The Operations office there coordinated flight plans and activity on the field. A Priorities and Traffic office was close by. Down the hall was the weather office. On the third floor were two communications offices. From one of these, a spiral metal stairway led up to the control tower. Russian flights had priority at the field, and a Russian operator worked up in the tower with the American crew. Russians also apparently moved freely around the Operations office area.

The offices and shops in Hangar One were full of people, and the hangar bay was filled with aircraft. Sometimes in summer, the curtain doors would be partway open, allowing daylight to flood in and mix with the electric lights in the bay. The hangar was alive with sounds and the orderly bustle of people at work. Messengers traveled from place to place, phones rang in offices, metal tools clanged against airplane components, and propeller-driven engines droned nearby as flights arrived and departed on the airfield.

Today Hangar One continues to support military aviation needs. Although Army helicopter aviation is a different operation, the massive structure continues to anchor the airfield and continues to echo with the focused energy of people engaged in the work of flying Arctic skies.

CHAPTER 4.0 Cold Weather Test

The story of the "Cold Nose Boys," as they are known at Ladd Field, is a story of...hard plugging under severe arctic conditions; a story of general success, with occasional touches of tragedy. It's the story of the struggle to destroy the cold weather Gremlins that were ever present to harass both men and planes. In that struggle, the Cold Weather Testing Detachment has played a leading and honorable role.

-*North Star Magazine*, ATC, 1944
AAF photo

History of the Testing Program

The cold weather test program at Ladd Field began as a promising but small operation in 1940, hampered by primitive facilities and logistical problems. A few years later it had grown into a sophisticated operational testing program. By the final winter of the war, over 700 military and civilian personnel were involved in testing 22 different types of aircraft and associated equipment. At its height, with a cadre of experienced flight officers, and wide variety of aircraft and technical support personnel, the Cold Weather Test Detachment was said to be one of most highly paid units of its size in the entire armed forces.[30] Even as Ladd Field itself changed hands among various commands throughout the war, cold weather testing remained a major activity.

Ladd's testing program had powerful backing. The Chief of the Army Air Corps, Gen. Henry H. "Hap" Arnold, was one of the most powerful voices advocating for operational cold weather testing in Alaska. Arnold was a strong proponent of aeronautical research and development as part of his overall vision for coordinated American airpower. He also understood that a successful air force was actually a complex system of operations, logistics, procurement, and ground support. All of these elements had to work together, in any climactic conditions that wartime demanded. For that reason, laboratory testing of aircraft by itself was not sufficient to overcome the various engineering challenges that would arise in field testing and actual operations. Before Ladd Field was built, cold weather testing had been undertaken in laboratory conditions as part of the aircraft design and engineering process, but field testing under severe cold conditions had been sporadic.[31]

Arnold advocated for the funding and construction of Ladd Field and his influence ensured the survival of cold weather testing during the height of the war when scarce resources were being funneled directly to combat commands. As evidence of its importance, at various times Ladd Field was exempt from the tactical chain of command in Alaska, reporting instead to Gen. Arnold's office

[30] Personnel figures as of November 1944: 84 officers, 533 enlisted. *Monthly Historical Report, 1466th AAF Base Unit, November 1944*. Microfilm AO177, Elmendorf Air Force Base History Office. Civilian technical representatives estimated at approximately 100-120, per housing capacity given in *Summary of Field Progress Reports*, Corps of Engineers Seattle District, June 1945, Ladd Field entry. University of Alaska Anchorage Archives, Alaskan Air Command Files collection, series III, f 23. Re unit pay, *History, Cold Weather Detachment, Ladd Field 1 Feb 42 – 12 Jan 45*. Microfilm A0057A, Elmendorf Air Force Base History Office, 45.

[31] Re Gen. Arnold, Maj. Dik Daso, "Origins of Airpower: Hap Arnold's Command Years and Aviation Technology, 1936-1945. Electronic document, http://www.airpower.maxwell.af.mil/airchronicles/apj/apj97/fal97/daso.html, 2. Originally published in *Aerospace Power Journal*, Fall 1997. Re labs and field testing, "Cold Weather Detachment Historical Data," Elmendorf History Office, Cold Weather Operations at Ladd Field, 2.

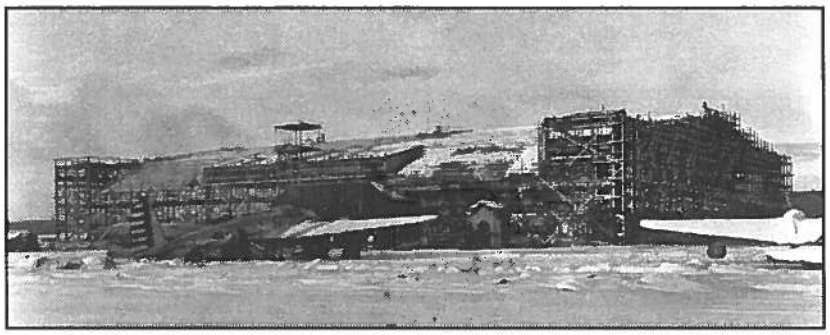


Figure 12. Hangar One under construction, ca winter 1940-41. Note what appear to be temporary maintenance shelters in foreground. AAF photo, courtesy Eielson AFB and Steve Dennis.

in Washington, DC. The testing programs at Ladd were also coordinated with the aeronautical research efforts of the Materiel Division, later the Materiel Command, at Wright Field near Dayton, Ohio. In the later years of the war, when Ladd was no longer an exempted station, the cold weather testing program reported to the Proving Ground Command.

Ladd Field, the Cold Weather Experiment Station, began operations in September 1940. The testing season began under primitive conditions. The first test airplane, an O-38, arrived at Ladd in a crate, shipped by water and rail. Two B-17s and two P-37s were sent shortly afterward. There was only a small complement of personnel, and permanent facilities were still incomplete because operations had commenced a year ahead of schedule. Because of the lack of facilities, Gaffney reported, "All tests and experiments were in every sense strictly an out-of-doors operation regardless of the temperature."[32]

That first winter, Gaffney's personnel made a series of observations on Alaskan flying weather and conditions, airplane maintenance and operation, motor transport, clothing, communications, medical issues, and photographic and survival equipment. Aircraft maintenance and operation were the primary concern, and, as a result of this first season's work, guidelines were developed for cold weather operations. Procedures included parking the aircraft outdoors, covering wings and tails to prevent frost build-up, diluting engine oil briefly, using oil immersion heaters and preheating engines before starting. Gaffney himself took on pilot duties when he could. His exploits were featured in the national press when he helped to field test a pilot's prototype electric under-suit.[33]

WWII Aircraft Types

O	Observation
P	Pursuit
B	Bomber
T	Trainer
A	Attack

Only five aircraft were available at this remote location that first winter of testing, and not all of these remained in service the entire season. One of the P-37s was damaged beyond repair almost immediately, and the other one sat idle for two months waiting for an engine replacement. One of the B-17s was lost in a February crash that took the lives of the eight men on board. They had been enroute to Wright Field via Sacramento, carrying records and reports of the station. The loss of this crew weighed heavily on the small contingent at Ladd who were weathering the first winter of operations. Roads on Ladd Field were later named for the some of these crew members: Freeman, Ketcham, Whidden, Trainer, Gilreath, Davies, and Applegate.[34]

[32] "Report of Operations…," 1.

[33] HCWTD, 16.

[34] The full crew consisted of Capt. Richard S. Freeman, Lt. Edward W. Ketcham, T/Sgt. K. H. Gilreath, S/Sgt. Everett Crabb, Sgt. Joseph F. Davies, Sgt. Elmer S. Trainer, Sgt. Frank Whidden, and Pvt. Charles Applegate. The accident occurred on Feb. 6, 1941, outside of Lovelock, Nevada. HCWTD, 17-18.

Infantry and artillery units were also performing cold weather tests during the first season at Ladd Field. 2nd Lieutenant (now ret Col.) Richard Dennison of the 4th Infantry, Company L, remembered that his unit assisted with cold weather test duties. "Whenever we could we went to the field and tested cold weather gear – from clothing to sleeping, to cooking." In January, the infantry made a snowshoe expedition up the Chena River. That assignment was intended as an orientation to cold weather travel and doubled as a test exercise. Each squad wore different types of fur garments including mukluks, parkas, mittens and headgear. A local newspaper described the event, referring to the soldiers affectionately as "sourdoughboys." An artillery detachment from Fort Richardson also came to Ladd on a temporary assignment to test fire weapons.[35]

As the first season came to a close, plans were drawn up for the next year's operation. The idea was that the Army Air Corps would send Ladd Field two fully winterized test aircraft of every type in its inventory and that these airplanes would arrive early in the testing season to maximize their usefulness. This remained an unrealized dream for several more years as competing demands for aircraft took priority.

As the second testing season approached in September 1941, Gaffney was still making do with limited resources. At that time, all the new Alaskan military bases were in a similar situation: constructing facilities, acquiring personnel and supplies, and developing functional organizations. At Ladd, the total strength of all units on the post had grown to 520 men. This figure included Company L of the 4th Infantry, which provided airfield defense, and the 206th Coast Artillery, Battery H, which manned antiaircraft artillery. These ground units outnumbered the undermanned Air Corps personnel by four to one. The Air Corps only had thirteen pilots at the station; the rest were crewmen, mechanics, and support personnel.[36] Gaffney's frustration was palpable. He needed proper resources as well as the commitment of all the contributing agencies and this was slow in coming.

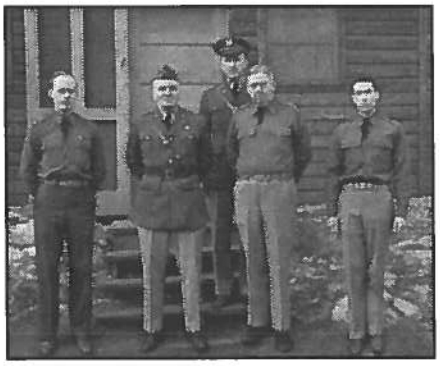


Figure 13. Ladd officers posing with Commanding General, Alaska Defense Command, March 1941. Left to right, Lt. Marvin Walseth, adjutant; Brig. Gen. Simon Buckner, Commanding General, ADC; Maj. Hobart Murphy, 4th Infantry; Maj. Williams, Quartermaster; Capt. Neal, weather officer. Courtesy Steve Dennis.

Although Gen. Arnold, the Chief of the Air Corps, was committed to cold weather testing at Ladd, there were differences of opinion about Ladd Field at high command levels. One of the main questions was whether Ladd's facilities should be under the command of the tactical forces of the Alaska Defense Command or remain in an "exempted" status. During the fall of 1941, an agreement had apparently been reached: Ladd would continue as an exempted station, but this would not remain settled for long. A second point of contention was within the Materiel Command and the related agencies responsible for research and development. A vigorous debate developed over how much emphasis the remote field testing program at Ladd should have and how much of the work should be done in the existing laboratory-based research programs at places like Wright Field.

[35] Richard F. Dennison, correspondence with author, August 2002. "U.S. Soldiers..." *Fairbanks Daily News-Miner,* 21 January 1941, 1. "Col Landreth Reviews Cold Weather Task," *Fairbanks Daily News-Miner,* 20 February 1941, 3.

[36] Lt. Col. Gaffney to Lt. Col. Earl Hoag, Air Corps, War Department General Staff, 23 September 1941. Elmendorf AFB History Office, Cold Weather Operations at Ladd Field.

Despite the limitations of personnel, late arriving aircraft, and ongoing construction at the field, Gaffney and his staff pressed forward with another winter's testing. War news from Europe and Asia overshadowed daily life. Then on December 7th, 1941, Japan attacked Pearl Harbor, launching the United States into the war. For a time, cold weather testing was disrupted as Alaskan military commanders adjusted to the new and dangerous circumstances. Aircraft were diverted to defensive needs. By early February, reorganizations were taking place at Ladd. For the first time, general base operations were officially divided from cold weather test functions, and a separate Cold Weather Test Detachment (CWTD) was activated. The new Base Detachment took over day-to-day operating functions.[37]

As the winter of 1941-42 came to a close, Ladd Field was still an exempted station dedicated to cold weather testing, but change was on the horizon. When the Japanese bombed Dutch Harbor and occupied the Aleutian islands of Attu and Kiska in June 1942, the Cold Weather Test Detachment was ordered to disband and participate in the defense of the region. Several of the CWTD pilots and crews were dispatched to the Aleutians as part of the 36th Heavy Bombardment Squadron, based out of Umnak Island. Most of the rest of the men were sent to join a rapid buildup of forces at the airfield and garrison at Nome where further attack was anticipated.

The men of Cold Weather Test, deployed in the early weeks of the Aleutian campaign, faced harsh combat conditions. During the four months of emergency deployment, Cold Weather Test officers and men earned combat decorations including the Distinguished Flying Cross, Legion of Merit, Purple Heart, and the Air Medal.[38] They sustained casualties and did their duty as part of the first group of responding forces. At Nome three men were killed and five were severely injured when an out-of-control B-18 bomber carrying several 300-pound demolition bombs slammed into an ammo dump near their camp. Others in the unit were able to respond and rescue the airplane's pilot and crew before explosions destroyed the camp. In the Aleutians, Cold Weather Test fliers flew patrol missions and bombing runs over Kiska Island.

During this period, three Ladd Field pilots and their crews were lost to enemy fire and combat-related airplane crashes. Maj. Jack S. Marks was killed in July when the bomber he was flying was shot down. Maj. Marvin Walseth and Lt. Norman Nysteen were lost to crashes during combat missions in the Aleutians' dangerous flying weather. Their loss was felt in Fairbanks where the young officers and their families had developed friendships and ties in the small town. Maj. Marks had recently filed on a homestead adjacent to Ladd Field. Maj. Walseth and his wife had been expecting their first child, but after Pearl Harbor, Mrs. Walseth had been ordered to leave Alaska with other military dependents. Just before deploying to the Aleutians, Maj. Walseth received word of the distant birth of his child, whom he would never see. Later in the war, other fliers associated with Ladd would be

[37] *Official History of Ladd Field*, microfilm AO177, Elmendorf AFB History Office, 60. Authorized strength of CWTD was 38 officers and 180 enlisted men. The Base detachment strength was 6 officers and 70 enlisted men. A sub-depot took over engineering and supply functions a month later. OHLF 62.

[38] Marks Rd, Nysteen Rd, and the former Walseth Rd (now Gaffney Road) were named after these officers. Marks Field in Nome was also named in honor of Maj. Jack S. Marks.

lost in other tragedies of accidents and weather, leaving behind friends and loved ones in the Fairbanks area as well as in their hometowns.

By the end of that summer, however, Gen. Arnold saw to it that the Cold Weather Test Detachment was reactivated at Ladd. With the onset of war, Arnold continued his strong advocacy of aeronautical research and development. Pragmatically, he focused on research that could rapidly improve existing aircraft currently in production.[39] The testing program at Ladd was to be part of this overall effort.

Cold weather testing's wartime priority had now been permanently secured. In September the Cold Weather Test personnel returned to Ladd and Gaffney resumed command after a five-month absence on another assignment. Gaffney was determined to build the detachment into an effective operational testing unit that could work in coordination with multiple military research agencies and civilian manufacturers. Ensuring that equipment arrived on time and fully prepared for testing proved challenging. Logistical issues were not solved during the '42-43 season, but the action plan for the final two years of the war was laid out.

The re-established CWTD would focus on testing the winterization procedures and Arctic operations for all military aircraft and associated equipment.[40] Its staff would consult directly with civilian technical representatives from various manufacturers on a daily basis. Some in the research divisions objected to this arrangement, believing it introduced bias into the test results. Gaffney and his supporters insisted that it led to more efficient problem-solving, better awareness of Arctic operating difficulties, and faster turn-arounds into production. "Too much emphasis cannot be laid on this matter," Gaffney stated, "and so far as this Headquarters is concerned every effort will be exerted to require closest cooperation and contact between commercial representatives and Army Air Force personnel."[41]

> "[O]ur civilian support was terrific, because in Cold Weather Test we had...civilian tech reps here every winter and there was one from each major manufacturer of the United States, whether it was rubber, aircraft engines, tires, clothing, whatever it was, they were the top level engineers of their companies and they all lived in the Arctic Hotel...in Fairbanks. You could go down there anytime at night if you wanted to and you could learn, you could go to school, and you could learn about anything you wanted to learn just by who you visited with."
>
> -Randy Acord, test pilot

In 1942-43, twenty-three tech reps came to Ladd from twenty-one companies. Major aircraft manufacturers of the day were represented, including Bell, Boeing, Consolidated, Curtiss-Wright, Lockheed, North American, and Republic. Other companies included engine and component manufacturers such as Allison, Bendix, and Pratt & Whitney. Other equipment makers were also represented: Hamilton-Standard (propellers),

[39] Daso, 4, 10.

[40] Specifically, CWTD was directed to "(1) To test new operation procedures and the complete winterization of all types of Army Air Forces equipment for Arctic use; (2) To secure adequate data for actual Arctic operation to verify or amend existing Tech Orders and bulletins on winterization; (3) To provide data to aircraft manufacturers as necessary to accomplish modifications and changes in design; (4) To test and suggest improvements on all equipment required by the Army Air Forces for Arctic operation." *Cold Weather Detachment Historical Data*, nd, Elmendorf AFB History Office, Cold Weather Operations at Ladd Field file.

[41] RCWTD, 442.

Herman-Nelson (ground heaters), General Electric (electric heaters), and General Motors (trucks). They became an essential part of the cold weather test program, working together with the Air Corps pilots to solve engineering problems and communicate information back to the factory production lines. Quarters were available for these representatives at the Arctic Hotel in Fairbanks.

Ladd's Cold Weather Test Detachment also expanded from the small scale of the previous two years to include 50 officers. They were test pilots, bombardiers, engineers, weather, photographic and support officers. In addition to the Ladd Field detachment, men from Wright Field were on site. They included researchers from eight laboratories at Wright Field: aero-medical research, aircraft, armament, equipment, materials, photographic, power plant, and propeller laboratories. The Signal Corps, Quartermaster Corps, and Air Service Command also contributed personnel.

The detachment requested that two of every aircraft in the inventory be winterized and sent to Ladd Field by the beginning of the cold weather season in early October. With the demands on wartime production, deliveries were delayed. Some airplanes arrived at Ladd so near the end of the winter that they missed the cold weather. Much to Gaffney's irritation, some did not arrive at all before he submitted the station's final reports in April 1943.

In his summary of that season's work, Gaffney confirmed that the basic winterization processes that had been developed in the previous two years of testing were sound. Significant problems still remained with aircraft components that failed or performed poorly in extreme cold, and these failures could compromise wartime missions. The Germans had experienced such failures in their winter campaign against the Soviet Union. Gaffney exhorted that the cold weather problems "which completely stopped the German offensive against the Russians in the past two winters must not be permitted to stop operation of Army Air Force aircraft."[42] He recommended that the AAF strive to be able to operate all aircraft at temperatures as low as 65 degrees F below zero and warned that the experience of the past winter had shown that the AAF had no combat or cargo aircraft that could reliably meet a threshold of even 25 below.

This transitional test season clearly pointed out the problems that the engineers would need to solve and provided first-hand experience to the manufacturer's reps and the Wright Field staff who had taken part. Civilian tech reps and Wright Field personnel had finally seen the difficulties that ground crews and flight crews experienced while working with aircraft at temperatures of thirty and forty below zero, had experienced the short winter days, and had witnessed the difficulties that supply problems and inexperienced personnel posed for the reality of Arctic air operations. The CWTD and the Wright Field staff forwarded over 150 technical reports to their headquarters. Their recommendations incorporated new information gathered from the winter's wartime missions in the Aleutians and on the Lend-Lease delivery route. Taken together with the Air Transport Command's experiences that winter on the Northwest Staging Route and the 11th Air Force's cold weather combat flying in the Aleutians, the problems of cold weather operations were at last getting the attention they required.

[42] RCWTD, 9.

During the last two winters of the war, CWTD continued to follow the research pattern that was set in the winter of '42-'43. The detachment conducted experiments in coordination with Wright Field, Eglin Field, and the manufacturers' civilian tech reps. Following Gen. Arnold's research priorities, they focused on making improvements to existing production aircraft and equipment. According to one of the project officers at that time, the detachment was able to meet its goal of having all aircraft in the inventory operational to a temperature threshold of forty below or better within that two-year period.[43]

Figure 14. CWTD Fighter section crew, ca. 1944. Courtesy Pioneer Air Museum/Randy Acord.

Figure 15. Fighters in front of the CWTD's T-Hangar. AAF photo.

To accomplish its testing goals, the detachment was divided into four flight sections with some smaller sections devoted to other cold weather issues. The main flights were: Fighter Section, Medium Bombardment, Heavy Bombardment, and Miscellaneous Aircraft. Other components included Auxiliary Test, Supply, Armament, Ordnance, Transportation, and Photographic. Nine technical shops supported the detachment's efforts: Bombsight, Parachute, Machine, Instrument, Electric, Sheet Metal, Radio, Radar, and Hydraulic.

During this period, Ladd Field itself had been transformed to accommodate ALSIB Lend-Lease with an additional runway, new hangars, and hundreds of temporary buildings. At this time, the CWTD was based out of the east half of Hangar One. A pair of Kodiak T-hangars and an adjoining cluster of ten Butler buildings had been constructed for the detachment's use east of Hangar One.[44] Six of the Butler warehouses are still extant. Randy Acord stated "that's where we did all of our testing on clothing, ground support equipment, even sunglasses...." The detachment's enlisted men were quartered in the barracks wing of today's Bldg 1555. Officers were housed in the BOQ, known today as Murphy Hall. In spite of the new construction, however, hangar space was still in demand. By 1944, the detachment also used a stateside base at Watertown, South Dakota, to winterize aircraft and install test equipment before flying its planes to Ladd.

When the war ended, cold weather testing continued at Ladd on a reduced level. During the first winter after the war, pilots and personnel were demobilized in large numbers. At one point, the commander of the CWTD discovered he had only four experienced pilots left who were familiar with the route between Watertown and Ladd. He set them to work for two months straight, checking out new crews.[45]

[43] Personal communication, Randy Acord.

[44] According to a 1944 plot plan, the Butler buildings were used for the following CWTD functions: transportation; supply; cletrac; equipment section; radio; photo, prop and hydraulic; Wright Field office; a Cold Weather Test office; and armament section. The extant Butler buildings are 1533, 1534, 1537, 1538, 1539, and 1540. They are presently leased to the Bureau of Land Management.

[45] Interview, Randy Acord, 17 May 2002.

Even with reduced personnel, field testing went forward in the immediate post-war years. John Child, a radio operator with the 621st AF Base Unit detachment from Eglin Field, recalled being assigned to cold weather testing during the winter of 1946-47. The unit tested B-29, C-54, and P-80 aircraft. On one assignment, they simulated a crash landing at Blair Lakes, practicing ditching procedures and spending several days at the site, testing survival equipment such as emergency and mess kits, clothing and sleeping bags.[46]

By the end of the 1940s, however, Ladd had become a center for strategic reconnaissance and air defense. Cold weather testing continued, but was secondary to the new Cold War missions. One of the ironic handicaps of Ladd's original cold weather testing program was its very reliance on natural cold weather. Extended periods of significant subzero cold could not be scheduled on demand with Mother Nature. In 1947, the Air Force opened a new all-weather test hangar at Eglin AFB in Florida. From then on, Eglin AFB took the lead in the cold weather program. Most of the cold weather aircraft testing took place there, and Ladd played a smaller role in the testing process. However, the need for field evaluation never disappeared entirely, so a Cold Weather Materiel Testing Squadron at Ladd continued to perform field tests on engines, armament and maintenance procedures during this period. USAF's Arctic Aeromedical Laboratory, organized in 1947, also studied medical and psychological aspects of cold weather performance at Ladd during the Cold War period.

In the end, from a logistical and economic perspective, Ladd could not compete with the climactic hangar at Eglin. But Ladd's cold weather testing unit served an important function by providing some of the first hands-on Arctic operational testing and experience. As its commander Dale Gaffney once stated, neither military nor civilian organizations had initially comprehended the true difficulty of undertaking Arctic flying operations. They "either could not or would not recognize that there was any problem in connection with arctic or cold weather operations," he wrote. "This attitude varied from passive resistance to marked antagonism." For Gaffney, it was firsthand experience with cold weather operations that made believers out of designers and engineers. "If the... tests had accomplished nothing other than the fact that the(se) individuals...have been impressed with the rugged and exasperating requirements of arctic operations, it is felt that the time and effort has been well spent."[47] Certainly Ladd's cold weather testing had accomplished this and much more by the war's end.

[46] Personal communication, Mr. John Child, 9 October 2002.

[47] *Report of Cold Weather Test Detachment, Winter of 1942-1943*. U.S. Army Air Corps, Ladd Field, Fairbanks, Alaska, vol I. 7.

Testing Activities

A review of the technical achievements of the cold weather test program is beyond the scope of this publication, but some of the efforts are included here in layman's terms to illustrate the scope and breadth of this activity.

The detachment's primary goal during the war was to improve the cold weather performance of all aspects of aircraft and armament in the AAF inventory. The detachment sought information on specific aircraft, their components and instruments, general winterization processes, and ground operations and maintenance requirements. An overall winterization directive was prepared in 1942 and each of its recommendations was evaluated in operation. It addressed a wide variety of issues, including engine oils and lubricants, carburetor functions, de-icing equipment, tires, spark plugs, oil immersion heating, battery carts and many other items. Individual aircraft types were also tested for performance, and so were component parts from various manufacturers. Nearly every imaginable aspect of cold weather operation fell under the purview of the test program as it expanded later in the war, although logistical limitations prevented all of these from being addressed in the field.

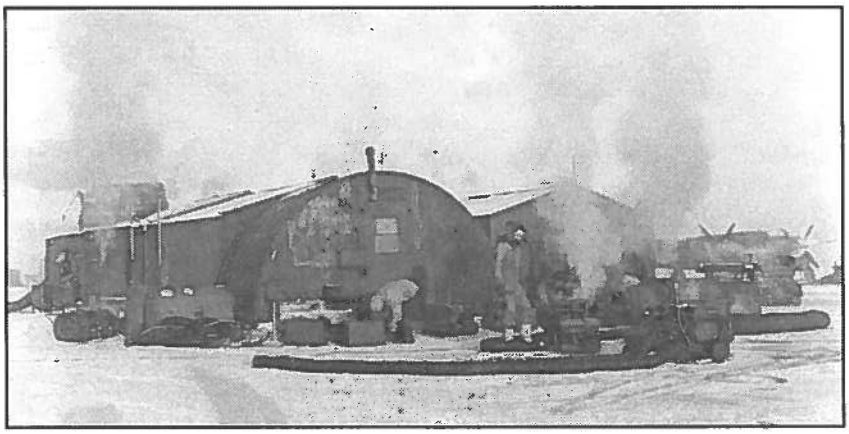


Figure 16. CWTD ground equipment test area, east side of Hangar One. Note C-13 battery carts and Herman-Nelson heaters. B-26 in background. Temperature 35 below zero. AAF photo ca. 1944, courtesy Russ Sackett.

Aircraft testing was a particularly complex operation to support. Instead of having a limited number of aircraft types to maintain, which would have been the usual procedure for a combat wing, Cold Weather Test supported 20 or more different models of airplanes simultaneously. Each one required technical support, proper parts, and detailed maintenance logs. The detachment kept track of it all in an engineering office on the ground floor of Hangar One. Test pilot Randy Acord recalled: "with all those airplanes we had, we had walls of tech orders."

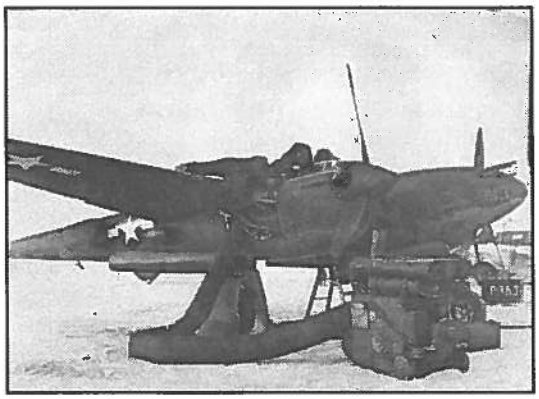


Figure 17. P-38 readied for flight. Courtesy Pioneer Air Museum.

A project officer was assigned to each type of aircraft. Ideally, two aircraft of each type were provided for testing. The project officer was the sole pilot on the first one and was also responsible for the research records of the second. If any unusual maintenance was done, or if components failed, that was photo-documented to supplement the written records that were kept in the engineering office. There was enough photographic work to keep M/Sgt. Paul Solka and a large staff of photographers constantly occupied taking pictures and developing prints for the research files. Each one was done

in triplicate. Randy Acord remembered that Solka would joke, "Yea, we gotta have one for the Japs, one for the Germans, and one for file." At the end of the test season the project officers compiled all of the information into handwritten reports that secretaries in the Cold Weather Test office would type for submission to headquarters.

Milton Ashkins (Brig. Gen, USAF, ret) was one of the original test pilots and was decorated for combat service during the Aleutian campaign. He served as the Chief of the Fighter Section from 1940-1943, with the exception of his Aleutian duty. He recalled that one of the detachment's contributions was getting hydraulics to work in subzero temperatures. Randy Acord was a test pilot in the Fighter Section from 1943 to 1946, assigned to the P-38. The detachment made an important contribution to the development of the P-38 by solving a technical difficulty with the carburetor that caused spark plug fouling, made the aircraft vulnerable to engine failure in combat, and prevented the P-38 from getting the range it would need to provide planned bomber escort from the Aleutians to Japan. Acord explained,

> To get the long distance range out of a fighter, you had to pull your rpm back to a low engine rpm. When you do this to an Allison engine or a Rolls-Royce engine, you don't get proper vaporization of your fuel. The raw fuel in liquid form would go through and the amount of lead they had in gasoline then to make 100 octane was 5 ½ ccs of lead per gallon. When that fuel would vaporize, it'd leave the lead in the cylinder. The lead then would accumulate in the spark plugs and foul them up. And if you got jumped by the enemy and threw the throttle to put a lot of power on, you'd get detonation, and pretty soon your engine blows up.
>
> I spent about 220 hours of flying time alone in the P-38 eliminating this problem. We knew that this problem existed before, so in that particular airplane, I could read temperatures in 54 different locations.... I could tell you the temperature of the air from the time it entered that airplane until it entered the cylinder. So we had to devise a system so we could get warm mixture, gasoline and air mixture, at the intake valve of those engines. And we did it, after 220 hours of testing we finally figured out ways to do it, and then they immediately put that into production at Lockheed.
>
> We wanted to get an airplane that was suitable to escort bombers on long-range hauls, because when we got ready to go from Attu to Tokyo, we wanted to have an airplane that would function all the way. This was the secret of getting carburetor heat involved in a turbo-supercharger installation so that we could have a temperature control all the way through to the intake valves. As a result of this, we had to completely block off the inter-cooler so we didn't lose our carburetor heat. This required an extra installation of what we called a little barn door. It was a little electrically-controlled valve that was in the front of the inter-cooler that we could control automatically or we could control it manually. We chose to control it manually in order to save weight, and it worked perfect. As a result of this...a

Lunchtime Landings

"I'd had the P-38 on skis, retractable skis, for the whole month of March 1944.... I made 165 take-offs and landings on skis. It was only about 45 of them for the actual test, of what we were wanting to test. But then the manufacturer of the skis...wanted us to put some mileage on them, see how they'd hold up. Well, I made 120 landings, sliding 7,000 feet on each landing, and then take off, come around and set her down again. I had to do that during the noon hour, between 12 and 1 o'clock because at Ladd Field that was our lowest traffic time in the area on the field. So they would make me do this during the noon hour. During that one hour, I could make 25 landings! Fantastic. But I just up and circled around, and I retracted them and extended them every time, and come around and set her down. The skis were made out of laminated wood, and the bottom layer was ironwood....And you know after 165 sliding landings with that thing, it was just as pretty as when we started."

-Randy Acord

P-38 with a 310-gallon belly tank on it could have gone from Attu to Tokyo without refueling, if they didn't have to drop a tank.... Kelly Johnson, the chief design engineer at Lockheed, you could almost hear him yell over the phone when we told him that we had perfected this to the point of being able to use on all aircraft.... [When] we told Kelly Johnson about it, he called Hap Arnold right away and it immediately went into production....

Figure 18. Emergency rations. AAF photo, CWTD Report 1942-1943.

In December 1942 a test team bivouacked at an existing crash site near Ladd Field to field test the performance of airplane emergency kits. Among other recommendations, the team suggested that downed pilots in winter should heat both their mess kits and their utensils, or else "the food would become cold and the fork would freeze to the teeth."

-RCWTD, vol II, 350

The improvement of Army Air Force cold weather clothing and emergency survival equipment was also part of the cold weather test program. The AAF needed to develop cold weather gear that specifically addressed the needs of aircrews and which could be mass produced and distributed through military procurement channels. It was an enormous undertaking. Adapting the knowledge of Natives, other local residents, explorers and extreme adventurers to the development of cold weather materials and products was part of the challenge. Tests at Ladd Field contributed to this process, although in most cases the supervising laboratories and agencies were located elsewhere. Efforts to improve clothing and personal equipment sparked considerable controversy within these procurement and development agencies, but the stakes were high for the servicemen who had to depend on this gear. This project only addressed this topic briefly.

Well-known explorers contributed their knowledge to the clothing and equipment test efforts at Ladd Field. One of the most famous at the time was Australian explorer and aviator Sir Hubert Wilkins. With Alaskan pilot Carl Ben Eielson, Wilkins had made the first trans-Arctic fixed-wing flight from Barrow to Norway in 1928. In addition to flying in the high Arctic, Wilkins had also mounted several

Figure 19. Explorers and CWTD officers at Ladd, ca. 1942-43. Left to right: Col. Henry Bordelon, Brig. Gen. (then Col.) Dale Gaffney, Sir Hubert Wilkins, Lt. Col. Ashley McKinley, Lt. Col. Bob Williams. In rear, Lt. Col. R.R. Greiner, Lt. Col. Clarence Hodge. Kay Kennedy Aviation collection, 91-098-854, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

expeditions to Antarctica. Wilkins had built an international reputation during his career, and his achievements were widely reported in the press. Sir Hubert was associated with the Quartermaster Corps as an expert consultant at Ladd, participating in field tests and submitting findings on clothing.

Lt. Col. Ashley C. McKinley was another distinguished polar aviator serving at Ladd, and he made a lasting impact on the development of military aviation. Unlike Wilkins, who was not an American citizen, McKinley was commissioned as an Air Corps officer and assigned directly to the Cold Weather Test Detachment at Ladd as a liaison officer, advising on cold weather issues. McKinley had flown with Commander Richard Byrd on the first flight over the South Pole in 1929, and made aerial photographic surveys on the expedition. He was instrumental in suggesting the construction of the all-weather hangar at Eglin AFB, which was renamed in his honor in 1971. McKinley also served as the commander of the CWTD's stateside base in Watertown, South Dakota, and eventually transferred to Eglin. Randy Acord remembered that McKinley lived in a house predating the construction of Ladd Field on what is now Applegate Road. No historic buildings remain in that area today.

Prominent mountaineers also contributed to the clothing and personal equipment programs. Mountaineer and artist Belmore Browne, who took part in some of the earliest attempts to climb Denali (Mt. McKinley), served as a Wright Field clothing consultant and was on the roster of test personnel at Ladd during the 1942-43 test season. Mountaineer and geographer Bradford Washburn was also a civilian advisor to the AAF. Among other things, Washburn participated in the U.S. Army Alaskan Test Expedition on the upper slopes of Denali during the summer of 1942. Ladd Field supported this expedition with aerial supply drops and with radio communication to the mountain team, allowing for rapid reporting back to the research agencies.[48]

Figure 20. Parka test. AAF photo.

It was not only well-known explorers but also experienced Alaskans who assisted the Air Corps in its early adaptation to interior Alaskan operations. The Air Corps had developed a contact list of local veterans with previous military flying experience, who presumably provided some assistance. Local pilots and mechanics also shared strategies for dealing with cold weather operations. Medical officers interviewed Native and non-native residents to get help in

[48] Michael P. Sfraga, "Distant Vistas: Bradford Washburn, Expeditionary Science and Landscape 1930-1960," Ph.D. Diss, University of Alaska Fairbanks, 1997, 196-204. Dr. Sfraga also describes Washburn's contribution to the wartime development of AAF clothing in greater depth.

preventing cold injuries. Men from Ladd Field and the research agencies also consulted with Native Alaskans about winter clothing. Some of the military advisors were strong advocates of Native-style gear. However, it soon became clear that it would be nearly impossible to adapt those natural materials to the mass production needs of the military.

The CWTD's parachute shop, staffed mostly by local civilian women, also played a role in the development and adaptation of clothing and gear. When called upon, these women successfully undertook industrial sewing projects to custom-produce items the detachment required. Irene Noyes worked there and remembered they had special assignments in addition to their ordinary duties of packing parachutes, adjusting harnesses, tailoring officers' uniforms, and sewing on insignia. One of their tasks was to make custom wing covers for aircraft. A crew member, a former tentmaker, gave them the initial training to make the covers and they prepared them on site. Irene remembered,

> We made them right there, with 12-ounce duck. A B-26 is a big airplane and so is a B-17, it's big. And the duck was heavy and I'd sit at the machine, and there'd be a GI on each side of me, with 50 yards of that 12-ounce duck. They would hold it up so I could lead it through the machine, because I couldn't push it; it was too heavy. Neither could the other girls, and they were bigger than me.

The women in the shop also did custom sewing on the early cold weather test parkas. They made practical adjustments to the Air Corps-issued clothing, adding elastic around the waist and fur around the hood, as Irene put it, "all kinds of good stuff." She recalled that the parkas "were lined with pile and they weren't very warm. Hood, but no fur around it. Forty below, you need a little fur around there. And so we'd have to get fur and sew the fur around the hood. When the first ones came, they didn't have a [cuff]; you have an open sleeve at forty below your arm gets cold." She added, "There was a lotta things they didn't have on there that we put on, and we got pretty good at making the cold weather test parkas. The guys liked it. I even sewed the cold weather test flag that they did for [a] parade.... They had us do everything, you know."

The full history of Ladd Field's contribution to cold weather testing is still unwritten and lies beyond the scope of this project. More information about the "cold nose kids," their battles with the cold weather gremlins, and the contributions of knowledgeable Alaskans will add to our understanding of the role Ladd Field played during World War II.

CHAPTER 5.0 ALSIB Lend-Lease and the Air Transport Command

From 1942 to 1945, Ladd Field had a special mission. The airfield served as the official transfer point where American aircraft were turned over to the Soviet military on a back-door air route to the Russian war front known as the Alaska-Siberia (ALSIB) route. This complex transfer operation soon transformed Ladd Field into a busy bilingual air traffic hub with new personnel, facilities, and command structure. The Air Transport Command eventually took command of the field to support the Lend-Lease deliveries and other ATC responsibilities in the Alaska Theater.

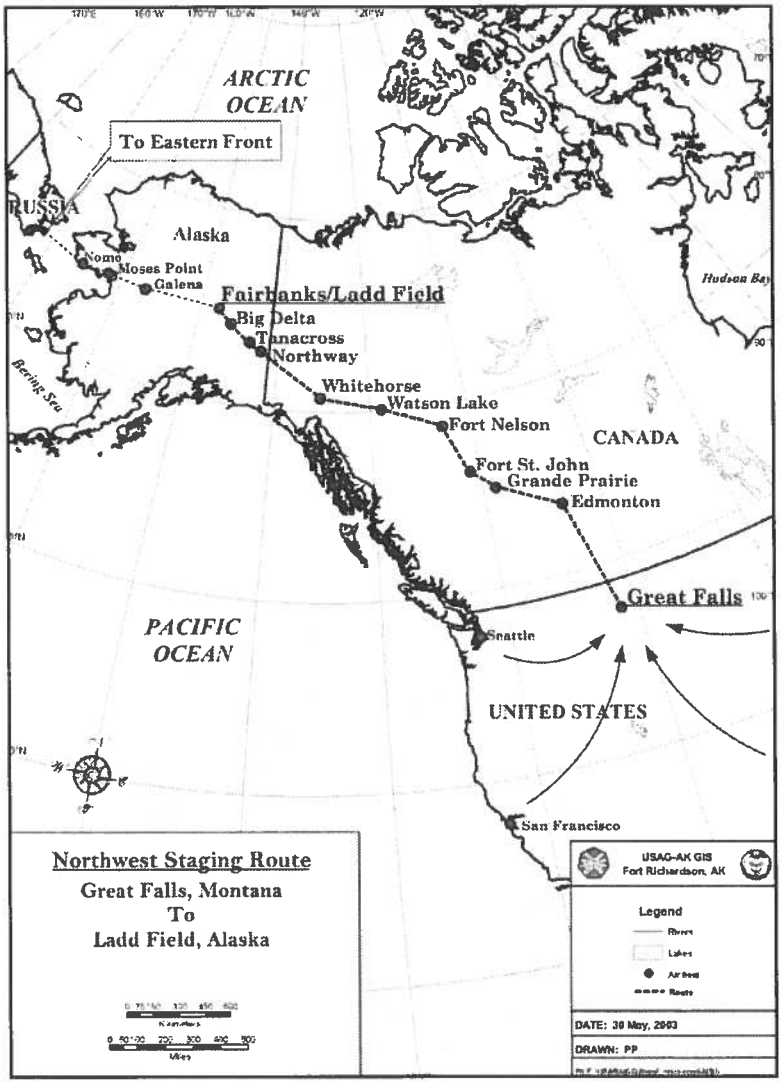
Figure 21. 5,000th aircraft delivery at Ladd Field, Sept. 1944.

Lend-Lease Overview

Lend-Lease was originally established as a strategy to allow the United States to provide material assistance to Great Britain while preserving its official neutrality. In March 1941, the United States began providing war supplies to Great Britain under the new program. Lend-Lease aid was loosely defined to encompass virtually any commodity useful to the defense of friendly nations. Over the course of the war, aid was extended to other nations as well as Great Britain, and a vast array of items were shipped overseas using a variety of routes and methods. Aid ranged from heavy war materiel and munitions to industrial equipment, raw material, agricultural products, and many other commodities.

In June of 1941, Germany suddenly attacked the Soviet Union, taking the Soviet Air Force by surprise and, among other things, destroying thousands of warplanes in the first week of fighting. In October 1941 the U.S. government formally extended Lend-Lease aid to the Soviets in an agreement known as the First Protocol. Under this agreement, heavy war materiel was shipped to the U.S.S.R. by various sea routes. Aircraft were either crated and shipped by sea across the North Atlantic or flown via an air-sea link from Miami to South America, Africa, and Iran.

The idea of flying aircraft via the northwest route through Alaska was raised in the earliest Lend-Lease negotiations with the Soviet Union, but was not implemented until the Second Protocol the following year. An Alaska-Siberia air route offered several advantages. The North Atlantic sea route was subject to the constant threat of German U-boat attack, while the southern air route had its own disadvantages. It featured long over-water legs that limited its usefulness for short-range aircraft. Planes flying that route also sometimes sustained damage from sand and grit at the African and Middle Eastern airfields. A northwest route through Alaska and Siberia would be the most direct, and would allow for intermediate refueling and repair stops. However, the proposal raised diplomatic



Map 4. ALSIB route, North American side.

and strategic issues. Moving warplanes and materiel across this northern route, relatively close to Japan, could have provoked the Japanese into declaring war on the U.S.S.R., which was already occupied with its deadly struggle against Germany. Furthermore, the U.S.S.R. was adamant about not allowing any American presence in Siberia. American military planners hoped for access to Siberian airbases after war broke out with Japan but were not successful in negotiating this point.

By the summer of 1942, though, the two sides had agreed to a plan for the Alaska-Siberia (ALSIB) route. American pilots would ferry the newly manufactured planes from the factories to Gore Field and later to East Base at Great Falls, Montana. With Canadian cooperation, they would bring the aircraft to Alaska along the Northwest Staging Route, the pioneer inland air route through western Canada and into interior Alaska.[49] At Ladd Field, Soviets would take delivery of the planes, fly them to Galena, Nome, and then on to the Siberian portion of the route and westward to the front lines. Ladd Field was selected over Nome as the transfer point in part because it was inland and more protected from potential Japanese attack.

Preparations for the aircraft transfers began at Ladd in August 1942 with the arrival of personnel from both nations. Deliveries began the next month and continued throughout the remainder of the war. Eventually, more U.S. Lend-Lease aircraft transited the ALSIB route through Ladd Field than by all the other routes combined. By the time Lend-Lease officially concluded in September 1945, 7,926 aircraft and many tons of cargo had been transferred to Russian control at Ladd.[50]

[49] The route began in Great Falls, and had landing fields in Alberta at Lethbridge, Calgary, Edmonton, and Grande Prairie; in British Columbia at Dawson Creek, Ft. St. John, and Ft. Nelson; in the Yukon Territory at Watson Lake and Whitehorse; and in Alaska at Northway, Tanacross, Big Delta, and Fairbanks. The ALSIB route combined the Northwest Staging Route, flown by U.S. pilots, with western Alaskan and Siberian segments flown by Soviet pilots. Soviet flyers took the route from Fairbanks, Galena, Moses Point, and Nome on to Uel'kal, Markovo, Siemchan, Yakutsk, Kirensk, Krasnoyarsk, and Novosibirsk.

[50] Precise figures of aircraft vary slightly according to source. Figures given at Ladd Field were 7,926 total ferried aircraft departures, broken down as: 2,618 P-39; 48 P-40; 3 P-47; 2,397 P-63; 1,363 A-20; 732 B-25; 710 C-47; 54 AT-6; 1 C-46. Monthly Historical Report, 1466th AAF Base Unit, September 1945. Microfilm AO177, Elmendorf AFB History Office. Also see Daniel L. Haulman, "The Northwest Ferry Route," in Fern Chandonnet, ed. *Alaska at War, 1941-1945: The Forgotten War Remembered* (Anchorage: Alaska at War Committee, 1995), 324.

Lend-Lease aid to the Soviet Union, a wartime ally but potential future enemy, was controversial at the time and remained so for many years afterward. Disagreements over how much aid was appropriate to provide, how much the U.S.S.R. should have paid for it, and how much espionage occurred, may never be settled by historians and participants. However, as a strategy to defeat Germany, Lend-Lease had support at the highest levels. The flow of planes and materiel along the ALSIB route was given a very high priority. The wartime alliance with the Soviet Union served its purpose of defeating the Axis, and ALSIB Lend-Lease contributed in some measure to the victory.

Lend-Lease Operations at Ladd

Ladd Field was the location where the actual transfer of aircraft between the two nations took place. While other airfields were part of the staging route, only Ladd Field was designated as the official transfer point. The transfer operation was complex and required large numbers of people. It depended upon coordination of pilots, aircraft, and support personnel on each side of the ALSIB corridor.

The Air Transport Command (ATC) was responsible for the operational details of ALSIB Lend-Lease on the North American side of the route. It was in charge of delivering planes from the factories to the departure point at Gore Field in Montana and on to Ladd Field. The ATC operated the staging fields along the route, coordinated the deliveries at Ladd, and saw that the ferry pilots were returned to Gore Field for their next trip.[51] The 7th Ferry Group, a separate command within ATC, provided the pilots who actually flew the Lend-Lease planes to Ladd. These pilots were based at the southern end of the route.

At Ladd, the ATC oversaw the American side of the transfer operation, as well as other air transport duties in the Alaskan theater of war. However, at first the ATC was not in command of the field.[52] When Lend-Lease operations began, Ladd was under the Cold Weather Test Detachment and its commander reported directly to the Headquarters of the Army Air Forces. Other support units at the base served under the Alaska Defense Command. The arrival of the ATC with its high priority mission of delivering planes to the Russians put a strain on that arrangement. Consequently, after considerable internal maneuvering, the ATC gained command of Ladd Field and many of its support units on October 1, 1943, and remained in charge of the field for the rest of the war.[53] The brigadier general in charge of the ATC's Alaskan Wing during those years was none other than Dale Gaffney, who exercised command of the wing from Edmonton.

On the other side of the operation, a Soviet military detachment and representatives of the Soviet Purchasing Commission oversaw the transfers. Their personnel included translators, mechanics and engineers. It is not clear from the

[51] The ATC was originally known as the Ferry Command. Women pilots in the WASP corps did not ferry aircraft along the northwest route during the war but did participate in ferrying aircraft from the factories to the departure point at Great Falls.

[52] The 384th Air Base Squadron under Major R.F. Kitchingman was the first ATC unit headquartered at Ladd. It was subordinate to the Alaskan Wing (later the Alaskan Division) of the ATC, headquartered at Edmonton, Alberta. By October of 1942, the 384th had 303 personnel, including 88 men at the outlying stations of Galena, Big Delta, Tanacross, and Northway. The 384th was one of three original squadrons that supported the operation of the entire Northwest Staging Route; the others were the 385th, headquartered at Great Falls, and the 383rd at Edmonton, Alberta. Carr, 74-80, 88, 91-93.

[53] According to Carr, this was only accomplished after personal consultation with Gen. Arnold. Carr, 92. These units became part of the ATC: the 439th Air Base Squadron, 6th Air Depot Group, and 83rd Depot Supply.

Figure 22. Russian pilots' briefing room, Hangar One. AAF photo, courtesy Pioneer Air Museum/Randy Acord.

records exactly how many Russians were present at Ladd, but at the program's peak, as many as 300 were reportedly stationed at the airfield. Transient pilots and flight crews also rotated through from front-line duty.

The Soviets were provided with facilities such as hangar space and quarters, and the extent of the Russian presence on the installation was striking. Capt. Richard Neuberger recalled visiting Ladd Field and passing a sentry standing duty by the hangar. "Suddenly I turned and looked at the sentry again. He was not an American soldier, as we had presumed. He was a soldier of the Red Army, and he was guarding a hangar where Soviet mechanics...were swarming over planes which soon would be winging across Siberia on their way to the battlefront in Europe."[54] Maj. Gen. John R. Deane, commanding the U.S. Military Mission to Moscow, passed through Ladd Field and was astonished by the access the Russians had to Ladd facilities, in contrast to the restrictions placed on the American military in Moscow.[55]

The Russians had the exclusive use of the west half of the first floor of Hangar One. This area included hangar bay space as well as several maintenance shops and a pilots' briefing room. They also used a Butler building adjacent to the west side of the hangar to store equipment such as Herman-Nelson heaters, battery carts, and cletracks for towing aircraft. Russian and American personnel even jointly manned an Army Airways Communications Systems (AACS) station in Hangar One. In the control tower itself, one of the two positions was designated for the Russians, although it was operated on their behalf by Russian-speaking American personnel.[56] Russian personnel could patronize the base exchange, and officers had access to an officer's club with slot machines and pool tables in one of the NCO buildings. Officers could also arrange for the use of motor vehicles with American drivers. They shared the officers' mess with their American counterparts.[57]

CWTD pilot Randy Acord recalled that "(w)hen it came to flying, (the Russians) always led the field" and were given priority for takeoff. However, the Russians' priority at Ladd Field ended at the doorstep of the officers' mess. "We took the first time that was most convenient to us," Acord recalled, "and then the Russians would have to fit into that. Now that was the only place that we had an override on the Russians!"

---

[54] Captain Richard L. Neuberger, "Airway to Russia," *Alaska Life*, October 1944, 5.

[55] Otis Hayes, Jr., *The Alaska-Siberian Connection: The World War II Air Route*, (College Station TX: Texas A&M University Press, 1996) 80.

[56] The radio station had 5 Army radio positions, 3 teletype positions, and one "Russian operated position." The control tower had two positions, one Army operated and one Russian. The Russian position was manned by American Army interpreters under the supervision of the Army operator. Monthly Historical Report, 1466th AAF Base Unit, January 1945, p.11. Microfilm AO177, Elmendorf AFB History Office.

[57] Otis Hayes, Jr., *The Alaska-Siberian Connection: The World War II Air Route*, (College Station TX: Texas A&M University Press, 1996), 80.

Transition Training

At the beginning of the Lend-Lease program, U.S. instructors operated a Transition School to familiarize Russian pilots with the American aircraft until the Russians had enough experience with U.S. planes to take over this duty themselves. The language barrier made the instruction awkward, since only one instructor spoke Russian. The others had to rely on interpreters who were not yet familiar with aeronautical terms.

The single seat fighters were the most challenging, since all checkouts had to be done on the ground. One captain reported, "A young fighter pilot with a girl interpreter came over to my P-40 for a check. The Russian climbed into the cockpit, the girl got on one wing, and I got on the other. He asked me only four questions and then took off. The first thing he wanted to know was, 'How do you start it?" I told the girl, she told him and he said, 'Da,' Russian for 'yes.' Then he asked for the maximum pressure and the RPM for the takeoff. His next question, 'How do you keep the oil temperature and the coolant temperature up?' Finally he wanted to know how to operate the radio. Then he took the plane up for its test run, and he knew how to fly it too."[59]

The first Russian pilots to arrive at Ladd received training on the American planes from American pilots working with interpreters. Later, the Russians trained their own incoming ferry pilots and crews. At first, deliveries were slow. The winter of 1942-43 was one of the coldest in memory. Facilities on the Northwest Staging Route were still incomplete, pilots were inexperienced with the route, and the Air Transport Command was still building up a coordinated delivery system. By spring, though, the number of deliveries had grown, and for the next two and a half years, deliveries averaged more than 250 per month.[58]

When aircraft arrived at Ladd, mechanics from Ladd's 6th Air Depot Group checked each one carefully before turning them over to the Russians. Soviet mechanics then checked the aircraft against their own specifications. They could, and did, refuse to accept planes until the aircraft met strict standards. This process caused frustration on both sides, but that eventually diminished over time. The Americans came to understand that repairs could not be made very easily once the aircraft had reached the Siberian side and that Russian mechanics who signed for the planes at Ladd did not want to be held responsible for failures along the route. For their part, the Russians were initially suspicious that deliveries were being intentionally delayed at a point in the war when they were most urgently needed. This concern was also put to rest as the Russians observed the efforts being made by the ATC. A 1944 military report summed up the relations with these words: "In general, it can be said that there were few difficulties which were not ironed out after some discussion, spirited though it might be at times, and no friction that did not disappear as if by magic when plane deliveries started to come through on schedule."[60]

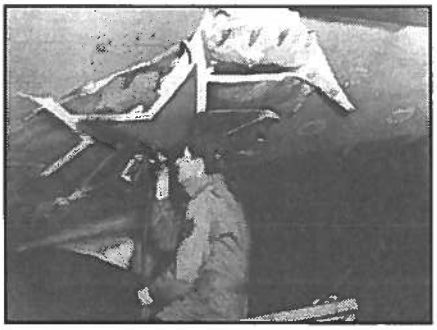


Figure 23. Early in the program, the Soviet red star was painted on the aircraft at Ladd. Later this task was done at Gore Field or at the factory. AAF photo, September 1942.

After the aircraft were accepted by the Russian mechanics and the purchasing commission representatives processed their paperwork, the planes became the property of the Soviet government. Then, when the aircraft and crews were ready, they departed in groups for the journey on to Galena, Nome and the Siberian airfields.

[58] Figure derived from table in Wesley F. Craven and James L. Cate, eds, *The Army Air Forces in World War II*, vol. 7. (Washington, DC: Office of Air Force History, 1983 edition.), 165.

[59] *History of the Alaskan Department June 1940-June 1944*, 364. University of Alaska Anchorage Archives, Walter Blue collection.

[60] OHLF, 87.

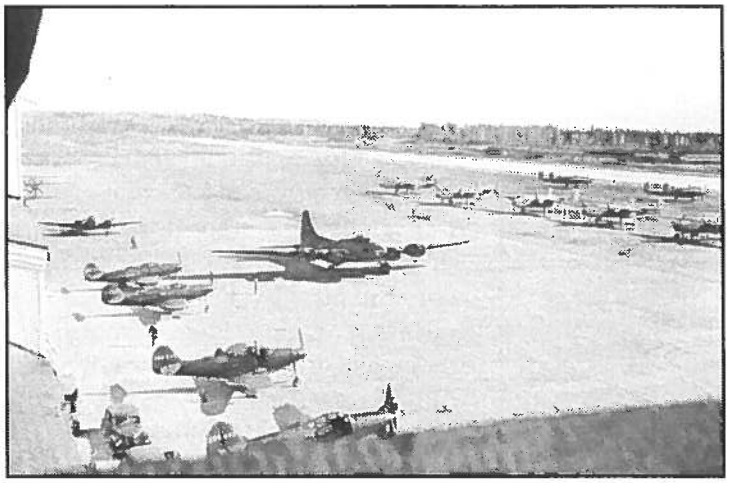


Figure 24. A B-17 taxis between two rows of Lend-Lease aircraft, ca 1944. P-39s are on the left and B-25s on the right. Photo taken from the weather office, Hangar One, looking east. Rex and Lillian Wood collection, #2002-164-52, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

When a typical departing flight was ready to go, it often consisted of a B-25 bomber, accompanied by several A-20 light bombers and by P-39 fighters equipped with extra fuel tanks to extend their flying range. Later in the war the P-39s were replaced by P-63s. Other aircraft sent in smaller numbers included P-40s, P-47s, C-47s, AT-6s, and one C-46. One visitor described the departure scene like this: "There was feverish activity on the field, a tremendous roaring of motors as a large convoy was getting ready to take off. ... The medium bombers, one after another, with a final racing of the motors...taxied down to the end of the runway and took off, the first ones circling the field until the last ones should join them. Then the half dozen P-39s...took off, one after another. And all together they moved into a tight formation and disappeared over the western hills."[61]

Descriptions of the Russians' flying habits varied, but commentators agreed that the Russian pilots performed with a combat-hardened perspective. One journalist described the Russians as "older men, harder, and all veteran killers of Nazis. They flew combat style, taking all the airplanes had to give, bending everything forward to the firewall and racking the P-39s around in screaming verticals. They had to fly to Nome...and on...and they were in hell's own hurry."[62] Official reports avoided such sensationalism, but did recognize the Russians' sense of urgency. Timely deliveries were, as one report stated, "a matter of life and death to them."[63]

International Cooperation...

Coordinating an international operation of the magnitude and technical complexity of ALSIB Lend-Lease was a challenge. Although high level issues were handled elsewhere, Russian and American officials at Ladd had to work out the day-to-day issues of running what amounted to a bilingual airfield.

The language barrier at Ladd was overcome in formal and informal ways. Several women interpreters translated for the Russians, and, because of the nature of the work, they became adept at translating technical manuals and aeronautical terms. The Americans had their own interpreters and military liaison officers as well.

Most of the American personnel at Ladd had only limited contact with their Russian counterparts, but sometimes they did encounter them on the job. Stan Jurek was assigned to the supply room over at Hangar Two. "[H]angar [Two] was the one they'd bring the C-47s into for checkup, after their flights," he said.

[61] Henry Varnum Poor, "The Russians at Fairbanks," *Harper's Magazine*, September 1945, 255.
[62] Wesley Price, "Ice in the Moscow Pipe Line," *Saturday Evening Post*, January 13, 1945, 87.
[63] HAD, 366.

Figure 25. Russian interpreter Natalie Fenelova assists two mechanics. Kay Kennedy Aviation collection, 91-098-865, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

"And the Russians would be in there occasionally, around there....[W]henever they came up to the supply room, they couldn't talk English, of course, all they'd (want) to do was get a piece of wire, or pair of pliers, that's the only thing they ever wanted....[O]ur mechanics would laugh, they didn't know what they were going to do with it, but they'd just wire up something, you know...." He remembered talking to the mechanics through interpreters. "It was really interesting.... They were nice, really enjoyable talking to them."

Irene Noyes, who worked for the Cold Weather Test Detachment in the Hangar One parachute shop, recalled that her shop offered to help out the Russians. "We felt sorry for 'em, and we aired their chutes out at the parachute shop. They'd have a big room [where] the parachutes are tied to the ceiling, hooked to the ceiling, and the fans air the things out, keep the silk from getting static-bound...." However, she recalled that the Russian chutes had a distinctly unpleasant odor. "Lord it was so pungent that I got sick to my stomach!...It was a sweet, icky smell. I don't know what it was, and they wouldn't tell us. But their chutes stunk to the high heaven."

Informal socializing was reportedly discouraged by the Russian commanders, but on some occasions Russians and Americans managed to get by with the help of phrase books. At one point, Ladd Field offered conversational Russian classes and published useful Russian phrases in the base newspaper, the *Midnight Sun*.[64] In addition to hello, goodbye, please and thank you, servicemen were armed with terms such as, "I am an American," "Come in! Have a seat!" "I am your friend," "Comrade Captain," and "Speak slowly." One of the Russian officers even offered a Russian language class in town, open to any interested Fairbanks residents.[65]

Marie Haggard, who worked in Priorities and Traffic, remembered inviting two Russians to dinner. "I liked to play chess. I thought I was pretty good. And of course chess is a game that the Russians enjoy. So I invited these two Russian fellows to dinner; Mother had a real wonderful dinner for them. After dinner we played chess, and, of course, I was off the board before many seconds went by." The Russians were reticent about speaking freely, but she found them extremely polite. "It was a nice rapport, as far as I was concerned," she recalled.

Sometimes, Russians who knew English concealed this fact. Irene Noyes remembered one incident in particular. One afternoon, one of the Russians brought a parachute into the shop. "He brought a chute in, and I was trying to fix out the records for it, and he couldn't talk English, kept looking in the [phrase] book. And I had him most of the afternoon to explain about the parachute shop and everything that he wanted to know." The exasperating exchange tried her patience. On the way home from work that day, she found herself traveling back

[64] "Russian Lesson Follows USAFI," *Ladd Field Midnight Sun*, 29 September 1944, 1. "How Is Your Russian?" *Ladd Field Midnight Sun*, 27 October 1944, 2. "Words Given For Russian Speech Class," *Ladd Field Midnight Sun*, 6 October 1944, 8.

[65] Personal communication, Thelma Walker, 19 August 2003.

into town on the same bus with the Russian. "Before we got to town, he asked me in plain English, would I like to go with him to the Cottage Bar for a scotch and soda? ....He offered to take me to the Cottage Bar," she recalled with annoyance.

Private Frank Nigro worked a second job as a bartender at the Russian officers' club after his regular duty day ended. He purchased a small English-Russian dictionary and set to work, soon gathering enough phrases to get by. "I got to learn...quite a bit of Russian. I tried to converse with those boys.... Some of them spoke a little English, very little. I was always out with that dictionary...that worked fine..." Club refreshments included beer and candy bars. "Beer in those days...came in cases, packed in sawdust," Nigro said. "I sold the beer there for ten cents a bottle on the bar, see. Hershey and the candy bars I sold for a nickel, and cigarettes I sold for a nickel also, five cents a pack. But my orders were not to give them more than two packages of cigarettes a day, and two candy bars a day. [Quartermasters] rationed me out, you know." Working as the bartender, Nigro had closer social contact with the Russians than many people did at Ladd. He remembered that "A lot of them were young, like me, young pilots. They were good guys, you know."[66]

...And International Intrigue

At first, the existence of the ALSIB route was an official secret. Northern residents were well aware that warplanes displaying the Soviet red star were crossing the skies in large numbers, but military censorship in the Territory prevented most news of Alaska's wartime events from being published. The War Department did not publicly confirm the existence of ALSIB Lend-Lease for more than a year, until November 1943. Even then, the details were restricted.[67] When ALSIB secrecy was finally lifted in the summer of 1944, the story of Russian-American cooperation and Ladd Field's role received coverage in national publications, including the *Saturday Evening Post, Harper's Magazine,* and *Alaska Life* magazine. Most of these stories focused on the cooperation of the two sides and the human-interest aspect of the Russians' exposure to American customs.

Many of the accounts in the press and in contemporary military reports described the Russians at Ladd as polite and disciplined, though extremely particular and demanding with regard to the condition of the aircraft. Descriptions of the language barrier were a favorite topic in the press and on the grapevine. In one instance, a writer reported that the Russians' favorite expressions were, "Okeh," "Okey dokey," and "Coca Cola." That story was misquoted so often that the ATC had to correct the record and point out quite reasonably that "Soviet airmen do not go around muttering 'okey dokie Coca Cola.'"[68]

However, the interaction of the two groups consisted of more than the Russians' exposure to American slang and commercial products. Intelligence officers on both sides quietly monitored the proceedings at Ladd and along the Lend-Lease pipeline. Diplomatic pouches, which originated at points south, were processed

[66] Interview, Frank Nigro with Margaret Van Cleve, 17 August 1993, UAF Oral History Recording, UAF Alaska and Polar Regions Archives, Rasmuson Library.

[67] Hayes 93, 99, 108.

[68] "Alsib," *North Star Magazine,* November 1944, 5.

through on Russia-bound flights, protected from searches by diplomatic immunity. In later years, reports surfaced that extremely sensitive secret material made its way into Soviet hands in this manner. The extent of espionage that took place on the route was the subject of intense controversy after the war, when the Soviet Union was no longer an ally, but a dangerous adversary.[69]

Because of its proximity to the Soviet Union, Alaska may have had its own secrets during the war as well, secrets that might have provoked Soviet curiosity. The 11th Weather Squadron reportedly had personnel stationed in Fairbanks at the University of Alaska who intercepted and decoded Russian weather reports from Siberia. They recoded the information for transmission to U.S. military authorities in San Francisco, using a newly invented tape fax technology. Augie Hiebert was a radio engineer who operated the broadcast facilities of KFAR about two miles from the university. Because the owner of KFAR was related to the inventor of tape facsimile, Hiebert had access to short wave equipment for transmitting the faxes. The weather station was connected to KFAR by a durable field wire, strung across the ground between the two points. Hiebert recalled how the process worked:

> We had a field phone on each end. They would just ring me on the field phone and say, we're ready to transmit so I'd go turn on the transmitter. I told them when the transmitter was up and I'd made contact with San Francisco. Then they'd feed it out. Down in San Francisco then it would be recorded off this fax tape and then done over on radio teletype and sent to the Pentagon. And this was for the strategic bombing of the Kuriles. We had to get the weather from Siberia, which told about what the weather was going to be like in the Kuriles. And that went on for quite a few months, until, I guess when the war started running down, then they quit it because then they didn't need it any more.... I didn't know at the time exactly what they were using it for, but I found out later.

He pointed out that there was no way to tell what the fax said without the right equipment, and there were only two units operating, one in a private back room at KFAR and the other in San Francisco. "The only way you could get this stuff is you had something that could receive [it]," he explained.

Some believe that Russian curiosity about the transmissions and the field wire led to a tragedy that maintains its mysterious elements to the present day. In July 1943, John White, a Fairbanks resident serving as a private at Ladd Field, disappeared while escorting two Russian officers who were believed to be Soviet NKVD intelligence agents.[70] White was assigned to a supply squadron that provided drivers for Russian military personnel. On July 15, he drove the officers to Ballaine Lake, in a quiet area northwest of town that lay between

[69] Lend-Lease espionage is a complex and lengthy topic beyond the scope of this publication. See, for example, George Racey Jordan, *Major Jordan's Diaries,* (New York: Harcourt Brace Jovanovich, 1952) and Otis Hayes, Jr., *The Alaska-Siberian Connection: The World War II Air Route* (College Station TX: Texas A&M University Press, 1996).

[70] For more details on this case, see E.J. Fortier, "The Death of Pvt. John White," *Fairbanks Daily New-Miner,* 17 July 1988, H8-H10 and 24 July 1988, H4-H5, and Hays, 80-84. Retired U.S. Army Col. George G. Kisevalter was cited as the source for Fortier's statement that the Soviet officers were NKVD. Kisevalter, then a captain, was the Soviet liaison officer at Ladd and participated in one of the investigating interviews.

the University of Alaska and the transmitter building for radio station KFAR. Before stopping by the lake, the group had visited KFAR as local people often did, although visitors were never shown the backroom equipment. After that, the officers claimed that they had gone into the woods by the lake to pick wildflowers and had also burned some documents. They reported that when they returned, White had vanished. The young man's clothes were discovered by the lake, neatly folded, as though he had decided to go swimming. Those who knew him did not believe this scenario. The lake was not used for swimming, they pointed out, and furthermore, White was afraid of water and did not swim. The military began ground and air searches. Army engineers slowly pumped the water out of Ballaine Lake, discovering White's body on the lake bottom. The cause of his death was determined to be drowning.

Over the years, as parts of the story came to light, some people believed White may have witnessed something the officers had done, possibly involving the burned documents, a wire tap or some other scenario, but this could never be proven. At the time, Ladd Field officers conducted an investigation but no action was ever taken against the Russians. The reasons for this are unclear, but the event highlighted the distrust that could arise between the two temporary allies.

Other intelligence aspects of Lend-Lease surfaced after the war and continue to be controversial even now. In 1952, George R. Jordan published an account of Soviet espionage within the Lend-Lease program. His book, *Major Jordan's Diaries,* remained in print for decades. Allegations surfaced that atomic secrets, among others, were passed under diplomatic cover to the Soviet Union across the ALSIB route and through Ladd Field. Discussions about the exact nature of this activity are likely to continue for many years to come.

Beyond the high-level intrigues, there are also accounts which focus on the cooperation of the ordinary people on both sides who accomplished the hazardous flying mission over the ALSIB route. Otis Hays, Jr., a staff officer with the Alaska Defense Command who supervised the liaison program with the Russians in Alaska, summed it up this way: "[T]he real story of the Alaska-Siberia route's success was a genuine tribute to Russians and Americans alike. They shared sub-Arctic flying hazards, surmounted most of the language and cultural barriers, and refused to let mutual suspicion overwhelm them."[71]

Russians in Fairbanks

> "It is no strange sight to see a stoic Soviet pilot, who has downed his share of Nazis over Rostov or Smolensk, lapping up a marshmallow sundae with chocolate ice cream and chopped nuts in a Fairbanks drug-store."
>
> -Capt. Richard L. Neuberger[72]

The Russian presence was also widely noticed in the community beyond the gates of Ladd Field, and has become part of a unique folklore and heritage of World War II in Fairbanks.

The distinctive Soviet uniforms caught the eye of people on and

[71] Otis E. Hays, Jr., "White Star, Red Star," *Alaska Journal,* Summer 1982, 17.
[72] Capt. Richard L. Neuberger, "Airway to Russia," *Alaska Life,* October 1944, 10.

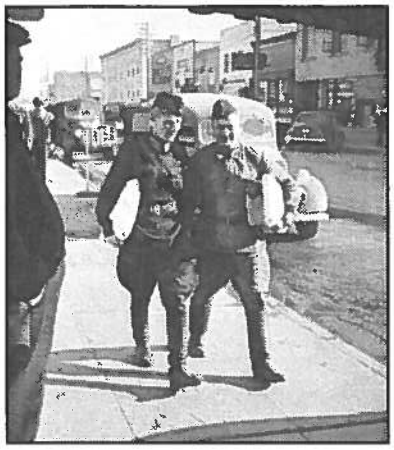


Figure 26. Russian airmen shop in Fairbanks. Rex and Lillian Wood collection, #2002-164-44, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

off the airbase. "The Russian pilots are dressy," wrote visiting artist Henry Varnum Poor, "...and wear all the hardware they can; pistols on their hips, and some wore the Red Star of Lenin on their breasts. They are a leather loving people. They wore high boots and wide leather belts and shoulder straps, and I wondered at the abundance of leather in a country so stripped down to essentials."[73] Former engineering aide Helen Bowles recalled that the Russians had such squeaky boots that she could hear them coming down the halls of Ladd's utilidors. Josephine Johnson remembered, "They had these kind of baggy pants, and these boots up to their knees." She remarked that an interest in appearance went both ways. "[T]here [were] some Russian women that came," she said. "And when they came into the office they would stare at us women. And they'd look at our shoes, and our clothes. Because we dressed different, I guess, from them. ... I don't remember much about them except that they stared at us all the time."

People also noticed the Russians' shopping habits in town. Several remembered that the Russians frequented a local department store, Gordon's Store. Josephine Johnson described what they would do: "And these military guys would go down to Gordon's Store and other stores in town, and they would buy a lot of stuff; clothes for their wives and girlfriends, and shoes and dresses and nylons, because Alaska had no rationing, like they did in the lower 48. We had everything that they didn't have." She added, "You could get anything, and the Russians used to buy it like crazy." Evolyn Melville also observed the Russians making a shopping trip to Gordon's. "[T]here were all these military people in there, and they were buying up shoes like crazy. And a lot of them were the Russian people, and they'd buy dozens of pairs of shoes to send back to their folks, their families in Russia." Irene Noyes remembered that the Russians "bought all the silk stockings, all the yard goods, all the women's clothes, right off. The NC Company was bare. They bought all the shoes. I went down to get a pair of shoes and the woman, the saleslady, looked at me and said, 'Are you kidding? We've sold everything!' The shoes, yard goods, stockings... .they'd take it back to Russia."

Many people remembered seeing the Russian aircraft flying overhead. Augie Hiebert recalled, "Oh, yeah, they'd fly right over....Every day a little group of...P-39s led by a B-25, a navigation bomber, would take off, head out there.... There were a lot of planes." Stan Jurek recalled that the departing flights looked like geese in the sky. "They'd put [the leading aircraft] in front and lead them, then "V" out, fly just like a bunch of geese." He remarked that the Russian flyers weren't exactly reckless but it was entertaining to watch them. "When they'd practice, sometimes, they'd be flying around, seems like they'd shut their engines off on their way up in the air, and they'd come *rump, thump, thump,* and then they'd goose 'em just before they hit the runway...One tore a wing up one time, but other than that, they landed without any problem. Bounce 'em in one way or the other." Fairbanks resident Fred Hupprich told an interviewer, "I can remember sitting on the end of the runway at Ladd Field, and watching those planes come and go. ...Why, they'd come racing down the runway and they wouldn't bother

[73] Poor, 258.

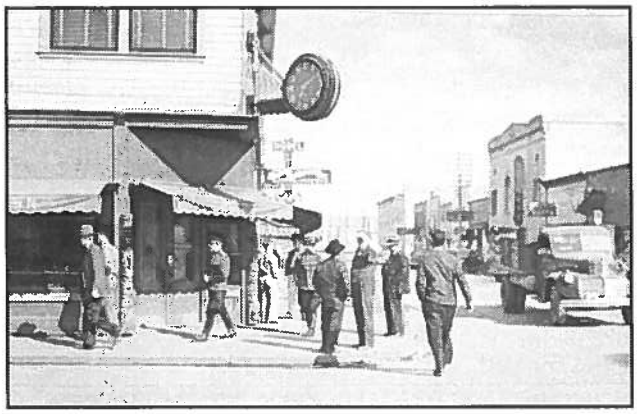


Figure 27. Russian airmen, American servicemen and townspeople at Second and Cushman, downtown Fairbanks. Rex and Lillian Wood collection, #2002-164-50, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

pulling back on the stick, they'd just lift their wheels up and start flying...."[74]

Richard Frank recalled seeing Russian aircrews in Galena when he was working on the riverboat *Nenana* in 1942, and observed that the influence of the Russian presence in Alaska a century earlier could still be felt there. "And it was interesting to learn, and I witnessed this," he said, "that some of those pilots spoke to some of the Native people in that area in their Russian language, and the people understood it, because at Nulato, Alaska, which is downstream from Galena, there was a fort that the Russians controlled, so it was very interesting to see those old Native people speaking with those Russians."[75]

The Russian presence at Ladd Field added an international flavor to wartime Fairbanks, and stories of the Russians in Fairbanks continue to be passed down by those who took part in this unusual chapter in history.

Other Air Transport Command Activities

The Air Transport Command (ATC) was responsible for operating the airfields along the Northwest Staging Route. In addition to supporting Lend-Lease deliveries, the ATC had other responsibilities affecting Ladd Field. These included ferrying tactical aircraft for the Alaska Theater, operating cargo flights, and supervising commercial contract airlines that provided additional air transport services.

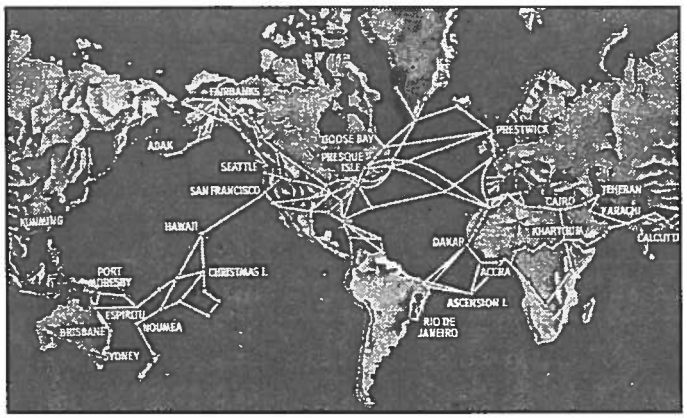


Figure 28. Published portrayal of ATC routes, 1944. Note the Fairbanks (Ladd Field) element. Advertising supplement, *Harper's Magazine,* September 1944.

A Priorities and Traffic (P&T) department coordinated the movement of ATC's cargo and passengers at Ladd Field. P&T was divided into three sections: Priorities, Traffic, and Air Freight/Cargo. The priorities officer allocated passenger, cargo, and commercial priorities. The traffic office kept track of available aircraft and their capacities, coordinated the arrival and departure of passengers, and ensured that aircraft were properly loaded for weight and balance. Air Freight handled cargo duties including manifesting, warehousing and loading.

Air cargo was a very important part of Alaska's wartime supply chain. When the Japanese attacked the Aleutians, military

[74] Interview, Fred Hupprich with Margaret Van Cleve, 7 June 1994, UAF Oral History Recording, UAF Alaska and Polar Regions Archives, Rasmuson Library.

[75] Russian traders had established a post at Nulato as early as 1839.

Figure 29. Loading a C-47 Skytrain. Kay Kennedy Aviation collection, 91-098-839, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

air cargo suddenly became a priority, but no system was in place to handle it. Immediately following the attack, the need for transporting supplies was so great that commercial aircraft were commandeered into service during the emergency to get men and materiel into critical areas. Gradually the ATC developed its own air freight system that worked in tandem with the commercial carriers. Among these were Northwest Airlines and Western Airlines.

The ATC and its contract operators moved supplies for the Alaska theater on several routes and to numerous destinations and transfer points, including Ladd Field. A significant amount of total traffic moved through Ladd because of its central location. The cargo operation served ground and air forces, engineering and construction, and moved a considerable number of personnel as well as tons of mail. Lend-Lease freight destined for the Soviet Union also passed through Ladd as cargo in the Lend-Lease aircraft.[76]

During the first year of the war, air cargo operations on the Northwest Staging Route were overwhelmed with problems. Shipments were frequently mis-routed. For security, destinations had code names such as Ocean Blue, Avarice, Flotsam, Charity, and Endzone, but this only compounded the challenge of ensuring that supplies ended up in the right place. When they did arrive, shipments could not always be properly accounted for because there was not enough warehouse space. Historian Edwin R. Carr complained about the supply situation on the staging route as a whole: "Supplies of all kinds, though not always the right kinds, had been ordered by several agencies in the summer. At best they were stored in sheds or small warehouses; at worst they were dumped on the ground, sometimes damaged, and left where they were dropped for the snow to cover."[77]

Figure 30. Warehouse operation. Kay Kennedy Aviation collection, 91-098-860, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

A similar situation appears to have existed at Ladd. Stan Jurek, in 6th ADG supply, remembered that at first, "[t]he only thing we had for parts was some tents out in the woods. We'd get a shipment of parts, and we'd have to drag these things into tents, and later move them to another tent, and finally we got warehousing and moved them

[76] In 1944, the ATC described Lend-Lease freight as the forgotten story of the ALSIB operation. "[T]he press of the nation has overlooked one of the genuine news stories of the Division," stated an article in an Alaska Division publication. "Lend-Lease cargo, not for the destruction of Germany but for the rehabilitation of Europe, is carried in these aircraft." The article featured the delivery of medical supplies, artificial limbs, seeds and agricultural implements. "More Than Planes," The North Star Magazine, November 1944, 11.

[77] Carr, 143, 49

into warehouses." His specialty was automotive supply, and he recalled that, "Oh, it was a mess. We'd get rear end assemblies and transmissions for these big trucks, and drag 'em in the snow and pull 'em in the tent. It was really a mess. We didn't have any way of categorizing anything or separating, putting in shelves, so we'd know what we did have. We just piled 'em up one on top of another." As time went by and warehouse construction got caught up, the chaos diminished.

At the same time it was handling cargo operations, the ATC was also busy carrying passengers. About half the ATC's Alaska Wing air traffic was reportedly passenger traffic, and over three thousand passengers a month could pass through the airfield.[78] In addition to military personnel, passengers included civilian entertainers, diplomats, and government officials. In 1944, a passenger terminal was located on the north side of Hangar Two.[79] By 1945, a separate passenger terminal had been completed to the east of Hangar Three.

American ferry pilots from the 7th Ferrying Group were an important part of this passenger traffic. After they delivered their Lend-Lease airplanes, these pilots needed transportation back to Great Falls. ATC personnel at Ladd Field coordinated their return travel and provided temporary accommodations for them in the NCO quarters (Bldg 1049). Northwest Airlines operated most of the transport flights on contract.[80]

Private Frank Nigro had been a clerk at the Nordale Hotel in Fairbanks before enlisting at Ladd late in 1942. He was given duty very similar to his civilian work, assigning the arriving ferry pilots to their overnight quarters. "They used mostly non-commissioned officers' quarters for these pilots that came in," he told an interviewer. "My job was to see that they got a bed, and then if the weather was clear the next day, they would ferry all these pilots back into Great Falls...."[81]

Bill Stroecker was assigned to Priorities and Traffic in the later years of the war, and worked out of the terminal in one of the Birchwood hangars. "It was the main terminal for passengers coming and going and all of the transport pilots, the pilots who brought the planes up as far as Ladd Field to turn over to the Russians....My job was to ticket the pilots back to the mainland, back to the U.S....we ticketed the officers, kept track of them and sent them on their way." He remembered that the process was usually routine, but that it could be tumultuous when there was more than one flight departing. "I often thought, because it was nerve-wracking to get them all ticketed and get them on board at the expected time of departure, ETD, I often thought how tough it really would have been if we'd had to have been handling the money, too, charging for the fares! Every time I step to an

[78] Carr, 171. For passenger figures, MHR Station #3 ATC, August 1944.

[79] Engineer drawing, "Modified Birchwood Hangar #2," 6808-691, 2 May 1944, NARA Anchorage, RG 77, box 3.

[80] There was often pressure from the command to speed up the deliveries by returning the ferry pilots quickly. Some pilots reported that the turn-arounds were too fast and that they did not have the opportunity to rest before enduring the lengthy transport flight back to Great Falls. Other pilots recalled that the C-47s in particular were poorly heated and uncomfortable. Craven and Cate, 168-169. Smith, 130-131. The story of the ferry route and the American pilots who flew it is presented in Smith's 1998 history, *Warplanes To Alaska*.

[81] Interview, Frank Nigro with Margaret Van Cleve, 17 August 1993, UAF Oral History recording, UAF Alaska and Polar Regions Archives, Rasmuson Library.

airline counter now I know what those girls are going through in trying to get everybody on there on time."

Marie Haggard was a civilian working with Priorities and Traffic. She remembered screening passengers. Everyone traveled on orders. "Well, the passengers all had orders. And they were such that I had to be careful that they were legitimate orders. There was no problem except I knew what to look for. And when there was a flight being prepared for loading, I noticed so many [passengers]...they'd kind of feel for their orders, *What did I do with it?* And then they'd open some luggage, and I thought, Why'd they have to do that? I would think they would have it in their hands. But they would find their orders and I never found anything that was out of place or questionable. But I had to be careful that they were screened properly."

Figure 31. Vice President Henry A. Wallace dines at Ladd Field, July 1944. He is flanked by the commanding officer of Ladd Field, Col. Russell Keillor on the right and the commanding officer of the Soviet military mission, Col. N. S. Vasin on the left. Wallace passed through Ladd on his way to and from a 1944 trip to the Far East. Courtesy Elmendorf AFB History Office.

Diplomats and statesmen also traveled through Ladd on journeys to and from the Soviet Union and the Far East. These included U.S. officials such as Vice President Henry Wallace and Maj. Gen. John R. Dean, head of the U.S. mission in Moscow. Notable Soviet officials passing through included Foreign Minister V. Molotov and Andrei Gromyko, Soviet ambassador to the United States. Marie Haggard recalled that the staff in her section received training on "security, decorum and bearing" in order to deal with the special visitors.

Mrs. Haggard also remembered the celebrities who traveled through Ladd. "With the war on, there was a terrific amount of travel, under orders of course, and I enjoyed talking with some of the passengers. I met many famous people, actresses and statesmen, and enjoyed visiting with them now and then when I had a chance. I remember talking to Ingrid Bergman, and also Bob Hope....Of course we all were anxious to meet with them and enjoy their company for be it only a minute or two." Bill Stroecker met heavyweight boxing champion Joe Louis when he visited Ladd in 1945. "I remember weighing Joe Louis in when I was on duty," Stroecker remarked. "He came up with Special Services to visit all of the posts on a goodwill basis. So he checked in as a passenger. I weighed him in but I forgot the weight!"

Ladd Field was an important support airfield and air traffic hub for the ATC and its civilian airline partners, handling everything from Lend-Lease deliveries to celebrity and diplomatic passengers to critical wartime supplies. After the war, the airfield took on other missions, but air transport support duties never disappeared entirely. In 1986, this function was reinvigorated when the Army's 6th Infantry Division (Light) was activated with a capability for rapid worldwide deployment. This mission is being re-emphasized today as U.S. Army Alaska transforms to a Stryker Brigade capable of rapid air deployment from the very same airfield that successfully supported the Air Transport Command in World War II.

CHAPTER 6.0 Support

Ladd Field's wartime missions required support from a variety of military units including the Army Air Forces, the regular Army, the National Guard, and civilian staff. Responsibilities ranged from the most mundane duties, like baking bread, to the most adventurous, like search and rescue. All were part of the total effort it took to build, maintain, house, feed and equip a sub-arctic air station with over 4,000 personnel.[82]

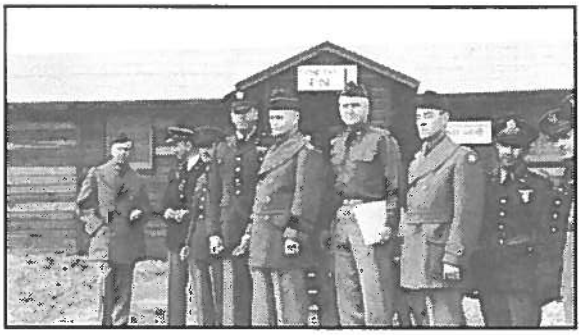


Figure 32. Officers at 4th Infantry building, Ladd Field, May 1941. Brig. Gen. Simon Bolivar Buckner of the Alaska Defense Command at right center, holding envelope. Courtesy Elmendorf AFB History Office.

4th Infantry

In October 1940, Company L of the 4th Infantry Regiment arrived at Ladd to provide airfield defense and security. They were combat-ready regular Army ground troops. They remained on duty at Ladd until the summer of 1943, when they were transferred to Fort Richardson and eventually to the European theater. It was this unit that was called on to protect Ladd Field and assist Fairbanks civil authorities in guarding critical local infrastructure in the days after Pearl Harbor.

For a time, this unit also provided boot camp training for local recruits joining the armed services at Ladd Field. Frank Nigro enlisted in December 1942 and remembered training under infantry supervision. Winter training could be an adventure in extreme cold, and that month temperatures had dropped to 40 and 50 below zero. "It was so cold that they couldn't allow us to go on the firing range because of the ice fog; we couldn't see the targets anyway. But one day the temperature rose to 38 below zero and the sun was breaking in, so they said, 'We're going out.' So there we were, they took us out to the range. That day I had to do the firing, and the next day I had to pull the target so the other guys could fire. So I got over there, and gee I could just barely see the target, but I made it." Robert Redding, who served as an enlisted man in the Air Corps, also recalled taking his training around the same time. He remembered that his cohort of local recruits drilled indoors until it warmed up to 30 below. Then the men went outdoors for war games. "The recruits were the invaders and were supposed to conquer the regular men," he wrote. "We were given parkas, which when turned inside out were snow white, a perfect camouflage. Because we were accustomed to stalking game in the woods during hunting season, we easily fooled the enemy and won most of the battles."[83]

2nd Lieutenant (now ret. Col.) Richard F. Dennison served with Company L as a platoon leader, mess officer, and exchange officer in 1940-1941 before being assigned to detached service at the University of Alaska. "The field was very small with a very small complement," he wrote.[84] He recalled that the infantry

[82] Units rotated and commands reorganized over time. No comprehensive account of all units serving at Ladd was located during this project. Known support units are described here, but this list may not be complete.

[83] Robert H. Redding, "Battle of Ladd was a Strange Fight," *Fairbanks Daily News-Miner,* 18 August 1991, H-6.

[84] Richard F. Dennison, Col. USA (Ret), correspondence with author, Aug 2002.

barracks, including officers' quarters, were one-story wooden temporary buildings. Asked about the unit's achievements, Dennison remarked, "Obviously we were very efficient in our role of airfield security since the Japanese never attacked. In fact, they never got beyond Kiska." He added, "Our morale was high and we were proud of our mission accomplishments."

Figure 33. Maj. Hobart Murphy, CO of 4th Infantry at Ladd. Courtesy Richard Dennison.

Figure 34. Lts. Dunphy and Rager in Co. L's boat. Courtesy Richard Dennison.

Figure 35. Left to right, Lt. Dunphy, Lt. Dennison, east of Ladd Field, winter 1940-41. Courtesy Richard Dennison.

Alaska National Guard

Company C of the 297th Infantry Battalion was organized as the Fairbanks component of the newly created Alaska National Guard in 1940. At first, the company was comprised of merchants, miners, laborers, and college students, among others. In September 1941, as the threat of U.S. involvement in World War II increased, the Alaska National Guard was federalized. Some of the original Fairbanks members of this company were later reassigned to other Army units and dispersed to various fighting fronts during the war.

Company C served at Ladd from September 1943 to August 1944, though by then many of its original members had been re-assigned. At Ladd, the company was assigned to replace the 4th Infantry, which had been transferred. Their primary duty was to guard Lend-Lease aircraft.

The 297th Infantry was renamed the 208th Infantry in 1944 while Company C was still at Ladd. By the end of 1944, the various elements of the 208th had been centralized under a unified command in Anchorage. In May 1945, the unit was deactivated.[85]

The Alaska National Guard of World War II should not be confused with the Alaska Territorial Guard, a separate entity.

[85] Information in this section compiled from C.A. Salisbury, *Soldiers of the Mists: Minutemen of the Alaska Frontier*, (Missoula: Pictorial Histories Publishing Co., 1992) and John Grainger, *The Alaska National Guard in the Defense of Alaska*, unpublished manuscript, chapter 6, page 7.

Base Operations

Originally, when Ladd Field was a small cold weather test station, base operations were coordinated under the test program. In February 1942, base operations were officially separated from cold weather testing into a base detachment. A post headquarters detachment was also organized a few months later.[86]

Base headquarters was located in Hangar One. It supported the commander's office, executive officer, adjutant, sergeant major, personnel, public relations, message center and other general operating functions.[87] The commander's office was located in the northeast corner of the second floor.

Bill Stroecker was initially assigned to the personnel office. He maintained the officers' personnel files, known as 201 files. "I interviewed almost all the officers when they came to Ladd and got acquainted with them, and acquainted with their past history, all of which was contained in the 201 file. So I had probably... better knowledge of those who came and took more interest in the whole thing historically than the average may have done." Robert Redding also served as an enlisted man in headquarters early in the war. His job was in the ration section, distributing food supplies to the mess halls according to a strict formula. He recalled in an article that "Inside of six months I was bloody and torn, but unbowed, from the tirades of mess sergeants who swore I was starving people." By his own observation, though, "everybody was fat and sassy."[88]

Coast Artillery/Arkansas National Guard

The 206th Coast Artillery (Anti-aircraft) of the Arkansas National Guard arrived in Alaska in September 1941. Most of the unit was deployed to the Aleutians, where they participated in the defense of Fort Mears during the Japanese attack on Dutch Harbor in June 1942. However, men from Battery H were sent to Ladd Field instead, where they served for one year between September 1941 and September 1942. At the end of their tour at Ladd, Battery H was transferred to Fort Richardson.

When the men of Battery H first arrived at Ladd, facilities were still under construction. The men reported being quartered in Hangar One over the first winter until their regular quarters were completed in the spring. One private recalled the arrangement, "'Bunks and lockers were arrayed in long lines extending the length of the building....Our mess hall was in the same hangar (without partitions) and our orderly room was at one end as well as supply room. Although entirely lacking in any kind of privacy, the quarters were very adequate and, most important – warm!'"[89] Later, they occupied regular quarters southwest of the runway in a cluster shown on contemporary maps as the Coast Artillery Garrison.

---

[86] This became Company E of the 439th Base HQ and Air Base Squadron. It was transferred under the ATC during the October 1943 command change, then disbanded and reorganized within ATC in April 1944. OHLF 61, 63, 73.

[87] Telephone directory, Ladd Field, September 15, 1941.

[88] Redding, "Battle of Ladd..." H5-H7.

[89] Donald M. Goldstein and Katherine V. Dillon, *The Williwar War: The Arkansas National Guard in the Aleutians in World War II*, (Fayetteville: University of Arkansas Press, 1992), 62-63.

The Air Corps provided the unit with Arctic clothing, which the men reported as excellent. However, the battery was poorly equipped to defend the airfield. When they first arrived, they were supplied with three 37mm AA guns, six .50 caliber machine guns, 140 M1 rifles, and one .22 rifle. Soldiers recalled that there was no ammunition for anything but the single .22 rifle, and a historian remarked that "...one wonders how the men equipped with the other weapons were supposed to practice using them, let alone help defend Ladd Field and the Fairbanks area."[90] After Pearl Harbor, ammunition for the 37mm anti-aircraft guns was flown up from Anchorage along with one case of ammunition for the machine gun platoon. Because the unit had not been able to fire the anti-aircraft guns until the ammunition arrived, they belatedly discovered that in the cold, the recoil mechanism didn't work. The guns had to be thawed and lubricated with antifreeze instead of oil.[91]

Figure 36. Anti-aircraft emplacement, May 1942. AAF photo.

One Fairbanks woman reported that the local schoolgirls were impressed by Coast Artillery soldiers, many of whom were just out of high school themselves. "And then there was a unit from Arkansas that was of all things, a Coast Artillery that came up here. Of course, all the young girls in Fairbanks all went for all these guys," she laughed, " 'cause they were young, a lot of them were teenagers, so most of the girls in town went out on dates with military guys. First it was Air Force guys, and then when the Coast Artillery guys from Arkansas came up here, they dropped all the Air Force guys and went out with the Coast Artillery guys. 'Cause...well, there were boys going to school with us, but they weren't as exciting as these military guys that came in their uniforms!"

Communications

The Signal Corps and the Army Airways Communications System (AACS) ran the communications functions at Ladd. The AACS was responsible for all aspects of aircraft communications and control tower operations. The Signal Corps operated the Alaska Communications System (ACS) which handled military and civilian long-distance telephone communication in the Territory, and also provided base telephone service, tactical communications, and audio visual equipment. Civilian assistance was also an important part of the mix, particularly in the early years. The Civil Aeronautics Administration (CAA), Pacific Alaska Airways and amateur radio operators all contributed to the operations at Ladd Field.

Irene Noyes was a telephone operator at Ladd early in the war. She operated a switchboard for the 14th Signal Company. "Everything was by hand," she

[90] Goldstein, 31.
[91] Goldstein, 83-84.

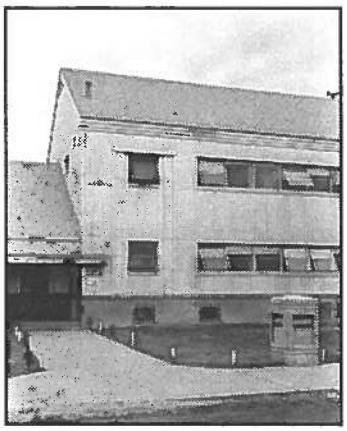


Figure 37. Entrance to Signal Corps office, ca 1944 (Bldg 1562). Ferris Copper collection, 99-183-983, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

recalled. "We only had one line to Anchorage, and, of course, the main depot was in Anchorage." She added,

> The Army and the Air Force needed supplies for the winter at Fort Richardson at Anchorage, with the depot. We'd call them, and it took me all day to make one call... because I could have stuck my head out the window and hollered for all the good it did.... We'd have to spell out the words and leave it to Healy, I think it was, and then that operator would get Anchorage when it was available....

One time she had to place an order for 300 pairs of long johns. "And you sit there and holler, 'Long johns!'" she laughed. "I would be hoarse, just to whisper for days. I finally had to quit 'cause I got so hoarse."

During 1942, the Signal Corps improved post telephone systems and tactical stations, and integrated its radio communications with CAA remote sites. The Signal Corps was also given responsibility for equipping the AACS, although the Air Corps operated that service.[92]

The AACS had faced difficulties in its early operations at Ladd. The AACS station officially went into operation in February 1941, operating that first winter from an unidentified 12 by 15 foot lean-to on a log cabin garage. They reported problems with equipment at cold temperatures, iced antennae, lack of parts and equipment, and interference from nearby construction machinery. To add to the handicaps, they operated control tower functions from the lean-to, which had no view of the runway.[93] Fortunately the arrangement was temporary, and AACS moved into Hangar One when facilities there were completed.

Winged Messengers

The Signal Corps and the Cold Weather Test Detachment cooperated to evaluate the performance of communications pigeons at Ladd Field. Referring to the arrival of the "soldier birds" in 1941, the *Fairbanks Daily News-Miner* noted that the pigeons would be trained to home in on mobile lofts and could be released from aircraft. "Noiselessly, in the strictest secrecy an entire squadron of United States Army fliers is warming up at Ladd Field...preparatory to a mass takeoff into Arctic skies...." A stationary pigeon loft was located northwest of the MARS building (1024.)

- "Winged Squadron...," *Fairbanks Daily News-Miner*, 20 Dec 1941, 1.

AACS grew quickly to accommodate the hundreds of flights which passed through the airfield every month during the height of operations. By 1944, the 16th AACS had eight officers and approximately 90 enlisted men on duty.[94] After the arrival of the Women's Army Corps in April 1945, the AACS also had WAC staff. At least 16 WAC personnel were assigned to AACS duties through the end of the war. They included experienced radio operators fluent in Morse code, as well as teletype operators and clerks. At other AAF stations, WACS served as radio operators, cryptographers, and air traffic controllers.[95]

[92] Woodman, 235, 126. 172nd Infantry Brigade (Alaska), *The U.S. Army in Alaska*, Pamphlet 360-5, May 1976, 97.

[93] "Report of Operations...," 70-71; 74-75.

[94] MHR, May 1944 appendix. The figure may include personnel at outlying stations.

[95] MHR, Sept 1945. Re WACS at other duty stations, Treadwell 290. The first WAC in the country who ever served flying duty as a B-17 radio operator was among the AACS contingent at Ladd. Prior to her assignment to Ladd, Sgt. Margaret Flanagan had flown with B-17 patrols along the East Coast. LFMS, 18 May 1945, 4.

During Lend-Lease, both U.S. and Russian radio operators shared AACS radio functions to make the bilingual airfield function safely. A 1945 report stated that the 60th AACS was operating Ladd's airways communications from an operational center and control tower in Hangar One. The Hangar One communications station had five Army radio positions, three teletype positions, and one Russian operated position. The control tower also had a Russian language component. Up in the tower there were two positions, one Army-operated and one Russian. An American interpreter manned the Russian-language position, under the supervision of an AACS operator.[96]

The amateur radio community also helped with communications operations in the early days of Ladd Field. Augie Hiebert was the Fairbanks coordinator for the Aircraft Warning Service in 1941 and described how the amateur radio community pitched in to help before the war. "It looked like war was coming on. I was an avid amateur radio operator and I organized an aircraft warning system in connection with an Army captain ... because we knew that... they didn't have anything. So we set up the hams around the state to be watchdogs. That was... in place, although we never had a chance to test it. The war came in the meantime." He explained how it would work: "[W]e had amateurs that would call in at a certain time on a certain frequency and describe what they saw, if anything. So

MARS Building

The Military Affiliate Radio System (MARS) is a network of amateur radio operators which provides a method of communication in the event of emergency. It includes both civilian and military members. MARS was originally formed through the Signal Corps as the Army Amateur Radio System (AARS) in 1925. The organization was temporarily discontinued when airwaves were restricted during World War II. Amateur radio operators assisted with the Aircraft Warning Service instead during that time, reporting potential aircraft sightings to the military authorities. After the war, the Army reactivated the AARS briefly. In 1948 the organization became the Military Amateur Radio System, and later acquired its present name.

Building 1024 has been known as the MARS Building for many years, although this name dates from a period after the war. During World War II, the building was described simply as a radio transmitter building. It is not known at this writing which communications units were using it or for what specific purposes. Transmitter antennae can be seen surrounding the building in the ca. 1944 photo.

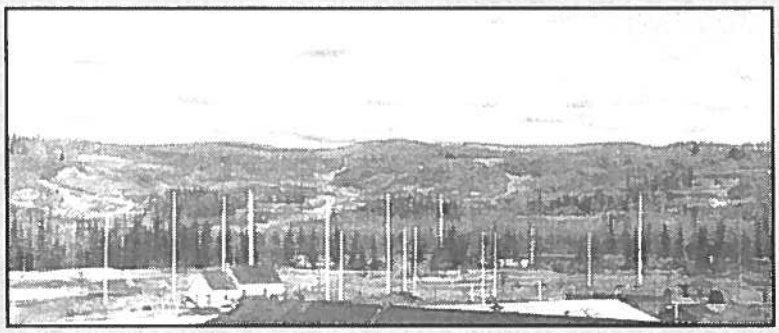


Figure 38. Radio transmitter building with signal array. Detail, Rex Wood photo.

[96] MHR, Sept 1945.

that was the philosophy of it, that was the means where they would be able to transmit warning, because there was no other means to do that, no telephones, no Army system, no Air Force system, no CAA or FAA system."

Depot Organizations/6th Air Depot Group

Military aircraft could not keep flying without the assistance of air depots and maintenance crews. When Alaska's first Air Corps units began to operate at Ladd and Elmendorf Fields, repair and maintenance organizations had to follow them in and set up shop. Before the war, when the operations at both airfields were still quite limited, aircraft and supplies were provided by the Sacramento Air Depot in California. Beginning in February 1941, units of the 23rd Air Base Group, headquartered at Elmendorf, arrived to take care of on-site maintenance and repair. Detachments from this group were also present at Ladd Field.

After the United States entered the war, depot functions in Alaska were reorganized. In February 1942, the Sacramento Air Depot activated two sub-depots to take over Air Corps supply activities, one at Ladd and one at Elmendorf. The sub-depots' primary concern was to service tactical aircraft for what became the Eleventh Air Force, headquartered at Elmendorf Field. A few months later, in the summer of 1942, the 11th Air Force Service Command was activated and took command of these sub-depots. In August, the Ladd sub-depot was redesignated as the Alaska Air Depot (AAD), while the Elmendorf unit remained a sub-depot, the 342nd. The Alaska Air Depot's mission was to support the Eleventh Air Force by maintaining and improving aircraft and equipment for use in the Alaska Theater. Its responsibilities also included distributing parts and supplies to Elmendorf.[97]

At the same time, Lend-Lease operations were beginning at Ladd, and the Cold Weather Test Detachment had just been re-established at the field. The new 6th Air Depot Group had arrived in July to support Lend-Lease activities and was soon attached to the Alaska Air Depot. However, because of the demands of the Lend-Lease program, Ladd Field personnel could not meet the needs of the tactical units in the Eleventh Air Force. The Alaska Air Depot had a short tenure at Ladd Field. Beginning in November 1942, personnel from the AAD began transferring to an expanded operation at Elmendorf. By March 1943, the Alaska Air Depot was formally moved to Elmendorf, taking over the sub-depot there. The 6th Air Depot Group, minus a few units which were sent to Elmendorf, was separated from the AAD and placed under the direct control of the Ladd Field commander.

The 6th Air Depot Group's mission was the supply and repair of aircraft, particularly in support of the Lend-Lease aircraft transfers. It was activated at Patterson Field in Ohio in January 1942 and arrived at Ladd on July third of that year. The group was composed of a headquarters squadron, repair squadron, and supply squadron, and had seven or eight miscellaneous attached units in areas such as ordnance, quartermaster, and signal. Together with the attached units, the 6th ADG numbered 43 officers and 850 enlisted men when it first arrived.[98] When the Air Transport Command took control of Ladd Field in October 1943,

[97] *Elmendorf Air Force Base Historic Context of World War II Buildings and Structures,* (U.S. Department of the Interior, National Park Service, 1999) 51-53.

[98] OHLF 64. Some were eventually sent to Elmendorf.

it took over the 6th ADG as well. Six months later, in April 1944, the group was disbanded and the personnel were absorbed directly into ATC units.

Stan Jurek was assigned to the unit and recalled its arrival at Ladd. "We arrived here on July the 3rd of 1942, arrived at Ladd Field. We were going to celebrate the 4th of July, of course, but we found out later, that's when the Japs were on Attu, and we were restricted to the building. We couldn't even leave the building we were in. We had loaded rifles and gas masks and all that. So we weren't celebrating the 4th of July very much that year!"

Bill Stroecker was in the base headquarters unit when the 6th ADG arrived and observed that their arrival changed the dynamics at Ladd. "Ladd Field started and it was a very orderly place," he said. "It had a lot of old-time soldiers, you know, who'd been in the regular Army, and all of a sudden, when 6th depot people came they were mostly new soldiers and they didn't have the old esprit de corps, you might call it, that the old soldiers had. So it was kind of upsetting because everything changed. But after all, the priority was to deliver those planes to Russia." Before the 6th ADG arrived in anticipation of Lend-Lease, Stroecker recalled, "everything had centered around cold weather testing, a very orderly type of thing. There was no stress of war; that didn't enter into it to begin with. But after we started ferrying the planes, then everything was in a state of excitement, because there were these hundreds of planes coming into Ladd, and all of the pilots who flew them. I personally got transferred to the 6th Air Depot Group and was transferred down into a hangar on the west side…."

Stan Jurek's assignment was in supply. He remembered that the military supply chain provided some of the automotive items they needed but not everything, so he would make smaller purchases in town from the local merchants. In wartime, supplies were also difficult for Alaska dealers to get, and they needed to satisfy their local customers as well as the military. "Seems like the military sent big units, transmissions, rear ends, and all that stuff, but no spark plugs, no points, smaller parts. I'd practically buy the town out," he said. "Of course they couldn't get a lot of supplies during the war, so I was a busy guy, running back and forth, trying to find different parts, for instance, batteries. The military'd want a dozen batteries. I'd go to one of the dealers and maybe they got a dozen batteries in, but they had their customers waiting for them." Jurek recalled that the military had the authority to compel the dealers to sell him the parts he needed. "So I got orders if I knew they had them, the military would take over the garage or the parts department if they didn't sell 'em." He added that he always tried to be fair and divide his requests equitably among the different suppliers. "Well, you'd get three or four from one dealer, go to the other one. We managed to get along."

Engineers

Engineering and construction activities played an extremely important role in the wartime events throughout the Alaska theater.[100] This was as true at Ladd as it was elsewhere. At some level, every mission at Ladd Field depended on the work accomplished by the post engineering staff who supervised construction projects and maintained the infrastructure of the airfield.

Then as now, civil engineering functions involved a complex interplay of military, civilian, and contract work. Two organizations coordinated most of these efforts. The Resident Engineer office supervised all construction projects, while Post Engineer personnel maintained the infrastructure once it was completed. The Resident Engineers were a component of the Army Corps of Engineers, and reported to the Alaska Area Engineer in Anchorage. Ladd's Resident Engineers during the war included Col. James D. Bush, Col. Virgil Womeldorff, and Capt. E.D. Tracy. In his supervisory capacity as Alaska Area Engineer, Brig. Gen. Benjamin B. Talley was also associated with Ladd Field. Talley and Bush went on to notable careers in Alaska military engineering, and award-winning Fairbanks architect Lee Linck also served on the Ladd Field staff early in his career.

Douglas Colp was one of several University of Alaska graduates assigned to the Resident Engineers. He reported that the young engineering graduates provided valuable local expertise – so much so, that the officers in charge would not allow them to leave to attend officer candidate school. Among other projects, Colp worked on the installation of underground fuel storage tanks on Birch Hill. When the tanks were removed in the 1990s, engineers were impressed by their condition and by how successfully they had been sited and camouflaged.

Helen Baker Bowles was one of the civilians working for the Resident Engineer office. She had studied drafting at Fairbanks High School and was the first woman to be employed at Ladd as an engineering aide. She had studied drafting at Fairbanks High School, and went to work at Ladd during the summer of 1942. She reported that the

Fueling the Flightlines

Keeping the planes in the air also meant providing a steady uninterruptible supply of fuel. In the days before the discovery of the large Alaskan oilfields, petroleum supplies were imported to the Territory. Fuel could be shipped north on tankers and then sent by rail to the Interior. However, during the war, sea routes were potentially at risk from submarine attack, and oil tankers were needed elsewhere. The new Alaska-Canada (ALCAN) Highway, completed in November of 1942, provided the option of supplying fuel by truck, but that method would consume nearly as much fuel as it would deliver. To solve the problem, a pipeline known as the CANOL (Canadian Oil) Pipeline was constructed between 1942 and 1944, connecting oilfields in the Canadian Northwest Territories to a refinery at Whitehorse. From there delivery lines passed the product to Ladd Field, Watson Lake and Skagway. The CANOL was plagued by high construction costs and maintenance problems and only operated at its full capacity for twelve months. Sections were shut down as early as April 1945, although the line from Skagway to Fairbanks continued in use until the Haines-Fairbanks Pipeline was opened in 1955. Canol facilities at Ladd included a terminal and tank farm on Birch Hill.[99]

[99] Raoul Drapeau. Pipe Dream," *Invention and Technology*, Winter 2002, 25-35. Kristy Hollinger, *The Haines-Fairbanks Pipeline*, Center for Environmental Management of Military Lands, Colorado State University, Ft. Collins CO, April 2003.

[100] For more information Alaska military construction, see Bowman and Richardson, 1944, Bush, 1944; ; Cloe and Monaghan, 1984; Dod, 1987; Mighetto and Homstad, 1997; Talley, 1995; and Woodman, 1997.

first thing she was asked when she came to work was, "Can you make coffee?" Helen remarked, "From then on that was one of my duties, keep the coffee pot on." Among other duties, Helen also ran the Ozalid machine which copied maps and drawings. "It was a long process and I spent time sitting on a stool watching the material go through the machine," she wrote. But she also took part in field work, and learned how to operate a 5-speed truck. She spent two years with the engineering office, and in 1944, Helen married a weather squadron officer. When she got married, she was required to resign her position because of a rule prohibiting officers' wives from working on base.[101]

Figure 39. Helen Baker Bowles featured in Western Construction News. Courtesy Helen Baker Bowles.

Figure 40. Post Engineer offices, 1945. From Ladd Field Midnight Sun, *Pictorial of an Airbase*.

Combat engineering units also served at Ladd. Two of these units appear in the records. The first was the 151st Engineers. These men served at Ladd in the early years, around 1941. Later on, the 176th Engineers took part in the work on Ladd Field's alternate landing site at "26-Mile" field, although much of that project was contracted to a private firm. After the war the new airfield became Eielson Air Force Base, a separate installation.

In addition to the engineering work, there were administrative tasks to accomplish. Procurement, payroll, and correspondence kept the construction moving forward. Marcel Colp worked in mail distribution. She remembered that two women were assigned to review all the office mail, whether official or personal, since censorship was in effect. Thelma Walker was a file clerk and stenographer. She explained why so few of Ladd's early construction records have survived. Just before her arrival in May 1941, boxes full of correspondence and construction documents were carted away and burned by mistake during an office move.[102]

For background on Ladd Field construction, see Chapter 3. For information on Ladd's contributions to aeronautical engineering, see Chapter 4.

Medical and Veterinary

Ladd Field's first flight surgeon was Capt. John Copenhaver. During Ladd's first winter of operations in 1940-1941, the medical staff was small, and Copenhaver was assisted by a technical sergeant and five enlisted men. The medical department initially operated a ten-bed dispensary ward and pharmacy. Because the permanent hospital was not yet completed, Ladd used St. Joseph's, the local hospital in Fairbanks, for any cases that required hospitalization. In addition to caring for medical needs, the department participated in early cold weather testing, reporting on the health ramifications of the new airfield's water supply, sewage disposal, and ventilation conditions. By September 1941, Copenhaver had

[101] Correspondence and personal communication, Helen Bowles, August and September 2002.
[102] Personal communication, Thelma Walker, 19 August 2003.

been promoted to Major, and the department was staffed by at least six officers and a medical detachment, including a dental officer and one veterinarian.[103]

In September 1942, the 206th Station Hospital was activated with an initial capacity of 100 beds. It became Ladd's the main medical unit during the war. It operated out of the north wing of the combined hospital/barracks/theater building just northeast of Hangar One, in today's Bldg 1555. When it was activated, the 206th had ten officers, ten nurses and 62 enlisted men serving in the unit. In 1945, the station hospital had ten doctors and thirteen nurses. It was designed to accommodate 250 beds, although only about 150 were actually in place. In addition to the 206th hospital staff, the ATC had four additional doctors and two nurses of its own at that time, and the CWTD also had one doctor on its roster. Four dentists were also assigned to Ladd by 1945.[104]

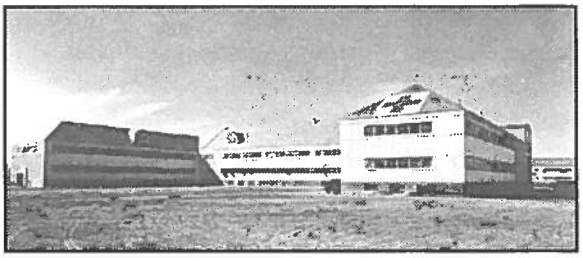


Figure 41. Hospital/barracks, today's bldg 1555, ca. 1943. AAF photo.

The nurses had separate quarters northeast of the hospital, located in today's Building 1021. The 15 or so nurses assigned to Ladd Field were among the 6,000 Army Nurse Corps members worldwide who were serving with the Army Air Forces. Nurses assigned to the AAF received additional training for their duties and served at station hospitals like the one at Ladd.

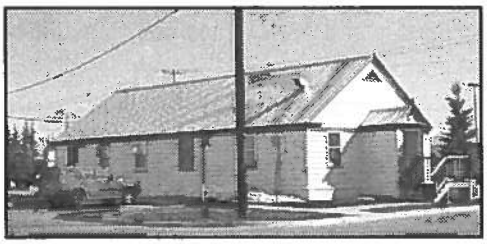


Figure 42. Nurses quarters, Bldg 1021, as it appears today.

Ladd Field also maintained a small veterinary staff to support the Quartermaster Corps' kennels. The veterinary hospital had a twelve-dog capacity. The veterinary hospital and Quartermaster kennels were located on the west side of the railroad bridge in the vicinity of today's Trainer Gate Road/River Road intersection.

Additional research would be needed to reveal more information about the history of medical units at Ladd and their contribution to the well-being of the air base.

Quartermaster Corps

Figure 43. Kennel area, post-war. USAF photo.

The Quartermaster Corps (QMC) was the Army's arm for logistics, supply, and peacetime cantonment construction. It had several units present at Ladd. The Constructing Quartermaster was in charge of the original construction at Ladd Field. However, in January 1941, this responsibility was transferred to the Corps of Engineers (see Construction, chap. 3). During the war years, other Quartermaster units at Ladd included a general quartermaster section, a laundry detachment, a bakery company, and a truck platoon. In 1944, these

[103] Directory, Ladd Field, September 15, 1941. Re local hospital, CWT Report 1941, 78.
[104] MHR Jan 1945. Also OHLF 65.

units had over 150 personnel. In addition, the QMC also employed between 60 and 80 civilian staff at that time.

Several Quartermaster functions were located in the area to the west of the parade ground. Today's Bldg 1562 was a combined quartermaster warehouse, firehouse, and guard station. It also housed several offices including the post Quartermaster, Signal Corps, and a finance office. The actual warehouse, a freight office and a small commissary were located in a wood frame extension to the rear that no longer exists. The QMC laundry was located in a long, H-shaped wood frame building to the west behind the warehouse. Across today's Gaffney Road from the laundry site stood the bakery, and to the northwest of that was a dry cleaning, shoe repair, and reclamation shop.

The QMC also used facilities in the 900 area southeast of the airfield. The QMC truck platoon was housed in temporary barracks in an extension of the 900 area southeast of Clear Creek. They may also have used mess, warehouse, and garage facilities north of the Old Badger Road and Clear Creek at one time, although this area appears to have been assigned to the Air Transport Command in 1943 as a transient camp.[105]

The QMC also handled dog operations. Nationally, the Quartermasters were in charge of the War Dog program in World War II, training dogs and handlers at special camps. Most of the QMC dogs worldwide were used as guard dogs for sentry duty and by scout patrols for warnings against ambush. In Alaska the QMC also operated a sled dog program. At Ladd the emphasis was on sled dogs, and the base had a 50-dog kennel. It is believed the sled dogs occasionally went out in the field as part of cold weather test expeditions. They also were an important component of the wilderness search and rescue program (see Search and Rescue, below). It seems likely that knowledgeable Alaskan dog handlers such as Pvts. George Lockwood of Unalakleet and Carl Kawagley of Nome had an influence on official military procedures and helped adapt the program to local conditions. Further research could reveal more information about this aspect of the installation's history.

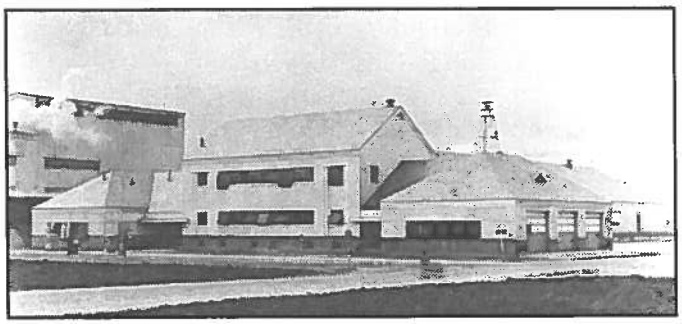


Figure 44. Quartermaster building, now Bldg 1562. Warehouse extension is visible to the rear. AAF photo.

Search and Rescue

In the early years of Ladd Field when flying operations were limited to cold weather testing, there were no special units available solely for search and rescue. Only a small number of planes were flying from the field and few wilderness crashes occurred. When they did, all available crews would pitch in to make aerial searches. However, as air operations expanded at Ladd Field during the war, the need for search and rescue units grew as well. Aircraft from the Cold Weather Test Detachment and the Air Transport Command as well as Russian Lend-Lease planes could be forced down in extremely remote wilderness areas.

[105] Bush, 23.

During the winter of 1942-1943, Base Engineering Officer (air) Maj. Richard C. Ragle was responsible for coordinating rescues and retrievals and preparing accident reports in addition to his other duties. A Fairbanks university professor and bush pilot, Ragle had been called to active duty with the Cold Weather Test Detachment at Ladd in 1941. He recalled in a memoir that after the Lend-Lease program got underway, the ad hoc method of responding to search and rescue crises became too demanding on the base resources. AAF Headquarters responded by creating an Arctic Search and Rescue Squadron assigned to the Alaskan Wing of the ATC in December 1943. "Flights" were established at points along the ALSIB route, and Ragle was placed in charge of the search and rescue flight based at Ladd.[106]

Flights included aircraft that were dedicated solely for search and rescue, and consisted of assigned pilots, a doctor, and specially trained enlisted men. In addition to search aircraft and crews, they had sled dogs, ground vehicles, and boats for summer use. Later on, dogs were even trained for parachute duty, prepared to jump with the medical officer down to a crash site.

The Quartermaster Corps was in charge of the kennels at Ladd Field, and it participated in search missions as well. In one particular case, the call was *Quartermasters to the rescue!* On February 11, 1944, two P-39s en-route to Ladd Field collided in mid-air and crashed about 18 miles east of Harding Lake. A search plane from Ladd located the wrecked aircraft and the two stranded pilots, but could not land in the area. The crew dropped emergency kits down to the men and instructed them to wait there overnight for a rescue party. Early the next morning, Base Quartermaster Maj. William Hammond and two QMC privates, George Lockwood and Carl Kawagley, loaded two nine-dog teams and emergency supplies into a truck and traveled sixty miles out to Birch Lake, the best staging area. There, a ski-equipped Norseman aircraft met them. The Norseman pilot, Capt. Gentry, took Kawagley aloft on a reconnaissance flight to the crash site. From the air, Gentry and Kawagley located a suitable trapper's trail through the wooded, rough country to the area where the downed pilots were stranded. They dropped a note with further instructions to the pilots on the ground and then returned to Birch Lake where Kawagley and Lockwood set out with the two dog teams.

The weather was marginal, with gusty wind and poor visibility from low clouds and ground fog. Parts of the trail were wind-blown and bare of snow cover, so travel was difficult. The drivers urged the dogs on, eager to complete their mission before winter darkness fell. When they arrived in the vicinity of the crash, the drivers called out to the missing men and signaled with a rifle shot, but received no answer. Because of blowing wind, they could not be heard. After covering another half mile of trail, they called out again and this time located the downed pilots. Lockwood and Kawagley loaded the men into the sled baskets, covered them with robes, and headed back over the rough trail. When they returned to Birch Lake after a total of 24 miles of "hard going," the

[106] Ragle eventually became a Lt. Col., and ended the war as officer in charge of ATC's worldwide Search, Rescue, and Survival section in Washington, DC. He returned to the University of Alaska Fairbanks after the war and later served as Chief of Education and Training for the Alaskan Air Command. Information on Ragle compiled from Richard C. Ragle, memoir, "The War in the Aleutians, The First Two Weeks" at http://jragle.chem.umass.edu/FRAMES2/aleuti~1.htm and correspondence with John Ragle, 19 June 2002.

Aircraft Down

Then-Lt. Milton Ashkins and his crew chief Sgt. R.A. Roberts experienced one of Ladd's earliest wilderness crashes when their O-38 came down southeast of Fairbanks on June 16, 1941. Their engine quit while they were flying at low altitude, and they crash-landed in a forested area. Having escaped injury, they radioed their location back to Fairbanks and another airplane dropped them emergency supplies including a rifle, rubber raft, rations and ammunition. The two men then made their way overland to a rendezvous point miles away ten days later. The aircraft was recovered in 1967 and eventually sent to Wright Patterson AFB in Ohio for exhibit.[107]

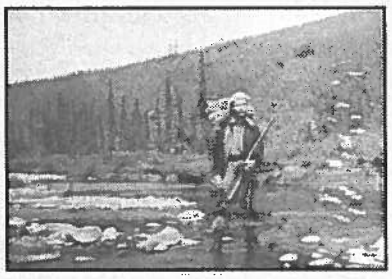


Figure 45. Lt. Milton Ashkins makes his way back from crash site with Sgt. R. A. Roberts, not pictured. Courtesy Elmendorf AFB History Office.

rescued pilots returned to Ladd Field in the waiting Norseman and the dogs and drivers headed back home in their truck.[108] Kawagley and Lockwood earned commendations for their participation in the successful rescue mission.

The most famous search and rescue mission at Ladd during the war years involved Lt. Leon Crane, "The Man Who Walked Out of Charley River."[109] The only survivor of a B-24 crash on Dec. 21, 1943, Crane endured 84 days alone in the wilds of the Charley River region. When the plane disappeared, aircrews from Ladd made an intense aerial search for crash survivors, but reluctantly abandoned the effort after three fruitless weeks. All the while, persistent ice fog blanketed the wooded valleys and river bottoms, obscuring the crash site from the eyes of the search teams.

Crane, who had parachuted onto a steep hillside, was not able to reach the inaccessible crash site and instead attempted to walk out along the river. He had no map and did not know where he was. He had no emergency equipment other than his down flight suit, parachute, matches, and a Boy Scout knife. Even his mittens had been left behind in the frantic escape from the aircraft. Crane traveled for nine days with no food during the darkest time of winter until he reached an uninhabited cabin with a cache of supplies. There, he treated his frostbite, replenished his strength, and found a map. Estimating he would have at least a two weeks' trek in subzero temperatures to reach the nearest settlement, Crane decided to wait it out in the shelter where he was until traveling conditions improved. Eventually he put together a makeshift sled, loaded it with provisions, and moved laboriously down the river. It was dangerous and slow going. He fell through the ice once, and on another occasion, the sled fell through and he nearly lost his remaining supplies. Finally, Crane reached an inhabited cabin 30 miles from the settlement of Woodchopper. A few days later, in March 1944, a mail plane pilot brought him from Woodchopper back to the astounded community at Ladd Field.

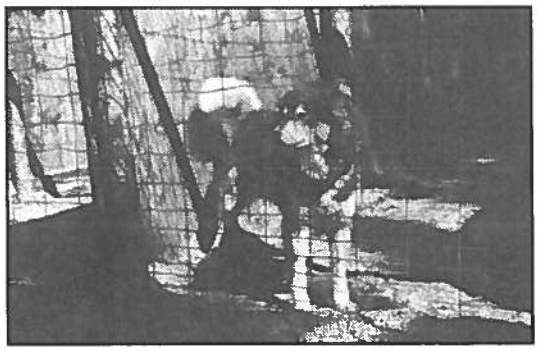


Figure 46. Ladd sled dog, ca. 1941. Courtesy Richard Dennison.

[107] "Retired General Recalls 1941 Alaskan Wilderness Crash," *Santa Barbara News-Press*, 19 September 1968, courtesy Milton Ashkins.

[108] HAD, 309.

[109] Compiled from Stephen M. Morrisette, "The Man Who Walked Out of Charley River," *Alaska at War*, Fern Chandonnet, ed., 143-146, and personal communication, Randy Acord, 13 June 2002.

Weather

Weather information was critical to the success of aerial operations. During the war, the Army's 16th Weather Squadron handled weather reporting along the Northwest Staging Route and had a detachment at Ladd.[110]

The weather office at Hangar One was located on the south side of the second floor, overlooking the airfield. A team of military and civilian weather observers and forecasters worked there simultaneously. On the military side, the unit consisted of weather observers, who were enlisted men, and forecasters, who were officers. The civilian staff were employees of the Weather Bureau, which also operated a weather station at Fairbanks' civilian airport, Weeks Field. Together they covered three eight-hour shifts. During the day, at least two forecasters would be on duty with between six and eight observers. On the night shifts, when traffic was down, the crew was slightly smaller.

Figure 47. Russian weather officer reading decoded weather report from Siberia. Rex and Lillian Wood collection, #2002-164-90, Archives and Manuscripts, Alaska and Polar Regions Archives, University of Alaska Fairbanks.

Every hour, the observers collected weather information such as the height and type of clouds, altimeter settings, visibility, and wind direction and velocity. Forecasters put the information together and plotted weather maps by hand when those were needed. They always encrypted the forecasts and hourly observations with special equipment before transmitting them via radio. A bank of teletype machines in the office were connected to other weather stations along the Northwest Staging Route.

Rex Wood was a weather observer at Ladd who originally came to Fairbanks as a civilian employee with the Weather Bureau.[111] He described the operations of the weather office, and recalled that the Weather Bureau staff worked on the same tasks next to their military counterparts. After working for the Weather Bureau for some time, Wood was drafted. When he completed boot camp at the outskirts of Ladd, Wood returned to the weather office and did the same work he had been doing before, trading the Weather Bureau shirt for the Army olive drab.

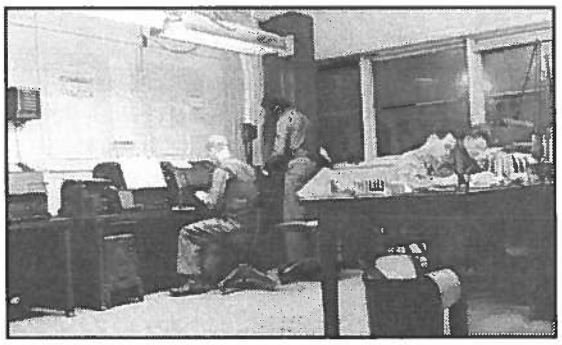


Figure 48. Ladd Field weather office ca 1943. Rex and Lillian Wood collection, #2002-164-86, Archives and Manuscripts, Alaska and Polar Regions Archives, University of Alaska Fairbanks.

Weather observation was a specialty. Wood recalled that some of the enlisted weather observers had been trained at Chanute Field in Illinois, but that others were transferred in with less experience. This caused an unusual mix of ranks and experience, and sometimes sergeants with less experience found themselves taking direction from corporals with more weather training.

[110] Smith, 120. Reports show that the 11th Air Force had a small weather detachment assigned as well. MHR, May 1944. In 1945, an additional weather office was operating out of Hangar Three. MHR, Jan 45.

[111] Personal communication, 14 January 2003.

Women's Army Corps

Near the end of the war, Ladd Field hosted the first Women's Army Corps (WAC) unit ever stationed in Alaska. Known as the 1466th AAF Base Unit, Squadron W, they arrived at Ladd in April 1945 and served until December of that year. This group of enlisted women and two officers were pioneers, although they were stationed in Alaska only for a brief time.

The history of the Ladd squadron is tied to the larger story of WAC service in World War II. In May 1942, Congress established the Women's Army Auxiliary Corps (WAAC), the predecessor of the WAC. Because it was an auxiliary corps, its members did not have full military status. This changed in July 1943 when the Women's Army Corps (WAC) replaced the WAAC. The new corps had regular Army status and operated under Army regulations. Because the Army Air Forces (AAF) were part of the Army structure at that time, women who served under AAF commands were technically members of the Women's Army Corps. These women's units were often referred to as the "Air WACs." Although the Air WACs served under the AAF, they should not be confused with the WASP: Women's Airforce Service Pilots, a separate organization who remained an auxiliary unit.[112] After World War II, when the Air Force became a separate service, the Air WACs were reconstituted as the Women's Air Force or WAF.

In World War II, regulations excluded women from combat and combat training, but WACs could fill a wide variety of other military positions. This was especially true in the Army Air Forces, which became well known under Gen. Arnold for supporting the Air WACs and opening many technical jobs to women. Enrollment in the Air WACs peaked in January 1945 with 40,000 members. About fifty percent of these women served in conventional clerical assignments while others took on more technical roles. The ATC, for example, employed WACs at information desks, dispatching offices, and to process passengers and supplies. The Air Service Command placed them at depots to keep track of stocks of technical equipment. Often women who joined the WAC already possessed education and skills. In addition to serving as drivers, clerks, and typists, skilled Air WACs could become mechanics, radio operators, postal workers, weather observers, equipment operators, control tower operators, cryptographers and photographers. The Army Airways Communications Service (AACS) employed WACs as radio operators and in airfield control towers. At some fields, WACs worked as airplane mechanics. Historian Mattie Treadwell summed up the WACs' versatility this way, "To employ the average WAC successfully, it proved necessary only to place her, fresh from basic training, on almost any airfield, where, if not immediately [pulled] into too many pieces by competing section chiefs, she ordinarily soon found useful employment."[113]

Ladd's WACs served under the Air Transport Command. It took quite a bit of advance preparation for the ATC to deploy WAC units to stations on the

[112] WASP pilots ferried aircraft in the contiguous U.S. but were not assigned to fly to Ladd Field. After the war, several former WASP pilots came to Fairbanks to settle, and they became well known locally: Celia Hunter, Ginny Woods, and Nancy Baker. Ms. Baker confirmed that no WASPs flew to Ladd during the war.

[113] Mattie E. Treadwell, *The Women's Army Corps* (Washington, DC: Department of the Army, Office of the Chief of Military History, 1954) 288. Additional information compiled from Bettie J. Morden, *The Women's Army Corps*, 1945-1978 (Washington, DC: U.S. Army, Center of Military History, 2000) 19-20; Treadwell 282, 290, 478; and *The Story of the WAF*, a brief report by an unknown author [1952], provided by Betty Wiker.

Ladd's First WAC

The first known WAC at Ladd Field was not part of the ATC unit. 1st Lt. Christine Goodall arrived as a solo officer on temporary duty with the Cold Weather Test Detachment a few months before the ATC's WAC squadron arrived at the field. Lt. Goodall was a project officer in aerial photography from the Extreme Temperature Operations Unit at Wright Field, Ohio. According to a newspaper account, she was a graduate of Smith College with a degree in mathematics and physics, was a private pilot, and had been employed in the Bendix Company aeronautical instruments laboratory before joining the WAC.

"First Ladd Wac Here With CWT," *Fairbanks Daily News-Miner*, 15 January 1945, 4.

Figure 49. WACs arrive at Ladd Field. Note arctic clothing being worn or carried. Arctic clothing issue for the WACs included: "Long-sleeved and long-legged olive drab winter woolies; two wool OD shirts to be worn one above the other, with necktie; olive drab wool liners, similar to ski pants...to be worn with pile-lined jacket liner weighing an approximate seven pounds; an outer field jacket and outer waterproof ski pants; a hooded pile-lined parka." Wolfe, 4. AAF photo courtesy Betty Wiker.

Northwest Staging Route such as Edmonton, Whitehorse, and Ladd Field. WAC units needed separate barracks, and arctic military clothing for women had to be developed, approved, and issued. Several behind-the-scenes maneuvers made the deployment possible. In 1944, the ATC became the first AAF command to get permission to move WACs to overseas non-combatant duty using a simplified process. By then, arctic military clothing for women had been standardized and construction was underway on a women's barracks at Ladd Field. In the spring of 1945, preparations were completed and on April 14, the WACs arrived at Ladd.

Audrey Virden remembered details of her flight from Great Falls to Ladd Field. "[W]e had to wear all of the wool apparel that they had given us and the plane was heated so we just about roasted...." she wrote. "When we got to Fairbanks the temperature was warmer than it had been in Great Falls."[114]

After settling in, the new arrivals set to work in various capacities. ATC photographs from Ladd Field show WACs employed in the following jobs: motor pool driver, dispatcher, finance clerk, public relations assistant, printing office assistant, postal clerk, aircraft parts warehouse clerk, and on kitchen duty.[115] WACs also served with the AACS at Ladd Field's radio station as radio operators, teletype operators, and message expeditors. When Audrey Virden arrived at Ladd, she was hoping for an airfield position doing mechanical work on aircraft or guiding planes, but she was assigned to Personnel instead. Cpl. Mary Ellen Wolfe became assistant editor of the *Midnight Sun* base newspaper. Verna Buckner was a cook and baker for the unit.

The WACs' quarters were located on the North Post, east of the chapel on Marks Road. The barracks was a wooden theater-of-operations building with several sections. The main element was a two-story inverted U-shape that faced south onto Marks Road. Squad rooms and NCO quarters were located in each wing, while washrooms and supply rooms were in the center segment. In the rear, a one-story extension contained the mess hall, kitchen, and day room. A short hallway connected the extension to the main barracks. Along this hallway was an orderly room and the WAC commander's office. The barracks also had a beauty parlor, a dark room, and a second floor supply room, which had been converted to a

[114] Audrey Virden memoir, correspondence with author, October 2003.
[115] MHR, 1466th AAF Base Unit, September 1945, microfilm AO177, Elmendorf AFB History Office.

Figure 50. WAC sergeant and cooks celebrate a birthday, June 1945. Courtesy Verna Raymond Buckner.

Figure 51. Audrey Virden and unidentified Sgt Major, Personnel. Courtesy Audrey Virden.

Figure 52. WAC driver and dispatcher. AAF photo, courtesy Betty Wiker.

sewing/ironing room. Audrey Virden recalled that in Ladd slang, the barracks was known as the "WAC shack."

On the afternoon of June 26, only two months after the building was first occupied, fire raged through the barracks. Night shift workers asleep in their bunks were taken by surprise and scrambled to escape. One young enlisted woman, Pfc. Ione Dries, died after being trapped by the blaze. Seventeen other people were treated for injuries, including three who broke their backs jumping out of second story windows. The fire could not be controlled. It spread so rapidly that within two hours, the barracks was completely destroyed, along with all the WACs' spare uniforms and personal effects. While a replacement barracks was being erected at the original site, the WACs were temporarily housed in the hospital annex in the 300 area. Audrey Virden recalled that the temporary arrangement was "much less refined" and that the shower room got so cold there was frost on its concrete walls.

In spite of the tragedy of the barracks fire, the WACs made the most of their Alaskan assignment. When they were off duty, they could participate in activities such as gardening, softball, gold panning, and seeing local sights. On occasion, WACs traveled far from Ladd Field on morale missions. Former CO Betty Etten Wiker remembered accompanying three WACs on a brief tour of the Aleutians, where they serenaded the troops with musical numbers and were heralded as the first WACs to visit the Aleutian garrisons. In July, the ATC flew the 577th AAF dance band and a group of 40 WACs to the airbase at Galena for an evening of dancing with the GIs there. The North Star newspaper reported that, "[p]romptly at midnight – like a mass exodus of Cinderellas – the Wacs took off under protest from many who had made friends in the few hours of their stay."[116]

Overall, women from the unit remembered being welcomed and treated with respect and courtesy by townspeople and the base personnel. Enlisted woman Verna Buckner wrote that she "loved the service" and that joining the WACs allowed her to travel from her hometown in Vermont to see "country I never would have seen."[117]

On December 6, 1945, the WACs departed Ladd Field for discharge back in the States. The women of the 1466th AAF Base Unit Squadron W had been among the 7,000 Air WACs assigned to overseas duty, and had the distinction of being

[116] "Ladd Field Wacs Visit Water-Soaked Galenans," *North Star*, 13 August 1945.
[117] Verna Buckner, correspondence with author, 27 June 2003.

the first WAC unit to serve in Alaska. Along with the AAF nurses and civilian women serving at this airbase, they pioneered the way for the women serving at Fort Wainwright today.

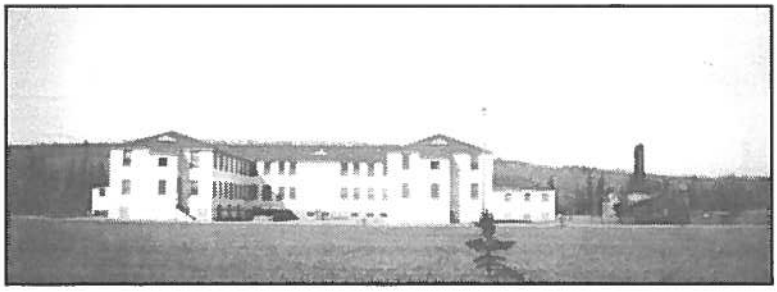


Figure 53. WAC barracks 1945, south elevation facing Marks Road. Today, the Last Frontier Club (Bldg 1044) stands on this site. Courtesy Verna Raymond Buckner.

Figure 54. WAC barracks interiors. Clockwise from top left: enlisted bay, beauty parlor, mess hall, cadre room. AAF photos, courtesy Betty Wiker.

Figure 55. Off duty time. Left to right, Duck hunting; winter play; gardening in Fairbanks. Left and right photos courtesy Audrey Virden; center photo courtesy Betty Wiker.

Figure 56. Waiting for the bus in the 300 area. Courtesy Audrey Virden.

Figure 57. Verna R. Buckner and unit mascot "Chena." Courtesy Verna Raymond Buckner.

Figure 58. WACs in Army parkas. Courtesy Audrey Virden.

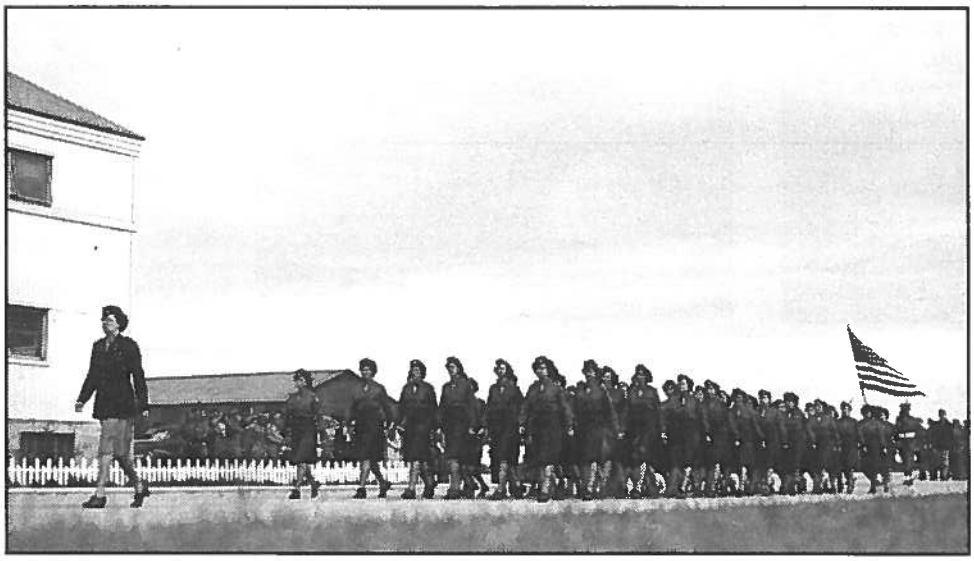


Figure 59. WAC squadron passing in review in front of Hangar One, August 10, 1945. Courtesy Betty Wiker.

Other Military Units

Figure 60. Military and civilian staff, Signal Corps film library. Ferris Copper collection, 99-183-864, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

The Alaska Railroad was a critical asset for the military services, although it was a civilian operation. During the war it was understaffed because many employees had either enlisted or taken defense jobs elsewhere. Consequently, from the spring of 1943 through the summer of 1945, the Army brought in the 714th Railway Operating Battalion to help keep the railroad running.[118] The battalion, with more than 1,000 enlisted men, was headquartered at Ft. Richardson with detachments assigned along the rail line, including Ladd Field. Their duties included all aspects of railroad operation, from track and bridge maintenance to repair shops to serving on engine crews, and they were integrated with the remaining civilian work force at the railroad. The railroad was an important aspect of Ladd Field's operation. A spur line connected the airfield to the Alaska Railroad's terminus in Fairbanks and ran to various points on the installation.

A variety of other military units were also active at Ladd during the war, but not all of them have been identified. Some of these include a utilities section, a company of military police, and a small base censorship detachment.

Civilian Efforts

For the most part, the contributions and recollections of civilians have been included with the description of the military activities at Ladd. However, the civilian support at Ladd Field was substantial enough to merit a short overview.

Civilian support at Ladd Field was considerable. In the summer of 1944, for example, at least 1,700 civilians were on the base payroll.[119] There were also various contract and commercial staff present at the base but not directly employed by the military.

From the earliest days of Ladd Field, the construction sector employed the largest number of civilians. In 1940, one thousand people were working on Ladd's construction projects. Large numbers of men continued to be employed in construction at Ladd as the airfield expanded through the war, and both men and women worked in a civilian capacity with the Resident Engineer's office.

Civilians also contributed to airfield operations, working in Priorities and Traffic and passenger screening, operations and flight plans, and other related areas. Marie Haggard and Roma Hulse Scougal held positions like these. Civilians were employed by the Weather Bureau as weather observers and forecasters. They also played an important role supporting office activities around Ladd Field. There were administrators handling procurement, typists producing correspondence

[118] Woodman, 327-328.

[119] According to Air Transport Command records, 1,300 of them supported construction activities; another 156 worked for the Post Engineer, 108 directly for the Army Air Forces, and smaller numbers supported quartermaster and base installation functions. MHR, August 1944. A similar count for December 1944 was 1193, reflecting a drop in the construction figure. MHR, December 1944

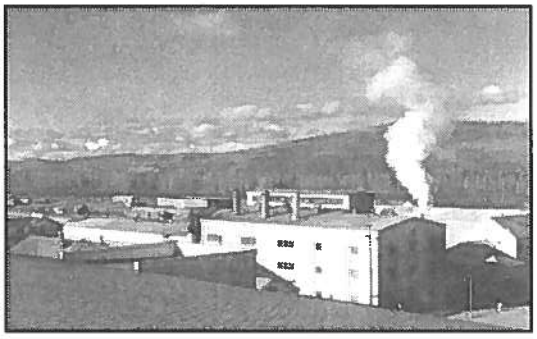


Figure 61. Power plant ca 1944. Detail, Rex Wood photo.

and reports, and finance clerks crunching numbers and preparing payments. Supply clerks, teletype and telephone operators, secretaries, and messengers all kept the offices humming with activity. Josephine Johnson was a finance clerk, and typed paychecks for the civilian staff. Audrey K. Johnston started out as a messenger in Hangar One and later worked for the Air Corps supply depot. The AACS had civilians working as teletype operators and cryptography secretaries.[120]

The power plant relied heavily on civilian staffing for its operation. The main plant was located just northwest of Hangar One facing the quadrangle and it generated power from coal-fired boilers. Richard Frank came to work at the power plant when he was a very young man. Originally from the Athabaskan village of Rampart, he came to Ladd early in 1945 after working for a time on the Alaska Railroad. His job was to help fire the boilers. "It was busy shift work, [we]'d work eight hour shifts," he remembered. "I enjoyed it. I didn't mind the pay, I don't remember how much I made. But it was work, and it was something that I felt that I was making a contribution." Frank then volunteered to join the Air Corps and served in the South Pacific as an aircraft mechanic.

It appears that most civilians at Ladd were employed directly by the government, but commercial contract personnel also worked at Ladd Field as Cold Weather Test technical representatives and contract airline employees. The Cold Weather Test Detachment hosted as many as 120 civilian technical representatives from various manufacturers. Both Northwest Airlines and Western Airlines operated flights on contract for the ATC and those operators had some staff at Ladd.[121]

Occasionally there was friction between civilians and military authority. Thelma Walker of the Resident Engineer office recalled one incident in particular. After the Pearl Harbor attacks, Ladd Field was on high alert. All the secretaries in her office kept gas masks at their desks and everyone had to participate in air raid drills. When they heard the alarm, they were instructed to evacuate to an outdoor dugout shelter covered with a tent tarp. However, it was December and it was Fairbanks. Thelma reported that during the first drill, the temperature was 40 below zero. Nevertheless, everyone went out to the shelter, put on the gas masks, and waited out the drill in the bitter cold. To compound the misery of sitting still outdoors in the deep cold, they discovered that the masks they wore were awkward and almost impossible to use. At that temperature, condensation froze inside them instantly. Thelma decided that if she were going to get bombed, it would be in her office and not in the frozen shelter. The next time there was a drill, she declined to take part. The NCO in charge promptly fired her for insubordination. Just as promptly, Chief Engineer Col. Bush rehired her. It turned out she was too valuable to lose: Thelma was one of the few on staff who

[120] *Ladd Field Midnight Sun*, 10 Nov 44, 5.

[121] More information about the role of commercial airlines on the northwest staging route can be found in Smith, *Warplanes to Alaska*, and Carr, *Great Falls to Nome*. See Chapter 3 for information on cold weather testing and manufacturers' tech reps. Other contract operations may have existed at Ladd but have not been researched.

knew shorthand, and it was her job to listen in to the Chief Engineer's high-level confidential phone conversations to take notes.[122]

Often, the assistance of civilians can be such a natural part of an installation's operations that it goes unnoticed. At least once, though, the Ladd Field command took note of this civilian help. In October, 1944, Ladd commanding officer Col. R. Keillor awarded the Asiatic-Pacific ribbon for Civilian Service to over 200 Ladd employees. In a ceremony at the post theater, Keillor told the group, "Too often perhaps we have taken your efficiency, your splendid co-operation and teamwork for granted...I think one reason why we haven't said more along those lines is because we have always considered you a part of the team...I realize that sometimes each one of us, as individuals, may think that his or her job is not very important – it is dull, routine, monotonous, and doesn't seem urgent to the war effort." He added, "But let me assure you that your job is important, and the men fighting on the ground, and on the sea, and in the sky know...that you are definitely part of their team."[123]

[122] Personal communication, Thelma Walker, 19 August 2003.
[123] "Civilians Lauded at Ceremony," *Ladd Field Midnight Sun,* 27 October 1944, 1.

CHAPTER 7.0 Life at Ladd Field

The airbase at Ladd Field brought thousands of newcomers into the frontier community of Fairbanks, which in 1940 was a small remote town of only a few thousand people. The base had to provide housing, food, equipment, and recreation for this new influx of military and civilian people. As the airfield grew from its own frontier beginnings as a small air station, so did many aspects of life at Ladd Field.

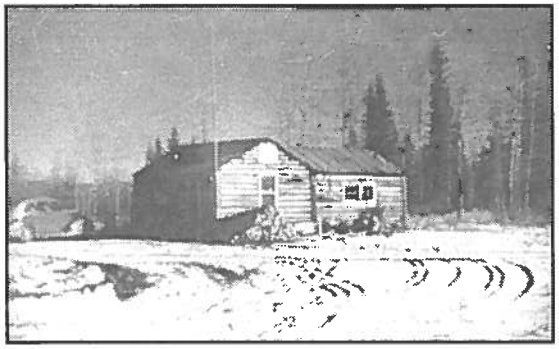


Figure 62. Junior officers' cabin, ca 1940-1941. This cabin was lost to fire in February 1941. Courtesy Richard Dennison.

Military Quarters

The original design for Ladd Field called for a small permanent garrison, with quarters provided near the airfield for officers, NCOs, and Air Corps enlisted men. These buildings of reinforced concrete and steel were designed for peacetime construction, when labor, materials, and time were more plentiful than they would be after the onset of war. These permanent buildings could take up to two years to construct.

Consequently, when Gen. Arnold ordered Ladd Field to begin operations ahead of schedule in September 1940, not all the permanent quarters were ready. In the meantime, some officers had to be housed in town in apartments or hotels. A few stayed in converted cabins. The first ground crews who arrived in September 1940 were apparently housed in temporary barracks. Enlisted men from other units, such as the 4th Infantry, were quartered in temporary barracks beyond the horseshoe area.[124]

The commander's house (1048) was one of the first set of quarters to be completed, followed by officers' family housing (1047), NCO quarters (1049, 1051), and the BOQ, bachelor's officers' quarters (1045). Post adjutant Lt. Marvin Walseth and his wife Phyllis moved into the family quarters in March 1941. Phyllis wrote home to family that "Nothing I can say can possibly tell you how nice they are for Alaska."[125] She described the cream-colored row house as having hardwood floors, a living/dining room, kitchen, three bedrooms and two baths, with electric appliances in the kitchen and a beautiful stainless steel sink. Shared facilities included a laundry room, play room, and store room in the basement. The Quartermaster provided some but not all of the furnishings. The Walseths considered themselves lucky to have the unit. Only seven were available but there were 16 married officers assigned to the field. The others had to remain in town. As it turned out, however, married officers were only allowed to live on

[124] Air Corps Capt. Clyde Sherman rented an apartment in town. He remembered waiting every morning for a car that picked up officers from town and brought them in to Ladd. Invariably someone in the group would be delayed, causing them all to arrive late. Clyde Sherman interviewed by Margaret Van Cleve, 15 February 1991, UAF Alaska and Polar Regions Department Archives. His remarks appear to refer to events in the fall of 1941. "55 Soldiers and Officers Arriving by Train Today for Ladd Field Air Corps," *Fairbanks Daily News-Miner,* 21 September 1940.

[125] Walseth information from "The Flying History of Major Marvin Walseth," unpublished compilation of letters between Marvin and Phyllis Walseth and family members. Courtesy Steve Dennis.

the base with their families for a short time. After the United States entered the war, military dependents were ordered to leave the Territory.

The Air Corps barracks for enlisted men was located in the south wing of a multiple purpose building that would eventually also house the PX, theater, and hospital. It took somewhat longer to complete than the smaller officers' and NCO quarters. Eventually this barracks could house 250 enlisted men. Today the building serves as Post Headquarters.

In October 1941, a visiting Air Inspector described the condition of Ladd's barracks. He was impressed with the permanent quarters. "The new permanent buildings nearing completion...are the best I have ever seen. There is little doubt that morale of troops living therein will be materially improved." Others agreed, recalling that the permanent quarters were "first class."[126] New recruits and new arrivals at the field were frequently housed at the Air Corps barracks while awaiting assignment to quarters. Stan Jurek remembered arriving there with the 6th Air Depot Group in July 1942 and being very favorably impressed. "[I]t was the best accommodations we had from the time I started in the service...it was really a pleasant surprise." Temporary barracks, not surprisingly, were less comfortable. "The temporary barracks already completed and occupied are extremely drab," the Air Inspector reported. "Steps should immediately be taken to improve the appearance of the interior of barracks, recreation facilities and mess halls."[127] Whether that was ever done is not known, but as more troops arrived at Ladd Field, more and more men were assigned to temporary quarters.

New areas of temporary quarters sprouted up as Ladd expanded during the war, until Ladd could accommodate 4,555 uniformed personnel. One of the first areas to be constructed was the Coast Artillery Garrison located near the river bend southwest of the runway. Eventually, temporary quarters also existed north of the runways on both sides of the horseshoe, in what were then zones 100 and 200, southeast of the airfield in zone 900, southwest of the airfield in zones 300 and 400, and westward in zones 500 and 600 near today's main gate and Glass Park. These temporary quarters included Quonset huts, Pacific huts, 800-series (CCC-style) barracks, Loxstave barracks, and Theater of Operations (T/O) barracks.[128]

Each type of barracks had its own characteristics. The 800-series barracks, described in contemporary records as "CCC type" buildings, were prefabricated wood panel structures similar to wood frame construction with drop siding and tar paper roofs. Thirty of these barracks were built at Ladd, measuring 20 ft by 120 ft. Each could house 40 men. Another 800-series barracks was built to house 245 personnel and was constructed with several wings. Loxstave barracks were constructed from pre-fabricated kits of notched lumber with built-up walls. Only three of those were in use at Ladd, housing only 16 men each. T/O barracks were constructed from rough lumber and were intended to be among the most temporary of the wartime buildings. Ten of these were in Ladd's inventory. Most of them, like the CCC type barracks, measured 20 x 120 feet and housed 40

[126] Milton Ashkins, questionnaire.

[127] Col. Edmund W. Hill, Air Inspector, memo to Gen. Arnold, 28 October 1941. University of Alaska Anchorage Archives, AAC Historical Files collection, series III, f12.

[128] "Air Transport Command Construction," MHR, Jan. 1945. Although available records do not show precisely where each type was located, plot plans and diagrams indicate the footprint of buildings on the base, and several aerial photos provide further details. See Appendix D for examples of plot plans.

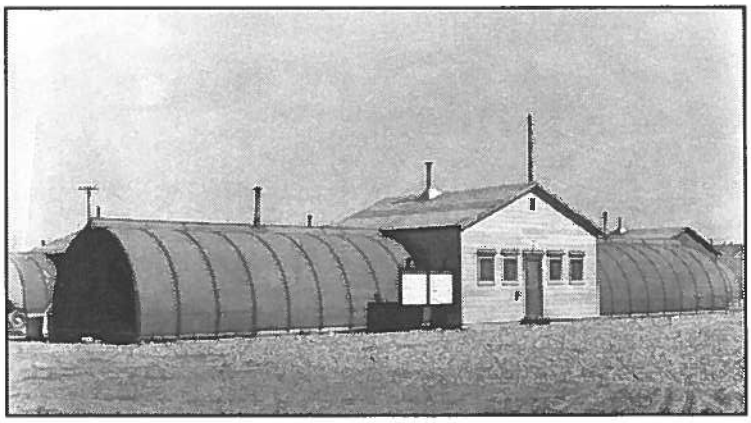


Figure 63. Pacific huts with connecting wood frame building, Zone 100. May 1944. AAF photo, courtesy Russ Sackett.

men. One T/O barracks was completed in March 1945 to house the Women's Army Corps (WAC) squadron of approximately 150 women. This building was a U-shaped two-story barracks with a one-story rear section containing kitchen, mess hall and day room. It was lost to fire only a few months after completion.

Quonset and Pacific huts featured prefabricated sectional units with arched sides and roof. The main distinctions between the two types were in materials. Quonsets were manufactured primarily from metal, while Pacific huts employed more plywood. At Ladd, Pacific huts predominated: 184 of them were used as barracks, compared to 35 Quonsets used for that purpose. Records also list another 27 civilian huts but their style was not identified. It was common to see groups of three huts connected to a central wood frame building which contained the coal stove.

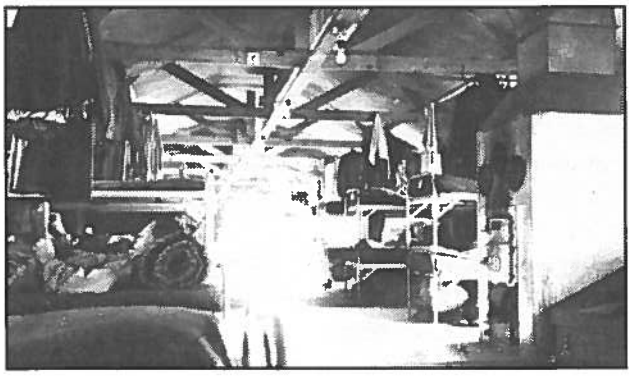


Figure 64. Interior of a barracks hut. Zenas Richards collection, University of Alaska Anchorage Archives.

When Bill Stroecker first enlisted at Ladd in May 1942, he quickly rose to the rank of buck sergeant and was assigned to barracks on the North Post. "To begin with when it was simply the post," he recalled, "why I lived up in a special room for sergeants.... It was the best quarters in the whole barracks. Everybody else was out in the bay. After a while there got to be more staff sergeants, in fact they were still out in the bay [although] they outranked me. So they made a big issue out of it. The fellows I was living with, staff and techs... they preferred me being in there so they put up a big fight and I never did move! Until I got transferred to the 6th Air Depot Group and then the accommodations weren't quite so luxurious." His new quarters were Quonset or Pacific huts in the 300 zone, southwest of the airfield. "There wasn't much, just simply bunks and a place to pass the time," he stated. He remembered that the coal came up from the...coal mine outside of Healy. "[S]ome of that coal was so wet and full of clay and the fumes from that...I remember being so sick inhaling those fumes 'cause there wasn't good ventilation. But it was better than a tent." He kept such things in perspective, though, in the spirit of the times.

Stan Jurek was quartered in the huts west of the horseshoe. He remembers that the huts in that area were scattered in the woods and housed a dozen men each. "It was just a cot and a place to hang your rifle under the bunk. Little shelf to hang a few of your clothes." He remembered, "Ours was named Pneumonia Gulch, next one was Snake Pit, and they were all really pretty cold living quarters in the wintertime." The men had to pay someone in the group to take a turn staying awake at night to make sure the fire didn't go out in the potbellied stove.

Figure 65. Inside Russian NCO quarters. Kay Kennedy Aviation collection, 91-098-868N, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

"[W]ithout somebody tending that fire," he recalled, "we'd freeze in those buildings. So we chipped in [to] keep one guy...stoking the fire, so the fire wouldn't go out." He also remembered problems with the coal they were using. "Coal seemed like it was half dirt," he recalled. Winter offered one other difficulty. "We'd have to scrub, [the]...wooden floor, I remember, and we'd have to take buckets and scrub the floor, and it turned to ice before you got it mopped up!.... Yeah, kind of tough keeping them clean in the wintertime."

In most cases, mess halls were located in separate buildings in the barracks compounds. Officers' quarters and a few of the larger barracks had their own mess facilities. Randy Acord lived in the BOQ, which had a mess hall in the basement where Russian officers also took their meals. Acord remembered that the food was excellent. Stan Jurek remembered that the meals served out of the main Air Corps barracks were "first class." As one would expect, though, food quality varied at the different outlets and was not always praised. However, Bill Stroecker observed that

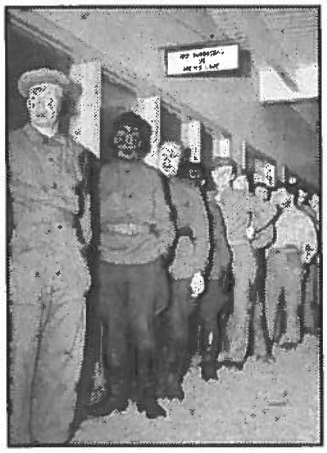


Figure 66. Russian and American enlisted men in chow line. Kay Kennedy Aviation collection, 91-098-867, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

> [Y]ou were in the spirit of the war, you know, and you know what all the boys are going through all over the world, so things like the food and things like that weren't as important as they would be to some civilian who was missing the better things in life. Because there was a war going on, everybody was aware of it. Most of the guys, most of them, understood all of that.

Russian personnel were also quartered at Ladd Field. They were given quarters in one of the NCO barracks on the North Post, today's Bldg 1051. They shared mess facilities with the Americans, though most reports describe them as eating separately on one side of the hall. Women interpreters were housed in the nurses' quarters. Officers were housed in town. The Soviet commander and his entourage stayed at the Noyes House on Illinois Street, which gained a reputation as "a big party place, evidently."[129]

Civilian Housing

When Ladd was first constructed, there was no civilian housing planned for the installation. H.O. Williams remembered, "They ran busses from downtown to pick up the people.... We walked down to Old Main School and caught the bus there at 8th and Cushman. There was no housing. The Corps of Engineers civilian who was supervising the surveying and all that lived in town."

Many of Ladd's civilian workers were local people, but plenty of others arrived in Fairbanks needing accommodations. In town, hotels such as the Pioneer, Nordale,

[129] Interview, Irene Noyes. The house was Richard Osborne's family home before and after the war, and he remarked that the house was "trashed" by the Russian occupants. Correspondence, Richard Osborne, 12 September 2002. Thelma Walker recalled that parties at the house were luxurious, with lots of food and wine. The partying could be intense, apparently, but "Alaskans were no slouches; we could keep up." Phone conversation with author, 19 August 2003.

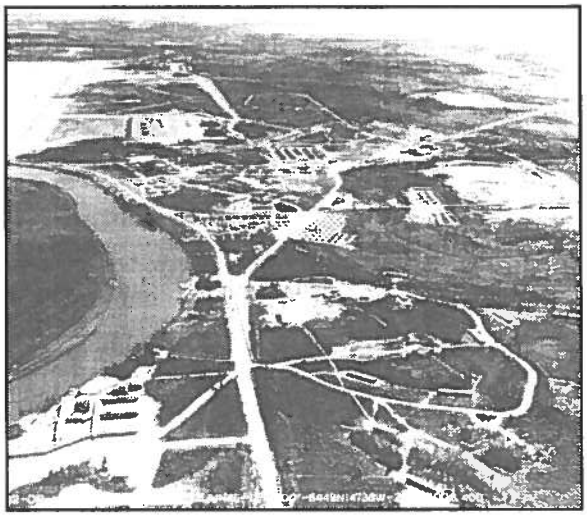


Figure 67. Aerial view looking east June 1945. Zone 400 in foreground, zone 300 in center, south runway in upper left. AAF photo courtesy Randy Acord.

and Arctic filled up with workers. Additional housing for men was located at North Camp, near today's Trainer Gate Road and the Old Steese Highway. At first women were provided housing at the Pioneer Hotel and later in quarters known as Slater Camp or Slaterville. Mrs. Jane Drebaum, who worked at Ladd for a year when she was just out of high school, lived at the Pioneer Hotel. She recalled that the Air Corps stationed a military policeman in the hotel lobby to keep male visitors away from the women's dormitory area.[130]

Later in the war civilian men were housed in barracks similar in some respects to those occupied by the servicemen. Quonset huts, Pacific huts, and Stout houses were used for civilian quarters. Stout houses were 16-foot-wide huts built of prefabricated wood composition panels. They had pitched roofs and walls which were sometimes covered with tarpaper. Records showed that 45 of them were used at Ladd, in 36-foot lengths. Over 1,300 civilians could reportedly be quartered on the base.[131]

Reindeer Camp became one of the civilian housing areas. It was located to the west of the Coast Artillery Garrison and the 300-zone military housing area. Today a new hospital is under construction near this site. Richard Frank stayed in the civilian Quonset huts at Reindeer Camp before he joined the Air Corps and departed for the Pacific. There were individual Quonset huts for living quarters, he remembered, and "Quonset huts put together for the kitchen, and...reading room and all that." He explained, "You had to walk from one place to another, to the laundry rooms, shower facilities, and then the bathrooms."

Buzby's Camp also provided food and lodging for workers at Ladd during the early years of construction. It was located outside the original boundary of Ladd Field on part of Bob and Tiny Buzby's Chena River homestead. Later, this area was incorporated into the base. None of these facilities remain today.

Clothing

Winter clothing was another aspect of life at Ladd Field. Bill Stroecker described an early coat known at Ladd as the DVG. "All of the original Ladd Fielders, before the 6th Air Depot got here, wore what was called the DVG. It was a beautiful sheep-lined coat, parky, and it was called a DVG after Dale V. Gaffney, the colonel. Everybody was issued one of those DVGs. The foot gear was a knee length boot made of the same material, sheepskin, it had sheepskin outside. It was a common thing; I wish I had saved mine, it's a collector's item these days! But after 6th ADG came, why then, all of that individuality of the old Ladd Field base just disappeared."

[130] Correspondence, Mrs. Jane Drebaum, 13 June 2002.

[131] Construction records noted that there were 27 ten-person Quonset/Pacific huts for civilians and another 45 five-person Stout houses being used. MHR, January 1945, appendix "Air Transport Command Construction." Capacity for civilian housing was given as 1,360. MHR, January 1945, 23.

Living Near Ladd

Evolyn Melville and her young family lived on a piece of land in Derby Tracts, just northeast of town near the railroad spur that crossed into Ladd Field. At that time, the Derby Tract neighborhood and the Hamilton Acres area to the east were home to only a few families, but as Ladd grew, so did the neighborhood. "A lot of people that came to Ladd Field as servicemen stayed on and made homes in the area," Mrs. Melville recalled, "and a lot of them are still here."

Proximity to Ladd Field influenced neighborhood life. Railroad access cut right through the residential area, as it still does today. Trains came through with supplies for Ladd on a regular schedule. But when trains were not running, neighborhood people used the tracks. Mrs. Melville remembered, "We spent a lot of time wandering up and down the tracks, those of us that lived out in the area. There were several of us that had small children, and we'd do a lot of walking along the tracks. There was also a road of sorts that paralleled the tracks, and it went out and crossed the bridge across the Chena between the rails, for people that wanted to take that method of getting out to Ladd Field to go to work."

In addition to being near the railroad access to Ladd, people in the neighborhood were also in its flight path. "One of my fondest recollections – the way our house was situated, we were in the landing pattern for aircraft going into Ladd Field. The flights of aircraft, A20s and other craft would come in over Birch Hill and they'd go right over our house into the landing pattern for Ladd Field. Our young son was out in the yard a lot, and his first word was 'Airplane.' 'Cause that's what he heard and saw all those first months...."

Figure 68. Gaffney attired in a DVG. Detail from group photo in Figure 17. Kay Kennedy Aviation collection, 91-098-854, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

Pilot Randy Acord recalled that the sheepskin didn't work as well for the aircrews who spent most of their time in stationary positions inside aircraft. "Our first clothing we had here was the sheepskin, and it was cold, very cold," he reported. "So Gen. Gaffney got involved in this quite a bit, and he had some suits made out of down, filled with down for insulation, and they covered them with a light material and quilted them...that improved tremendously but we still needed more improvement." He explained, "The original down fill that they had the quilting over wasn't heavy enough. You'd snag it on the least little thing, and then you'd start losing feathers out of it. So they then took the same piece of material and covered it with a medium weight ducking, you know, heavier material, and they waterproofed that before it was all made." The suit continued to evolve and improve. "Originally, you only had the zipper here like a pair of coveralls," Acord stated. "Then later on, they put the zipper on the legs, because it was so dad-gum difficult to get your pants down that other leg, you know, without pulling them up to your knees. So that was the first three zippers, one on each leg, and one up the center. And that was our key pretty much til the end of the war, and then they started putting zippers all over everything, pockets and all." Removable hoods were also developed for the suits. "[T]hat was a terrific idea," Acord reported. The prototype was similar to a hooded vest, while later versions snapped onto the garment in the back.

Acord also described the rayon gloves which the men wore inside their outer mittens. "They issued us little tight-fitting rayon gloves, little brown ones. Fantastic. [You] could stick those...into a pair of mittens and you could warm your fingers up in a couple of minutes. But if you had to do anything, you'd take your hand out of the mitten, and your fingers wouldn't stick to the cold metal. And you can go ahead and do nuts and bolts and all that kind of stuff without any danger, and put your hands back in your mittens." Protection provided by rayon or cotton inner gloves was extremely important for mechanics who had to reach into small spaces and handle cold surfaces. While the gloves were not warm, they protected exposed flesh from cold metal. Before these gloves were issued to the men, instrument mechanics from the Cold Weather Test Detachment had regularly lost skin off their fingers while performing their duties in cold temperatures. "Every mechanic at Ladd Field has experienced this loss," noted the 1942-1943 detachment report.[132] When temperatures dropped below minus 20 degrees, the gloves made it possible to increase the time a mechanic could work between warm-up breaks from three minutes to fifteen minutes.

In some cases, local recruits reported shortages of official military issue garments and temporarily relied on their own winter gear to fill the gap.[133] Paul Solka wrote that after being sworn in at Ladd, "We were taken to supply and issued outdoor clothing ordinarily worn by the corps: two sets of winter underwear and two coveralls. The rest would be issued in a month." When Robert Redding enlisted in December 1942, there still wasn't enough cold weather gear, and the men wore their own hats and boots. Frank Nigro remembered starting out the first days of his December enlistment without gloves. That problem was addressed, but later, while training on the firing range at 38 below, his feet got painfully cold in the military issue combination of shoes and overshoes. The next day he fixed the problem by leaving the shoes in the barracks and going out to the range with his feet wrapped in gunny sacks from the kitchen and then inserted into the overshoes.

Entertainment and Recreation

As Ladd Field grew, so did the efforts to welcome and entertain the servicemen and transient civilians who were stationed there. Both the community and the armed forces stepped in to provide soldiers with leisure activities. A USO club was built downtown, and local civic organizations sponsored dances, socials, and tea parties there. "[J]ust about all the young girls in Fairbanks were recruited to come to the USO to dance and talk with the young men," Josephine Johnson recalled. "The older women in Fairbanks would preside over that and they would see that there was food and everything was on the up and up!" There were also events at other community venues. Mrs. Johnson recalled dances at the Moose Hall. "Every Saturday night they had big dances down there. They had bands and everything. And that's pretty much where the young girls and GIs and stuff went on Saturday night and danced up a storm! And where you met other people, where everybody met, and not only the young people went there, everybody in town used to go there. And the older people would sit up in the bleachers and watch. That's the way it was, that was our entertainment."

[132] RCWTD, 311.

[133] Paul Solka, "In Service," *Fairbanks Daily News-Miner,* 1 October 1995, H-11. Redding, "Battle of Ladd...," H-6. Interview, Frank Nigro with Margaret Van Cleve, 17 August 1993, Oral History collection, UAF Rasmuson Library.

Gates, Passes, and Pins

Civilians needed passes to get onto Ladd Field, while servicemen needed passes to go into town. Bill Stroecker remembered that working in headquarters could have its advantages when it came to acquiring passes. "So one of the main things that you're interested in was getting passes, to get off of the base. There was one funny thing happened when I was in headquarters. We had a real compact group, you know, we had all been friends before getting in the Army, most of us, and the problem was trying to get passes, to come into town. Sometimes they were lenient, and other times they were tough and it was hard to get a pass, and they allotted you only so many passes." He remembered that his friend Dick was in charge of document reproduction. "And they happened to leave a pass in reproduction, so he ran off a whole bunch of them. And then [a friend] said, 'Dick, sign,' and he signed his name and compared them; they were almost exactly the same as those signed by the officer." After the passes were used, they were routed back through the same message center, so it was easy to avoid detection. "When they came back through, Dick would just pull out the passes that he'd [made.] We did pretty well for a while!"

Civilian Access Pins

Figure 69. Ladd Field permanent pass, courtesy Augie Hiebert.

Figure 70. Contractor pass, courtesy Kenneth Bailey.

Fairbanks, of course, had a rougher side. The airbase construction and wartime operations had brought literally thousands of people into the community, with all the attendant activity. A local writer described Fairbanks as "a town where the hotels were overflowing, the bar business was brisk, and the boom was in full swing by any measure."[134] Second Avenue, which boasted bars, cafes, and shops, was busy, as was Fourth Avenue, which offered a different sort of action. Even visiting celebrities could get caught up in the nightlife. Members of the Bob Hope troupe, visiting on a USO tour, were spotted one night at the Graehl Bar, partying until the wee hours.[135]

On Ladd Field itself, there were a variety of sponsored activities, especially later in the war. These ranged from organized team sports to USO performances to libraries, movie screenings, and Red Cross activities. There were service clubs available for enlisted men, NCOs, officers, and Russian officers.[136] On occasion, clubs sponsored music and dances. The NCO club, for example, sponsored monthly events in the fall of 1944, offering buffet food and dancing to the music of Arthur Auer and the Melody Ladds.[137] Ladd Field also boasted its own weekly newspaper, the *Ladd Field Midnight Sun.*

The Special Services Division sponsored events such as the Halloween Carnival of 1944, held in the post gymnasium. "The spirit of Halloween and Mardi Gras will reign for a night," the *Midnight Sun* promised. "A thrilling basketball game, a star-studded variety show and a roaring and rollicking circus midway are a few of

[134] Cole, 127.
[135] Irene Noyes interview, 28 June 2002.
[136] See chapter 5 above for info on Russian officers' club.
[137] "Non-Coms Dance at Club Tonight," *Ladd Field Midnight Sun,* 13 October 1944, 1.

Figure 71. WACs and dates at NCO club, 1945. Courtesy Audrey Virden, fifth from left.

the features planned…."[138] Organizers arranged concessions and booths with a circus theme. They had a "dump the sergeant" booth, a miniaturized display of Ladd Field, a rifle range operated by the MPs, and a dime-a-dance concession offered by the Slater Camp women. "Dance and whirl with a Slater Girl" was that booth's slogan.

Organized intramural sports were popular and received full coverage in the sports section of the *Midnight Sun*. Teams were formed along unit lines. The basketball schedule looked almost like a unit roster for the airbase. ATC Squadrons, Ordnance, CWTD, AACS, Medics, Signal, Resident Engineers, Quartermasters, and the Railway Battalion fielded teams. Even the base band showed up to provide music for tournament finals.[139] Ladd also fielded a boxing team for tournaments. Servicemen could also enjoy skiing and ski lessons on the slopes of Birch Hill. The Red Cross ran a ski hut offering coffee and doughnuts to skiers on weekends. The Ladd Athletic Office also sponsored a touch football league, and the base offered a baseball field, track, bowling alleys and weightlifting rooms. Volleyball, badminton, and ping pong tourneys were open to officers, enlisted men, and Russian personnel.[140] Vice President Henry Wallace, traveling through Ladd Field in May 1944, joined in a special volleyball game pitting a U.S. team against Russian players. It was reported that in his enthusiasm for the game, the Vice President hogged the ball, but no one was going to argue with him.[141]

Figure 72. Carnival photo, *Ladd Field Midnight Sun.*

The USO brought visiting celebrities to entertain at Ladd as part of their regional tours of Alaskan and Canadian bases. Screen actress Ingrid Bergman paid a call. Comedian Joe E. Brown traveled through in 1942. So did Bob Hope and Jerry Colonna. They performed in a show with musicians Frances Langford and Tony Romano, with Ladd Field's own big band providing the backup. Movie star Olivia deHavilland arrived in

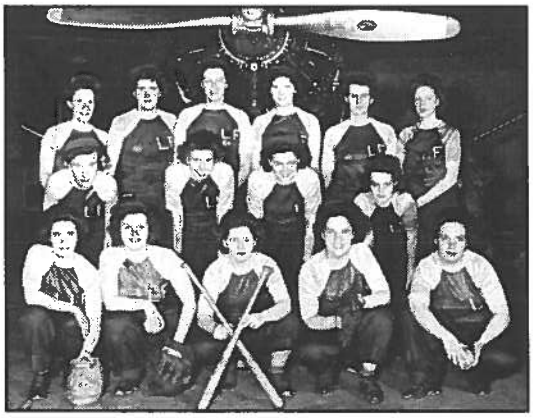


Figure 73. WAC softball team, July 1945. Because there were few women's teams to compete with, the Wacs sometimes played against the men. Courtesy Betty Wiker.

[138] "Carnival Plans are Drawn," *Ladd Field Midnight Sun*, 27 October 1944, 1.

[139] "Hoop Eliminations End Nov. 1st," *Ladd Field Midnight Sun*, 27 October 1944, 5.

[140] "Ladd Has Several on Ring Team," "Ping Pong, Badminton Scheduled," *Ladd Field Midnight Sun*, 10 November 1944, 5.

[141] Cole, 130.

Everybody Remembers Bob Hope

More than any other celebrity to visit Fairbanks during the war, Bob Hope sparked memories. His name arose spontaneously from many of the people who wrote and talked about Ladd Field. Marie Haggard, who was one of those who met him, summed it up: "Bob Hope, there's only one Bob Hope." She recalled that, "He can communicate with anybody, and people would enjoy his personality to the point where he just overflowed with joy because they were enjoying him." Aspiring performer Audi Kay Johnston-LeVang danced with Hope at a club dance, talked Hollywood with him, and remembered the evening as "an unforgettable intriguing 'once in a lifetime' experience..."[142]

April 1944 and made personal visits to all the servicemen who were patients at the station hospital in today's Bldg 1555. Heavyweight boxing champion Joe Louis stopped by in May 1945 to referee a boxing match at Ladd. That event drew 3,000 onlookers from the base and the Fairbanks community.

A group of soldiers at Ladd got together in their off-duty time and formed their own big band, performing dance music of the era as well as the occasional military performance. Two of the musicians, Bill Stroecker and Stan Jurek, reside in Fairbanks today. Stroecker remembered that they had a twelve-piece band playing standard arrangements of the day. "The band... for being remote and just being volunteers, was pretty presentable," Stroecker said. Jurek recalled that they started out playing at the officers' club and went on to play for squadron dances and at venues around Fairbanks, calling themselves the "Northern Aires." Jurek remembered, "There wasn't enough room at Ladd Field, so we'd hold our dances up at the University gymnasium.... We'd play about every Saturday night." As volunteers in the band, the men were excused from extra duty like KP, at least for a while. The dance band tradition continued in the later years of the war as well, with Ladd ensembles performing bi-monthly at the Eagles Hall, and playing for Saturday night dances at the BOQ and Wednesday night engagements at the USO.

Figure 74. 557th AAF Band plays at a War Bond rally in Fairbanks, spring 1945. Rex and Lillian Wood collection, #2002-164-95, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

By 1945, the 557th AAF band had been formed to handle formal performances at military occasions. This group played for VE Day celebrations, War Bond rallies, the Memorial Day parade in Fairbanks, and for visiting dignitaries. When Soviet Foreign Commissar V.M. Molotov's entourage came through Ladd on their way to the San Francisco Peace Conference, the band was preparing to welcome them with an incorrect rendition of the Soviet national anthem. At the last minute, a Russian officer realized the error and hurried over with a copy of the proper anthem. The band scurried around preparing an arrangement of parts and succeeded in avoiding an embarrassing moment.[143]

[142] Interview, Marie Haggard, 30 July 2002. Correspondence, Audi Kay Johnston-LeVang, 30 July 2002.
[143] MHR, April 1945.

Armed Forces Radio

A Fairbanks commercial radio station, KFAR, became the Armed Forces Radio Service outlet serving Ladd Field during WWII, as part of the military's effort to provide entertainment to service members stationed at distant outposts. Through the Armed Forces Radio Service, KFAR received national programming that was previously inaccessible to the Fairbanks audience.

Augie Hiebert remembered how it worked. "[W]e had these big sixteen-inch transcriptions that were flown up here with NBC's best programs, Red Skelton, Jack Benny, all that stuff. CBS stuff, Mutual stuff, and ABC stuff. And we had a marvelous program service that, of course, the townspeople enjoyed too. Now these programs didn't have any commercials in them. All the commercials were deleted because they didn't want to figure that the government was subsidizing advertising. But it was wonderful programming for both civilians and the military. We did that through the whole war."

Although the programs were not broadcast live, the audience was delighted to be receiving the same shows as the rest of the nation. "[T]he programming from the networks just made people realize they were getting the same programs that the folks at home were, of course on a delayed basis. We could do delayed basis; it still was entertainment. And the locals liked that a lot too," Hiebert recalled.

Ladd Field Chapel

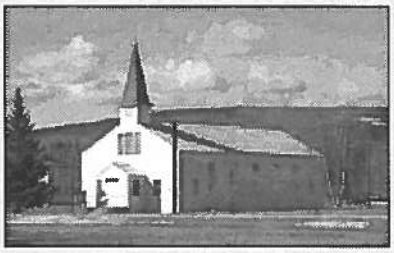


Figure 75. North Post Chapel, ca. 2000. USAG-AK CRM photo.

The North Post Chapel was completed in 1944. It is a wood frame chapel, built from the 800-series A-M standard plans which reflect a New England meeting-house style. It was available to various denominations for services and could seat about 240 people. The building was deactivated as a chapel in 1973, but following renovations in 1988, it was reopened. It is presently not in use.

The Ladd Field Midnight Sun

How's Your Russian?

See Page 3, Column 1.

Base Band Broadcasts Thursday

As the long winter season stretches out it is expected that more G.I.'s will become interested in taking part in shows of all types. A few weeks ago an excellent dramatic radio script was received through Army News Service and because of it's timeliness was produced in short order by the Radio Section of the Special Service Office. The script titled "The Ruhr" was a geographical and historical survey of this famous center of German war industry. At the very time that KFAR listeners were tuning in the program Allied troops were assaulting cities in the Ruhr Valley!

The cast pictured above all managed their parts very well. L right they are Lt. David Chavchavadze, Cpl. Martin Kloomak, C. Ensor Stoddard, Sgt. Al Urbach and Sgt. Eddie Feldman.

Squadron A Winner Of Post Prize

Soldiers In Two Units Honored

Girls Rule Leap Year USO Dance

Squadron G Are Grid Champions

TALENT TRYOUTS

— For —

"Holiday For Fiends"

A Variety Show to Be Presented
At The Ladd Field Carnival

On October 31
Will Be Held

TOMORROW AT 5 P.M.

— In The —

POST THEATER

WANTED

Actors - Actresses - Singers - Vocal Groups - Musicians
Composers - Writers - Comics - Dancers - Single Acts
Doubles - Specialties - Etc.

GI and CIVILIAN
MALE and FEMALE

If you can't make it we still want you.
Call 206

Figure 76. *Midnight Sun* headlines collage, fall 1944.

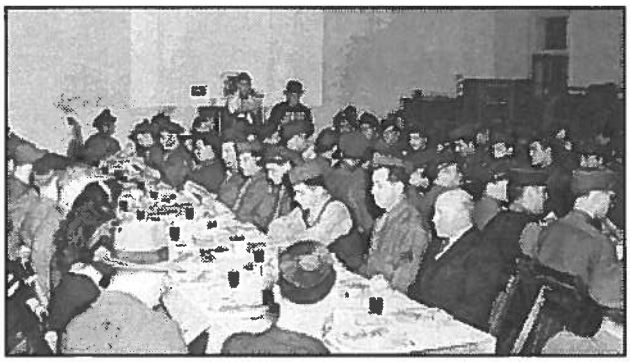


Fig. 77. Seder service, 1943. Robert and Jessie Bloom collection, 1963-0089-00134, Archives and Manuscripts, Alaska and Polar Regions Department, University of Alaska Fairbanks.

An Influx of People

The construction and operation of Ladd Field brought thousands of new people into Fairbanks, and offered opportunities and challenges to the population already living in the area. Men and women, Native Alaskans, sourdoughs, miners, young people on their first job, tough old hands working construction, Russian officers and enlisted men, as well as civilians, soldiers and airmen from all parts of the United States came together in their varied assignments at Ladd Field. An influx of people and activity on this scale had not been seen since the gold rush that founded Fairbanks. However, one major group was not present. At that time, military units were segregated, and African-Americans were not represented in the military units at Ladd Field, though that changed several years after the war.[144] No specific information was located on other ethnic groups taking part in civilian or military activities at Ladd, although anecdotal information suggests there was a variety of people, regions, and influences represented.

Guide to the Last Frontier

The War Department produced an informational booklet introducing servicemen to Alaskan geography, history, people, and outdoor pursuits. *A Pocket Guide to Alaska* told soldiers that "you are getting something most Americans would give their eyeteeth for-a close-up of America's last frontier in action." Local recruit Robert Redding remembered the booklet years later. "Outsiders were informed as to the best way to handle us. We were a proud people, the booklet said, a bit prickly, but with proper attitudes nobody should have problems....The booklet had lots of information about Alaska, such as its economy. I learned a lot about us from it."[145]

Figure 78. Cover of soldiers' pocket guide.

Alaskan Richard Frank enjoyed talking to the newcomers from the lower 48. "I know I did a lot of visiting, talking to people there. Most of them were from the lower 48 so it was interesting speaking to them, what they were doing in their past lives. Some of them were farmers and some of them worked in the factories, and that's something we don't have up here." Not only did the newcomers bring different experiences, they also brought different voices. "One of the most interesting things that I noticed at that time was speaking with different people from different areas. We never talked to someone from the hills of Kentucky or Tennessee, and all that. They had different accents; that was new to us. Like from the eastern seaboard, they had a different accent, and people from down south had a different accent, so it was interesting talking to these people." He remembered that, "Pahk the cah" and "y'all" were things they didn't hear in Fairbanks before that. "Southern drawl was something that was pretty neat," he recalled.

[144] No African American units were known to have served at Ladd during the war, although three regiments served on the construction of the Alaska Highway.

[145] Redding, H 5. War Department, Army Information Branch, *A Pocket Guide to Alaska*, Washington, DC 1944.

Alaska was a territory, and the military considered it overseas duty. Some people who were sent to Ladd during the war considered Alaska a cold and distant outpost when they arrived. Some simply served their assignments stoically, waiting for the day they could transfer out or return home. Others were pleasantly surprised by the Alaskan lifestyle, and many of these returned after the war, establishing homes and families in Alaska. This trend continues among service members to the present day.

Marie Haggard worked in the real estate business in Fairbanks after the war. She observed that when some of the men left Ladd, they were already planning to return to Alaska after their discharge. There was just one catch. Wives and dependents had not been allowed to come north with the troops during the war years. "The men wanted to live there, whether they could get their wives up there or not was the question!" Mrs. Haggard recalled. "They would try to entice their wives up with the beauty of the country."

Stan Jurek was one of the servicemen who returned to Fairbanks. "I was going to the Frozen North," he thought when he first heard about his assignment to Ladd. "Turned out it was the nicest place you ever did see. Just wonderful, with all the daylight. When we got here the second of July, that was really a treat. Beautiful country. I wanted to get out and stay here (after the war), but my orders for some reason were cut and dry, and I had to go back to the States." He came back a few years later, "and I've been here ever since. God's country. Really beautiful."

CHAPTER 8.0 Ladd Field National Historic Landmark

It has been nearly 60 years since World War II ended, and more than 40 years since the Army took over the post. Although Fort Wainwright has undergone transformations over the years, the anchor of the installation remains the airfield in the bend of the Chena River. This airfield, the permanent garrison around the North Post, scattered groups of Butler buildings, chapel, MARS building, Nurses quarters, and Birchwood hangars still exist, providing Fort Wainwright with a tangible link to its origins. Today, these resources are part of the Ladd Field National Historic Landmark.

The National Register and National Historic Landmarks

The National Register of Historic Places is an official list of significant state, local, and national historic properties. Established under the National Historic Preservation Act of 1966 (NHPA), the register has been called "the nation's inventory of historic places" and "a national census of historic properties."[146] Presently, more than 76,000 properties are listed on the National Register. To be eligible for listing on the National Register, properties must be linked with a significant historic context, meet at least one of the National Register's standard criteria, and possess "integrity"– the essential physical features which represent or illustrate the historic significance. According to the provisions of NHPA, federal agencies must take into account the effects of their undertakings on properties which are eligible for listing on the National Register.

A National Historic Landmark is a historic property or district that has been recognized for possessing "exceptional value or quality in illustrating or interpreting the heritage of the United States."[147] The first National Historic Landmarks (NHLs) were created as a result of the Historic Sites Act of 1935, and their importance was reaffirmed in the 1966 National Historic Preservation Act. Fewer than 2,500 of these landmarks presently exist across the United States. They include some Revolutionary War, Civil War, and WWII battlefields; commercial, industrial, and cultural buildings such as the Empire State Building

[146] U.S. Department of the Interior, National Park Service, Cultural Resources, *How to Apply the National Register Criteria for Evaluation,* National Register Bulletin, 1.

[147] http://www.cr.nps.gov/nhl/QA.htm. Properties meet the threshold for recognition as National Historic Landmarks by demonstrating national significance in accordance with these definitions and criteria. "The quality of national significance is ascribed to districts, sites, buildings, structures and objects that possess exceptional value or quality in illustrating or interpreting the heritage of the United States in history, architecture, archeology, technology and culture; and that possess a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association, and: (1) That is associated with events that have made a significant contribution to, and are identified with, or that outstandingly represents, the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained; or (2) That are associated importantly with the lives of persons nationally significant in the history of the United States; or (3) That represent some great idea or ideal of the American people; or (4) That embody the distinguishing characteristics of an architectural type specimen exceptionally valuable for the study of a period, style or method of construction, or that represent a significant, distinctive and exceptional entity whose components may lack individual distinction; or (5) That are composed of integral parts of the environment not sufficiently significant by reason of historical association or artistic merit to warrant individual recognition but collectively compose an entity of exceptional historical or artistic significance, or outstandingly commemorate or illustrate a way of life or culture; or (6) That have yielded or may be likely to yield information of major scientific importance by revealing new cultures, or by shedding light upon periods of occupation over large areas of the United States. Such sites are those which have yielded, or which may reasonably be expected to yield, data affecting theories, concepts and ideas to a major degree."

and the Rose Bowl; locations on the Underground Railroad network; notable architectural properties, important archeological sites; and lesser known but nationally significant properties. National Historic Landmarks (NHLs) are also listed on the National Register of Historic Places. NHL designation does not change a property's ownership or ensure that the property is preserved or protected. It does recognize the property's national significance, and, when federal undertakings or management affect the property, special provisions of the National Historic Preservation Act and the National Environmental Policy Act apply.

Only a small proportion of National Register properties are National Historic Landmarks. What sets the NHLs apart is their significance on a national level and their recognition by the Secretary of the Interior specifically for that significance. Potential NHLs are usually identified through comparative historical studies produced by the National Park Service on specific themes of American history. Proposed NHLs are then reviewed by the National Park Service and its Advisory Board and recommended to the Secretary of the Interior.

Under the terms of the National Historic Preservation Act, the effects of federal undertakings on any historic property eligible for the National Register must be considered in consultation with interested parties. Because of the national value of NHLs, the act requires federal agencies to exercise a higher standard of care when federal undertakings affect an NHL property. To the maximum extent possible, the agency is responsible to minimize harm to the landmark and to consider feasible alternatives which would avoid adverse effects to the NHL.

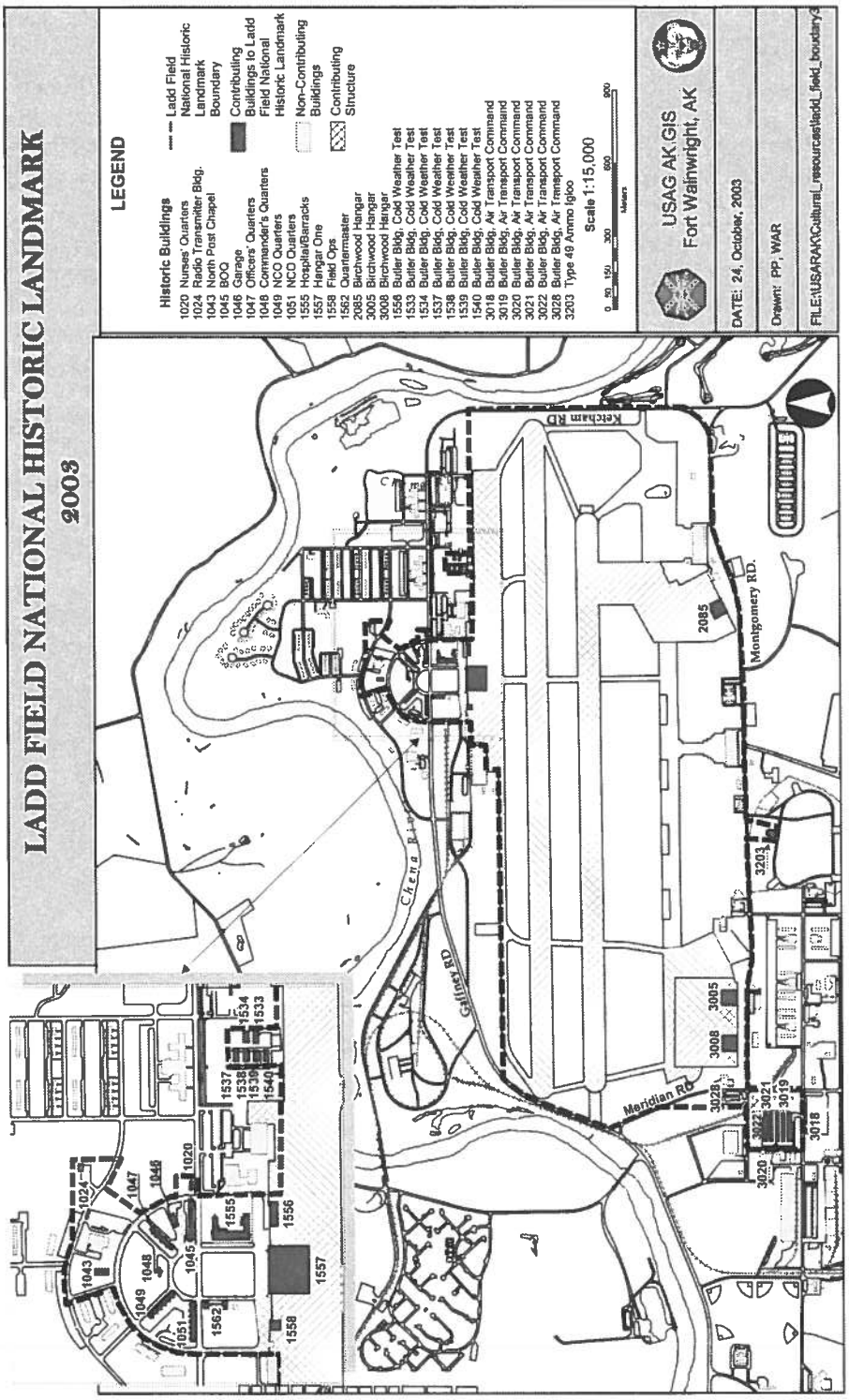
Ladd Field NHL

Following a National Park Service review of World War II sites in Alaska, portions of the original Ladd Field were designated a National Historic Landmark in 1985. The original National Register nomination cited Ladd's contribution to cold weather testing, its role as an air depot, and its use as the transfer point for ALSIB Lend-Lease aircraft as elements of its national significance during the war. At that time 40-50 of the World War II buildings remained, though not all of them were included within the landmark boundary. At this writing, 30 WWII-era buildings fall within the boundary of Ladd Field NHL (see Map 5).

The Ladd Field NHL is a multiple property district encompassing the core permanent buildings around the North Post, the airfield, the Birchwood hangars, and Butler warehouses. It also includes structures such as utilidors, roads and runways. Appendix A provides further information on the contributing buildings and their historic uses. The Ladd Field NHL exists on an active military installation and most of its remaining facilities are currently in use by the Army, subject to the full range of Army regulations and mission priorities. Seven of the North Post warehouse buildings have also been out-granted to the Bureau of Land Management in long-term leases.

Ladd Field NHL and the Ladd AFB Cold War District

Ladd Field continued to be a significant site after it became an Air Force Base in 1947. Another historic district from this later period overlays the footprint of the World War II NHL and extends outward to include mission-related buildings constructed by the Air Force in later years. Although the footprint of this district overlaps the NHL, it is a separate entity. The Ladd AFB Historic District recognizes the significance of Cold War events at the base between 1947 and 1960. This district is eligible for, but not listed in, the National Register of Historic Places. Unlike the WWII resources, the Cold War district is not a National Historic Landmark. Properties in the Cold War district must be managed as recognized historic properties under NHPA but are not designated with NHL status.



Map 5. Ladd Field National Historic Landmark, 2003.

CHAPTER 9.0 Conclusion

Figure 79. Ladd decal. Courtesy Candy Waugaman.

Ladd Field grew from the small testing station originally envisioned by Gen. Arnold into a wartime airbase with unusual roles. Although the activities at Ladd were only a small part of the worldwide conflict, Ladd Field was significant for cold weather testing, as an aircraft repair and supply depot and air transport hub, and as the transfer point for aircraft and cargo transiting the ALSIB route to the Soviet Union. Cold weather testing at Ladd helped to improve the aircraft and equipment used by front-line aircrews. Working together with the stateside research agencies and manufacturers, participants in Ladd's testing program contributed to the development of aircraft design, ground procedures, and personal equipment. As the transfer point for the ALSIB Lend-Lease program, Ladd Field saw 7, 926 aircraft and associated cargo change hands. Though controversial, Lend-Lease aid to the Soviet Union played some part in the eventual defeat of Nazi Germany. Ladd Field also served as an air depot for the repair and supply of aircraft and as a key Air Transport Command airfield, processing thousands of passengers and tons of cargo and mail.

This compilation of Ladd Field's World War II heritage pulls together different aspects of the wartime activities on this installation but is not comprehensive. It is evident that there is more to learn and other participants who may be interested in telling their stories. Some aspects of Ladd Field were not addressed because of limited information or because they are large topics beyond scope of the WWII missions. These include engineering projects beyond the cantonment, early flood control, land use and acquisitions, and interactions in communities beyond the airfield. The full impact of Ladd's cold weather field tests on the overall development of combat aviation was beyond the scope of this project, but that area could reveal additional significance of the efforts undertaken at Ladd. The testing program's ties to leading figures such as Gen. Arnold, Col. McKinley, and others suggest that there is much more to the story. The ALSIB program, another large topic, was presented in overview here because it has already been well documented and debated by historians and participants.

A variety of people with different experiences of the airfield shared their perspectives on Ladd Field through written reminiscences, interviews, and articles. Some had never seen Alaska before being stationed here; others were the children of Fairbanks gold rush families; still others had Native heritage. They went on to careers in military service, commerce, entertainment, construction, aviation, education, and family life. Some stayed in Fairbanks, others left. One thread that is shared by so many of them is the effect that the war years and Ladd Field had on them.

Richard Frank's words convey the impact of these experiences. "North of Hangar Number One they had quite a gathering for a medal presentation. I'll never forget that," he said, recalling the scene and the man being honored. "As a young person, it dawned on me that he did something extraordinary, otherwise he wouldn't be recognized....I think of that person, every once in a while I don't know who he was or what he did, but he was recognized for something that he did. That was quite an honorable thing, so it stayed with me...."

Ladd Field, too, has been recognized. For those that contributed to the efforts here, large and small, ground-breaking and mundane, Ladd Field is their legacy. For the community whose destiny was changed by the establishment of this base and the nation that it served, the Ladd Field National Historic Landmark is a reminder of this effort and where it has brought us today.

Acknowledgments

This report on Ladd Field was the collaborative effort of many people who generously contributed their time, their memories, and their assistance. First, the author would like to thank all of those who did in-person interviews, gave information over the phone, or corresponded about their experiences: Randy Acord, Brig. Gen. Milton Ashkins, Kenneth Bailey, Earl Beistline, Helen Baker Bowles, Verna Buckner, Pat Cook, John Child, Douglas and Marcel Colp, Lenora Conkle, Col. Richard Dennison, R. DeBolt, Jane Drebaum, Richard Frank, Marie Haggard, Augie Hiebert, Edmund Hinke, Josephine Johnson, Audrey Johnston-LeVang, Stan Jurek, Evolyn Melville, Irene Noyes, Robert Redding, Norris Saunders, Brig. Gen. Bruce Staser, William Stroecker, John Thomas, Oscar Tweiten, Audrey Virden, Thelma Walker, Betty Wiker, H. O. Williams, Rex Wood, and others. Thanks also to those who contributed information about family members at Ladd, including Steve Dennis, Richard Osborne, Dr. John L. Ragle, and H. D. Scougal, and to those who shared photographs and images: Randy Acord, Kenneth Bailey, Verna Buckner, Helen Bowles, John Child, Steve Dennis, Richard Dennison, Augie Hiebert, Audrey Virden, Candy Waugaman, Betty Wiker, and Rex Wood, among others. Mr. Randy Acord of the Interior and Arctic Alaska Aeronautical Foundation was especially generous with material from his historical collection and with his time and expertise on Ladd Field and the cold weather testing program.

Many others helped in locating people who had worked or served at Ladd. In particular, the author would like to acknowledge the assistance of Candy Waugaman, Bill Stroecker, and Augie Hiebert for their interest and suggestions for contacts. The Alaska-Yukon Pioneers published a request for information in their national newsletter. Thanks to Vera Sidars of the A-YP and to each of those who responded. Thanks also to the Ft. Wainwright Public Affairs Office and the Fairbanks media for publicizing the project in its early stages. Dr. Judith Bellafaire of the Women's Memorial in Arlington, Virginia, helped to locate several servicewomen who had been stationed at Ladd.

The staff at the University of Alaska Fairbanks' Alaska and Polar Regions Department, the University of Alaska Anchorage, and the National Archives Alaska Region offered expertise with their archival collections. The cultural resources program would particularly like to thank UAF's Alaska and Polar Regions Department; its oral history curator, Dr. William Schneider; and oral history collections manager, Robyn Russell, for providing future research access to many of the project recordings through their collection. Thanks also go to Ms. Russell for her technical assistance with the oral history process. Mr. Richard Veazey and Mr. Dirk Tordoff of the UAF Rasmuson Library were also especially helpful.

Mr. John Cloe, historian with the Alaskan Command at Elmendorf Air Force Base, furnished access to Air Force historical files and photographs and reviewed a draft of the text. Thanks also to Dr. Claus-M. Naske of the University of Alaska Fairbanks, Renee Blahuta of the Tanana-Yukon Historical Society, and Lee Griffin of the Ft. Wainwright Environmental Resources office for reviewing

drafts and making suggestions. Members of the Fort Wainwright Cultural Resources Working Group also offered assistance as the project developed. Russ Sackett, USAG-AK cultural resources manager, provided resources for the project, assisted with maps and donated several photographs. The USAG-AK GIS department also prepared several maps, and Sarah Epps provided access to photographs in the CRREL collection at Ft. Richardson.

Project support was provided by the USAG-AK Directorate of Public Works, Environmental Resources Division, through Colorado State University's Center for Environmental Management of Military Lands.

Bibliography

Books:

Bowman, Waldo G., Harold W. Richardson, et al. *Bulldozers Come First: The Story of U.S. War Construction in Foreign Lands*. New York: McGraw-Hill, 1944.

Chandonnet, Fern, ed. *Alaska at War, 1941-1945: The Forgotten War Remembered*. Anchorage: Alaska at War Committee, 1995.

Chlupach, Robin Ann. *Airwaves Over Alaska: The Story of Pioneer Broadcaster Augie Hiebert*. Issaquah, WA: Sammamish Press, 1992.

Cloe, John H. *The Aleutian Warriors: A History of the 11th Air Force & Fleet Air Wing 4*. Missoula: Pictorial Histories Publishing Co., 1990.

Cloe, John H. and Michael F. Monaghan. *Top Cover for America: The Air Force in Alaska 1920-1983*. Missoula: Pictorial Histories Publishing Co., 1984.

Cohen, Stan. *The Forgotten War: A Pictorial History of World War II in Alaska and Northwestern Canada*. Missoula: Pictorial Histories Publishing Co., 1988.

Cole, Dermot. *Fairbanks: A Gold Rush Town that Beat the Odds*. Fairbanks: Epicenter Press, 1999.

Craven, Wesley F. and James L. Cate, eds. *The Army Air Forces in World War II*, vol. 7. Washington, DC: Office of Air Force History reprint, 1983.

Dod, Karl C. *The Corps of Engineers: The War Against Japan*. Washington, DC: Center of Military History, 1987.

Driscoll, Joseph. *War Discovers Alaska*. Philadelphia: J.B. Lippincott, 1943.

Garfield, Brian. *The Thousand Mile War: World War II in Alaska and the Aleutians*. Garden City, NY: Doubleday, 1969.

Goldstein, Donald M. and Katherine V. Dillon. *The Williwaw War: The Arkansas National Guard in the Aleutians in World War II*. Fayetteville, AR: University of Arkansas Press, 1992.

Hays, Otis Jr. *The Alaska-Siberian Connection: The World War II Air Route*. College Station, TX: Texas A&M University Press, 1996.

Jordan, George Racey. *Major Jordan's Diaries*. New York: Harcourt Brace Jovanovich, 1952.

Long, Everett and Ivan Neganblya. *Cobras over the Tundra*. Fairbanks: Arktika, 1992.

Mighetto, Lisa and Carla Homstad. *Engineering in the Far North: A History of the U.S. Army Engineer District in Alaska*. Seattle: Historical Research Associates, 1997.

Morden, Bettie J. *The Women's Army Corps, 1945-1978*. Washington, DC: U.S. Army, Center of Military History, 2000.

Naske, Claus-M. and Herman Slotnick. *Alaska: A History of the 49th State*. Norman: University of Oklahoma Press, 1987, 2nd ed.

Nielson, Jonathan M. *Armed Forces on a Northern Frontier: The Military in Alaska's History, 1867-1987*. New York: Greenwood Press, 1988.

Salisbury, C.A. *Soldiers of the Mists: Minutemen of the Alaska Frontier*. Missoula: Pictorial Histories Publishing Co., 1992.

Smith, Blake W. *Warplanes to Alaska*. Seattle: Hancock House 1998.

Treadwell, Mattie E. *The Women's Army Corps*. Washington, DC: Department of the Army, Office of the Chief of Military History, 1954.

Tordoff, Dirk. *Mercy Pilot: The Joe Crosson Story*. Kenmore, WA: Epicenter Press, 2002.

Van Tuyll, Hubert P. *Feeding the Bear: American Aid to the Soviet Union, 1941-1945*. New York: Greenwood Press, 1989.

Woodman, Lyman. *Duty Station Northwest: The U.S. Army in Alaska and Western Canada, 1867-1987*, vol. 2. Anchorage: Alaska Historical Society, 1997.

Reports:

Bush, James D. Jr. *Narrative Report of Alaska Construction 1941-1944*. U.S. Army Corps of Engineers, Construction Division, Alaskan Department, 1944.

Garner, John S. *World War II Temporary Buildings: A Brief History of the Architecture and Planning of Cantonments and Training Stations in the United States*. U.S. Army Corps of Engineers, Construction Engineering Research Laboratories, Technical Report CRC-93/01, March 1993.

Hollinger, Kristy. *The Haines-Fairbanks Pipeline*. Center for Environmental Management of Military Lands, Colorado State University, Ft. Collins CO, April 2003.

Price, Kathy. *Homesteads on Ft. Wainwright, Alaska*. Center for Environmental Management of Military Lands, Colorado State University, Ft. Collins CO, September 2002.

U.S. Army Air Corps. *Report of Cold Weather Test Detachment, Winter of 1942-1943, vol II*. Ladd Field, Alaska; Wright Field, Dayton, Ohio, 1944.

U.S. Army Corps of Engineers, Seattle District, Technical Center of Expertise for Preservation of Structures and Buildings. *Historic American Buildings Survey, Five Buildings at Ladd Field*, September 1996.

U.S. Department of the Interior, National Park Service, Cultural Resources, *How to Apply the National Register Criteria for Evaluation*, National Register Bulletin.

U.S. Department of the Interior, National Park Service. *Elmendorf Air Force Base: Historic Context of World War II Buildings and Structures*, vol 1. 1999.

War Department, Army Information Branch, *A Pocket Guide to Alaska*, Washington, DC 1944.

172nd Infantry Brigade (Alaska). *The U.S. Army in Alaska*. Pamphlet 360-5, May 1976.

History of the Alaskan Department June 1940-June 1944. University of Alaska Anchorage Archives, Walter Blue collection, box 1 series 1a.

History, Cold Weather Test Detachment, 1 Feb. 1942-12 Jan. 1945. Elmendorf AFB History Office, microfilm AOO57A.

Official History of Ladd Field, Fairbanks, Alaska, Fall 1938- 31 January 1944. Elmendorf AFB History Office, microfilm AO177.

Report of Cold Weather Test Detachment, Winter of 1942-1943. U.S. Army Air Corps, Ladd Field, Fairbanks, Alaska, volumes I and II.

Report of Operations of the Air Corps Cold Weather Experimental Station Ladd Field, Fairbanks, Alaska, October 1, 1940 to April 1, 1941. Personal collection, Randy Acord. Also incorporated within *Official History of Ladd Field, Fairbanks, Alaska, Fall 1938- 31 January 1944*, as pp 7-49.

Articles:

Arnold, H.H. "Our Air Frontier in Alaska," *National Geographic*, October 1940, 487-504.

Daso, Maj. Dik. "Origins of Airpower: Hap Arnold's Command Years and Aviation Technology, 1936-1945. Electronic document, http://www.airpower.maxwell.af.mil/airchronicles/ apj/apj97/fal97/daso.html, 2. Originally published in *Aerospace Power Journal*, Fall 1997.

Drapeau, Raoul. "Pipe Dream," *Invention and Technology*, Winter 2002, 25-35.

Fortier, E.J. "The Death of Pvt. John White," *Fairbanks Daily News-Miner*, 17 July 1988, H8-H10 and 24 July 1988, H4-H5.

Haulman, Daniel L. "The Northwest Ferry Route," in Fern Chandonnet, ed. *Alaska at War, 1941-1945: The Forgotten War Remembered*. Anchorage: Alaska at War Committee, 1995, 319-325.

Hays, Otis E. Jr. "White Star, Red Star," *Alaska Journal*, Summer 1982, 9-17.

Kennedy, Kay J. "Helen Van Campen," *Alaska Life*, June 1940, 20-21.

Morrisette, Stephen M. "The Man Who Walked Out of Charley River," in Fern Chandonnet, ed., *Alaska at War, 1941-1945: The Forgotten War Remembered*. Anchorage: Alaska at War Committee, 1995, 143-146.

Neuberger, Capt. Richard L. "Airway to Russia," *Alaska Life*, October 1944, 3-11.

Poor, Henry Varnum. "The Russians at Fairbanks," *Harper's Magazine*, September 1945, 252-259.

Price, Wesley. "Ice in the Moscow Pipe Line," *The Saturday Evening Post*, 13 January 1945, 18-19, 87-88.

Ragle, Richard C. "The War in the Aleutians, The First Two Weeks," Electronic document, http://jragle.chem.umass.edu/FRAMES2/aleuti~1.htm.

Redding, Robert H. "Battle of Ladd was a Strange Fight," *Fairbanks Daily News-Miner,* 18 August 1991, H5-H7.

--------. "Locals Fought 'The Battle of Ladd Field,'" *Fairbanks Daily News-Miner,* 12 December 1993, H6-H7.

Solka, Paul. "Ladd Field Played Role in Alaska's Progress," *Fairbanks Daily News-Miner,* 30 August 1992, H6-7+.

--------. "In Service," *Fairbanks Daily News-Miner,* 1 October 1995, H8-H13.

Van Campen, Helen. "They Were Alaskans," *Alaska Life,* January, 1944, 129-133.

Wolfe, Mary Ellen. "The WACs Liked Alaska," *Alaska Life,* June, 1946, 4-5, 22.

Archival Collections:

Elmendorf Air Force Base History Office.
- Cold Weather Operations at Ladd Field
- Monthly Historical Reports, Station #3 ATC and 1466th AAF Base Unit

National Archives and Records Administration, Alaska Region, Anchorage AK. RG 77.

University of Alaska Anchorage Archives.
- Alaskan Air Command Historical Files collection
- Walter Blue collection
- Zenas Richards collection

University of Alaska Fairbanks, Alaska and Polar Regions Archives.
- Robert and Jesse Bloom collection
- Ferris Copper collection
- Kay Kennedy Aviation collection
- Rex Wood collection

Newspapers:

Fairbanks Daily News-Miner
Ladd Field Midnight Sun
North Star Magazine
Santa Barbara News-Press

Oral History Interviews:

Acord, Randy. Transcript of interview with Maj. Frank Theising and Linda Douglass, September 1990. Ft. Wainwright Public Affairs Office.

Acord, Randy. Interview with Kathy Price, Fairbanks AK. Tape recording, 17 May 2002. On file with USAG-AK Cultural Resources, Ft. Wainwright.

Bush, James, Col. (ret). Transcript of interview with John Cloe, 24 May 1982. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Colp, Douglas and Marcel. Interview with Kathy Price, Fairbanks, AK. Tape recording, 13 May 2004. Alaska and Polar Regions Library, University of Alaska Fairbanks.

Conkle, LeNora. Interview with Kathy Price, North Pole, AK. Tape recording, 15 July 2002. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Frank, Richard. Interview with Kathy Price, Fairbanks, AK. Tape recording, 8 July 2002. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Haggard, Marie. Interview with Kathy Price, Fairbanks, AK. Tape recording, 30 July 2002.

Hiebert, Augie. Interview with Kathy Price, Fairbanks, AK. Tape recording, 15 June 2002. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Hupprich, Fred. Interview with Margaret Van Cleve. Tape recording, 7 June 1994. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Johnson, Josephine. Interview with Kathy Price, Fairbanks, AK. Tape recording, 2 July 2002. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Jurick, Stan. Interview with Kathy Price, Fairbanks, AK. Tape recording, 25 July 2002. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Melville, Evolyn. Interview with Kathy Price, North Pole, AK. Tape recording, 16 August 2002. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Nigro, Frank. Interview with Margaret Van Cleve. Tape recording, 17 August 1993. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Noyes, Irene. Interview with Kathy Price, Fairbanks, AK. Tape recording, 28 June 2002. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Sherman, Clyde. Interview with Margaret Van Cleve. Tape recording, 15 February 1991. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Stroecker, William. Interview with India Spartz. Tape recording, 6 November 2001. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Stroecker, William. Interview with Kathy Price, Fairbanks, AK. Tape recording, 30 April 2002.

Williams, H.O. Interview by Kathy Price, Fairbanks, AK. Tape recording, 30 May 2002. Alaska and Polar Regions, Rasmuson Library, University of Alaska Fairbanks.

Miscellaneous:

Buzzell, Rolfe G. *Ladd Field National Register of Historic Places Boundary Review.* Office of History and Archaeology, Anchorage. 1991

Carr, Edwin R. "Great Falls to Nome: the Inland Air Route to Alaska, 1940-1945." Ph.D. Diss, University of Minnesota, 1946.

Dennis, Steve. "The Flying History of Major Marvin Walseth," unpublished compilation of letters.

Grainger, John. *The Alaska National Guard in the Defense of Alaska,* unpublished manuscript.

Kerns, Junior D., ed. *The Early History of Ladd Field,* 1938-1943. Natural Resources Office, Ft. Wainwright AK, 1991.

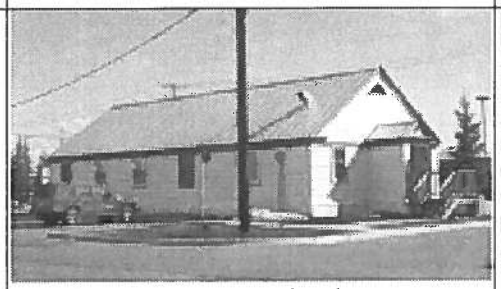
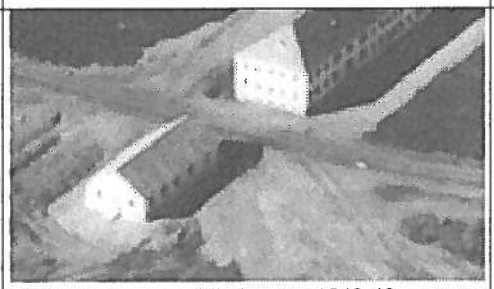
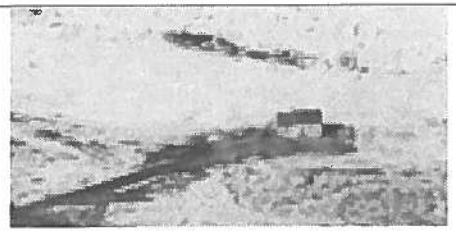
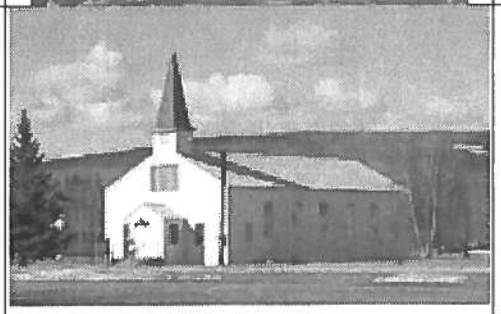
Moor, Jay H. *World War II in Alaska: the Northwest Route, A Bibliography and Guide to Primary Sources.* Alaska Historical Commission Studies in History No. 175, June 1985.

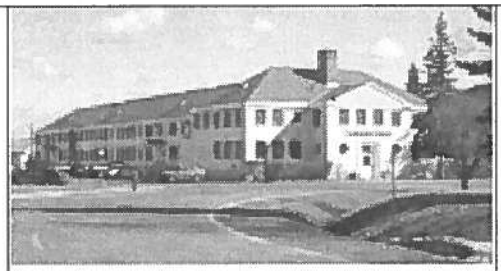
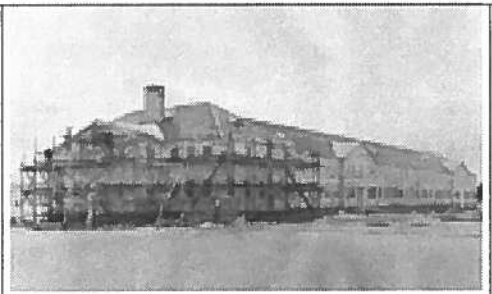
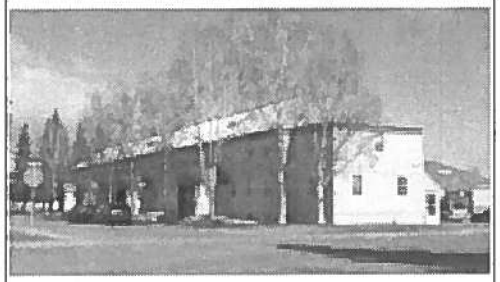
Sfraga, Michael P. "Distant Vistas: Bradford Washburn, Expeditionary Science and Landscape 1930-1960," Ph.D. Diss, University of Alaska Fairbanks, 1997.

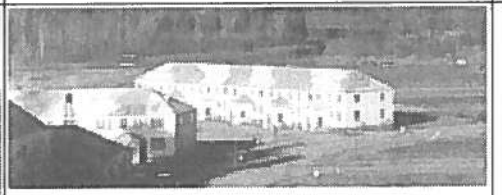
U. S. Army Alaska, ed. *Ladd Field National Historic Landmark Boundary Review.* Conservation Branch, Fort Richardson AK, 2002.

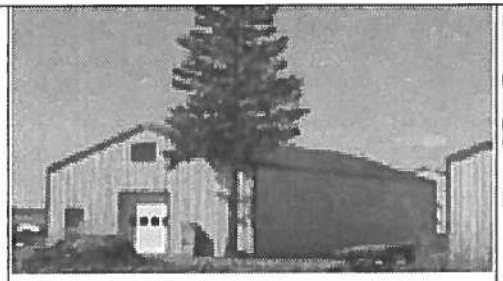
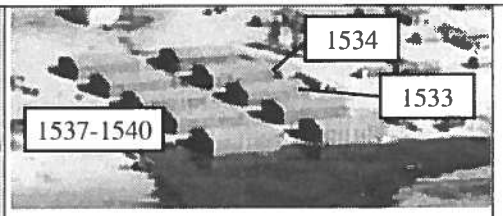
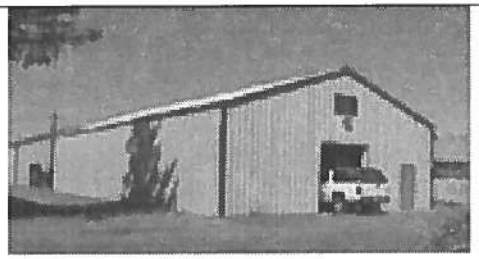
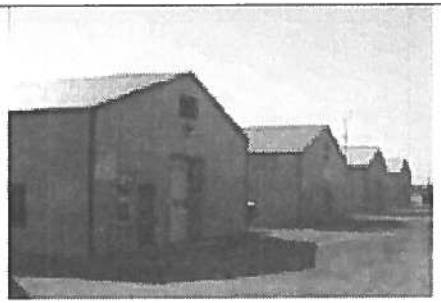
Walsh, Lilli. "Behind the Frontlines: Alaska Women at War." M.A. Thesis, University of Alaska Fairbanks, 1995.

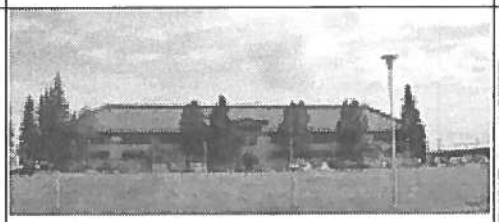
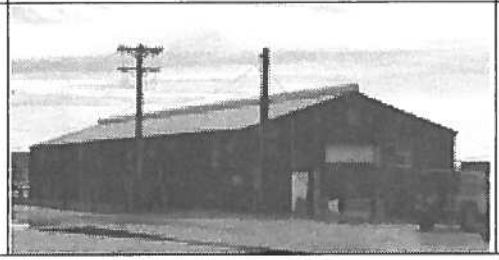
APPENDIX A: Ladd Field NHL Contributing Buildings

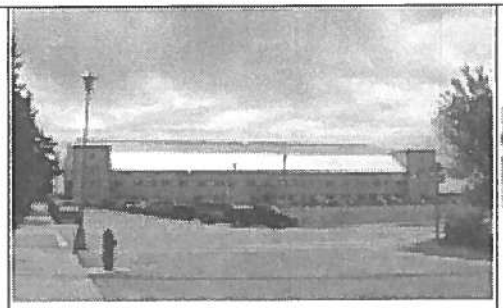
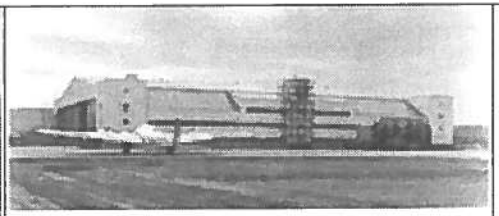
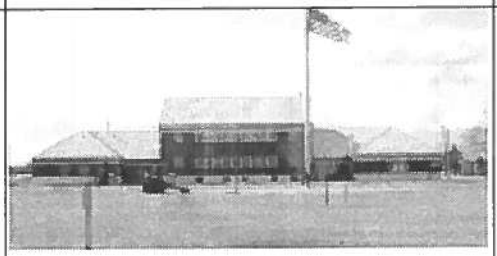
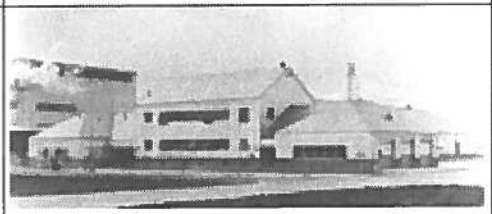
Present Number	Present Appearance	Historic Appearance	Date Completed	Historic Name/Description*
1021	 North and west elevations	 Detail, aerial photo ca 1942-43 East and north elevations	1942	Nurses' Quarters *A one-story, wood frame 800 series building on a concrete foundation. The exterior is covered with shiplap siding. The gable roof has standing seam metal roofing. Windows on the north and south elevations are evenly spaced 1/1 double hung sash type. The east and west gable ends have centered personnel doors flanked by 1/1 double hung sash windows. A gabled roof arctic entry covers each personnel door. Exterior doors and windows have been replaced and otherwise altered over time.*
1024		 Detail, aerial photo April 1941 Courtesy Steve Dennis	1941	Radio Transmitter Building (MARS Building) *A one-story, wood frame building covered with shiplap siding, with a concrete foundation. It has a steep gable roof covered with copper sheeting, which was replaced in 2001. It is the only original North Post building that still has a copper roof. The south-facing front elevation has a personnel door at the top of a stoop. A garage is attached to the west gable end.*
1043		None located	1944	Chapel *A one-story, wood frame 800 series building with aluminum siding and a post and pad foundation. The gable roof is covered with metal. A steeple rises from the south elevation. Below it is centered a triple window, with three multi-light fixed sash windows. A gable-roofed enclosed entry extends from the south elevation. The east and west elevations have five long fixed sash windows and double hung sash windows at each end. The north elevation is plain. Roofing and siding have been replaced over time.*

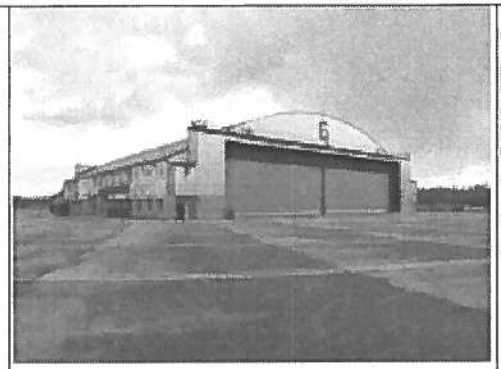
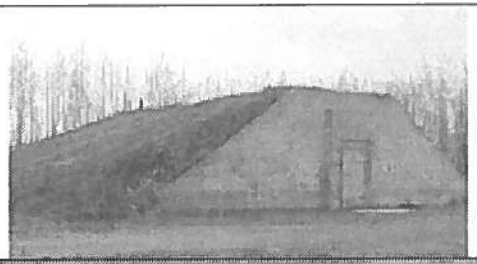
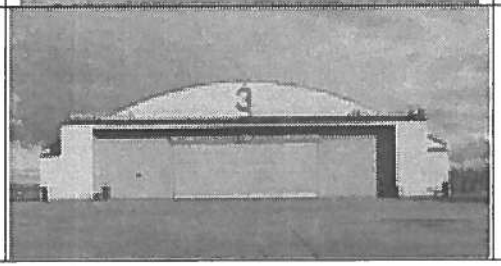
1045	 North and west elevations	 South and west elevations, ca 1941 Courtesy Steve Dennis	1941	Bachelor Officers' Quarters (BOQ) *A T-shaped two story wood frame building with concrete foundation and hipped roof. It currently has aluminum siding and [type shingle] roof. The west elevation has a two-story gable roofed entry. Windows are 1/1 double hung sash type.*
1046		None located	1941	Garage *A one-story, wood frame building with a concrete pony foundation and concrete floor, and hipped roof. Garage doors are flanked by 8-sided windows on the east and west elevations. The north and south elevations have personnel doors and six 2/2 double hung sash windows. Siding and garage doors have been replaced over time.*
1047	 Northwest elevation	 Southwest elevation ca 1944 Rex Wood photo, detail	1941	Officers' Quarters *A two-story, seven-apartment wood frame building with a concrete foundation and hipped roof. The building currently has aluminum siding and a 1960s standing seam metal roof. Windows have also been replaced over time. Four gabled roof arctic entries are located on the northwest elevation; the southeast elevation has four hip roofed, enclosed porches.*

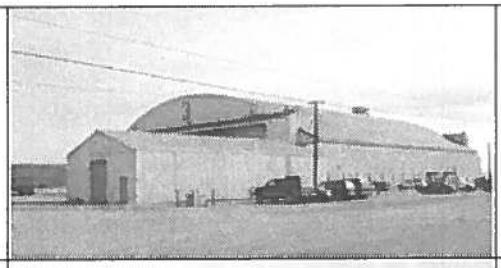
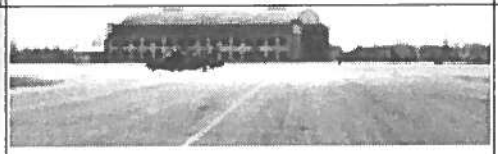
1048		ca. 1948	1941	Commander's Quarters *A two-story, wood frame residence with a concrete foundation, full basement and attic. It has aluminum siding and a 1960s standing seam metal hipped roof. The south elevation has a centered arctic entry and a gabled dormer on the roof. The north elevation is similar to the south elevation. The east and west elevations have two 1/1 double hung sash windows evenly spaced on both floors.*
1049		 Southwest elevation ca 1944 Rex Wood photo, detail	1941	NCO Quarters/Transient Quarters *A two-story, twelve-apartment wood frame building with a concrete foundation and hipped roof. It has aluminum siding and a 1960s standing seam metal roof. Windows have also been replaced over time. Gabled roof arctic entries are located on the northeast elevation.*
1051		See photo above; partially visible on left.	1941	NCO Quarters/Russian quarters *A two-story, fourteen-apartment wood frame building with a concrete foundation and hipped roof. It has aluminum siding and a 1960s standing seam metal roof. Windows have also been replaced over time. Gabled roof arctic entries are located on the south elevation.*

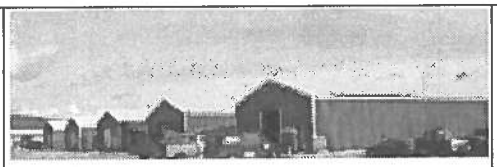
1533		 Ca. 1948, looking northeast	1944	Cold Weather Test Shop *A one-story prefabricated Butler building with concrete foundations and floor and shallow gable roof. The building was resided with insulated metal panels in the 1990s. Doors consist of sectional overhead garage doors flanked by personnel doors on the gable end. The building's original windows have been sided over. Other buildings in this cluster are of similar design, massing, and fenestration. Four buildings in the original cluster are no longer extant: the buildings immediately south of 1533 and north of 1534, and the two southernmost buildings. Building 1533 was used during WWII by Wright Field cold weather test personnel assigned to Ladd Field projects. It is presently outgranted to BLM.*
1534		See above	1944	Cold Weather Test Shop *See Bldg 1533 description above. Used during WWII as photo, propeller, and hydraulic shop. Presently outgranted to BLM.*
1537	 West elevations, 1537, 1538, 1539, 1540	See above	1944	Cold Weather Test Shop *See Bldg 1533 description above. Used during WWII as Cold Weather Test Shop. Presently outgranted to BLM.*

1538	See above	See above	1944	Cold Weather Test *See Bldg 1533 description above. Used during WWII as CWTD Supply. Presently outgranted to BLM.*
1539	See above	See above	1944	Cold Weather Test *See Bldg 1533 description above. Used during WWII as CWTD Supply. Presently outgranted to BLM.*
1540	See above	See above	1944	Cold Weather Test *See Bldg 1533 description above. Used during WWII for cletrac and ground equipment storage. Presently outgranted to BLM.*
1555		 Rex Wood photo, detail	1943	Barracks/Theater/PX/Hospital *A U-shaped, two-story, metal frame building with a full daylight basement and hipped roof, cement foundation and concrete floors. A central entry is located on the west elevation. Windows are 1/1 double hung sash type. Roofing and siding have been replaced over time. Portions of the building were in use by 1942.*
1556		None located	1943	Warehouse *A one-story prefabricated Butler building with concrete foundations and floor and shallow gable roof. Exterior is sided by prefabricated insulated metal panels. Windows are 1/1 double hung sash type.*

1557	 North elevation, view from parade ground	 South elevation, view from airfield	1941	Hangar One *A three-story, metal-sided "base hangar" with a concrete foundation and floor. The wood Howe truss is supported by steel columns with concrete footings. Stairwell towers are located at each corner. The east elevation has two large hangar door openings and the west elevation has one large hangar door opening. Over time, windows have been removed, the building has been resided, and original hangar doors have been replaced. During WWII, Hangar One was Ladd Field base headquarters and housed Cold Weather Test Detachment and Russian Lend-Lease operations.*
1558		None located	1942	Gas and Utility Storage *A one-story, steel frame building with concrete foundation and floor steel roof and metal siding. A concrete loading dock and a shed roofed section were added in 1949. Windows are 1/1 double hung sash type. North and south elevations have personnel doors, and the south elevation has an arctic entry. Windows, exterior doors, siding and roof have been replaced.*
1562			1942	Quartermaster Warehouse *A two-story, gabled roof building with one-story north and south wings and concrete foundation, metal siding and metal roof. Windows, siding and roofing have been replaced over time. An original rear warehouse section was destroyed by fire in 1962. During WWII the building contained a warehouse, fire house, finance office, quartermaster office, freight office, commissary, laundry pickup, signal office, guard station and brig.*

2085			1944	Hangar #6 *A Birchwood hangar designed by the Seattle district engineer of the Army Corps of Engineers based on a prototype at Birchwood, Alaska. The hangar has wood framing and a concrete foundation and floor. The roof is supported by timber bowstring trusses on timber columns. Two-story wings on the north and south side have paired windows evenly spaced the length of both floors. The east and west elevations have large hangar door openings covered by fabric curtains. Siding, window frames, roofs, and hangar doors have been replaced. During WWII, Hangar #6 housed shops and an extensive photo lab.*
3203		None located	1942	Ammunition storage, general storage *A reinforced concrete Type 49 Ammo Igloo, one of six originally built at Ladd Field designed to withstand a bomb's direct hit. It features a concrete barrel roof 20 feet high mounded over with 3 feet of earth. Only the south elevation with its concrete wall and steel door is exposed.*
3005		None located	1944	Hangar #3 *See description of Hangar #6, Bldg 2085 above.*

3006		None located	1945	Warehouse *A one-story manufactured Butler building with concrete foundations and floor, shallow gable roof, and metal-sided exterior. An overhead door is centered on the east and west elevations, with a personnel door adjacent on the right.*
3008			1944	Hangar #2 *See description of Hangar #6, Bldg 2085 above. It is believed that Hangar #2 was the location of Northwest Airlines, Western Airlines, Priorities and Traffic and mail functions during WWII.*
3028		None located	1944	Warehouse *A one-story prefabricated Butler building with concrete foundations and floor, shallow gable roof, and metal-sided exterior.*
3018	See below	None located	1944	Warehouse *See description below*
3019	See below	None located	1944	Warehouse *See description below*
3020	See below	None located	1944	Warehouse *See description below*
3021	See below	None located	1944	Warehouse *See description below*

3022	 Photo shows left to right, 3018-3022	None located	1944	Warehouse *A one-story prefabricated Butler building with concrete foundations and floor, shallow gable roof, and metal-sided exterior. An overhead door is centered on the east and west elevations, with a personnel door adjacent on the right. Other buildings in this cluster are of similar design, massing, and fenestration.*
n/a	n/a	n/a	varies	Contributing Structures *In addition to the buildings listed above, structures are also contributing elements to the Ladd Field NHL. These include the north and south runways, WWII era aprons, North Post utilidors, and the following roads within the boundary: Gaffney Road, Ketcham Road, Montgomery Road, Meridian Road, and Freeman, Marks, Chena and Nysteen roads.*

* Adapted from NHL Boundary Reviews, 1991, 2001
Photo credits: Historic photos are AAF photos from WWII period unless otherwise noted. Current photos are USARAK CRM photos from 2001-2003.

APPENDIX B: Acronyms and Abbreviations

Acronyms

AAC	Army Air Corps
AACS	Army Airways Communications System
AAF	Army Air Forces
ACS	Alaska Communications System
ADG	Air Depot Group
AFB	Air Force Base
ALSIB	Alaska-Siberia Lend-Lease route
ATC	Air Transport Command
AWS	Aircraft Warning Service
BOQ	Bachelor officers' quarters
CAA	Civil Aeronautics Administration
CCC	Civilian Conservation Corps
CWTD	Cold Weather Test Detachment
MARS	Military Affiliate Radio System
NCO	Non-commissioned officer
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Properties
QMC	Quartermaster Corps
T/O	Theater of Operations (building type)
USAF	United States Air Force
USAG-AK	United States Army Garrison Alaska
USARAK	United States Army Alaska
USO	United Service Organization
WAC	Women's Army Corps

Abbreviations for reference material and collections

HAD	History of the Alaskan Department, June 1940-June 1944
HCWTD	History, Cold Weather Test Detachment, 1 Feb 1942-12 Jan 1945
MHR	Monthly Historical Report
NARA	National Archives and Records Administration
OHLF	Official History of Ladd Field, Fall 1938-31 January 1944
RCWTD	Report of Cold Weather Test Detachment, Winter of 1942-1943
UAA	University of Alaska Anchorage
UAF	University of Alaska Fairbanks

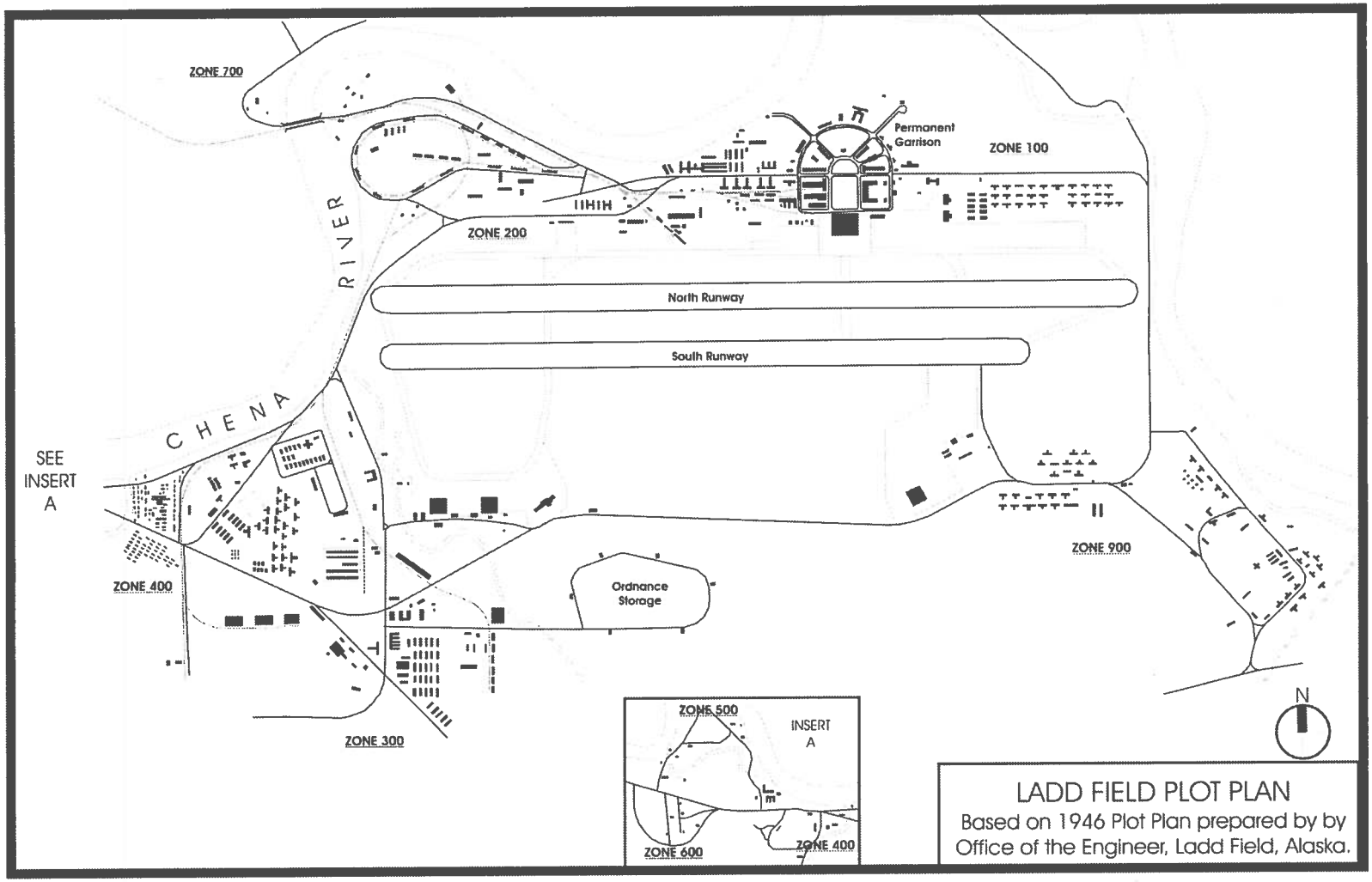
APPENDIX C: National Historic Landmarks Associated with the War in the Pacific, 1941-1945

Adak Army Base and Adak Naval Operating Base, AK
Attu Battlefield and U.S. Army and Navy Airfields, AK
Dutch Harbor Naval Operating Base and Fort Mears, AK
Hickam Field, HI
Japanese Occupation Site, Risks Island, AK
Kodiak Naval Operating Base and Forts Greely and Abercrombie, AK
Kwajalein Island Battlefield, Marshall Islands
Ladd Field, AK
Landing Beaches, Aslito/Isley Field and Marpi Point, Northern Marianas Islands
Manzanar War Relocation Camp, CA
Peleliu Battlefield, Republic of Palau
PT 796, MA
Roi-Namur Battlefield, Marshall Islands
San Francisco Port of Embarkation, CA
Sitka Naval Operating Base and U.S. Army Coastal Defenses, AK
Springfield Armory, MA
S.S. Jeremiah O'Brien, CA
Tinian Landing Beaches, Ushi Point Field and North Field, Northern Marianas Islands
Trinity Site, NM
Truk Lagoon Underwater Fleet, Micronesia
Harry S Truman Farm Home, MO
Harry S Truman Historic District, MO
United States Capitol, DC
U.S. Car No. 1 (Ferdinand Magellan), FL
United States Naval Base, Pearl Harbor, HI
Wake Island
Warm Springs Historic District, GA
Warships: U.S.S. Alabama, AL, U.S.S. Becuna, PA, U.S.S. Bowfin, MI, U.S.S. Cassin Young, MA, U.S.S. Cobia, WI, U.S.S. Cod, OH, U.S.S. Drum, AL, U.S.S. Hazard, NE, U.S.S. Inaugural, MO, U.S.S. Intrepid, NY, U.S.S. Kidd, LA, U.S.S. Laffey, SC, U.S.S. Lionfish, NA, U.S.S. Massachusetts, MA, U.S.S. North Carolina, NC, U.S.S. Pampanito, CA, U.S.S. Silversides, IL, U.S.S. The Sullivans, NY, U.S.S. Texas, TX, U.S.S. Torsk, MD, U.S.S. Yorktown, SC

Source: National Park Service, http://www.cr.nps.gov/history/online_books/thematic87/theme3-8.htm

APPENDIX D: Ladd Field Plot Plans, 1942 and 1946

Map 6. Ladd Field plot plan ca. 1942.



Map 7. Ladd Field plot plan, ca. 1946.