

TOPOGRAPHICAL SUMMARY

4TH MISSILE BATTALION (HERC) 43D ARTILLERY

AREA OF OPERATIONS

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The Fourth Missile Battalion, with its outlying batteries and AADCP, encompasses a wide variety of terrain features in carrying out its role in providing an air defense system for Alaska and the North American Continent.

Battalion headquarters at Fort Richardson proper, Battery A on Campbell Point and Battery C across the Knik Arm are situated in what is commonly referred to as the Susitna - Cook Inlet Lowland. The main elevation range is between 100 and 150 feet. This area was formed by a huge glacier overriding a sedimentary base. In fact, Anchorage has a foundation derived from the Eagle River Glacial outwash. In general, the surface drainage of the area is moderately well developed, with the Susitna and Matanuska Rivers acting as the main arteries. However, drainage is poorly integrated in the swamps south of Anchorage and some are completely devoid of a drainage system. These swamps are a result of poor subsurface drainage due to an impervious layer of clay that underlies much of the area; this also accounts for swamps on some of the surrounding hilltops. The characteristic swampy areas have also, through time, contributed to form the agriculturally famous Matanuska Valley and the eons of peat accumulation have served as a source for the only commercially exploited deposits of bituminous coal in Alaska. The AADCP on Fire Island may also be included under this heading because post glacial erosion has created the three mile barrier to the mainland.

North of Fort Richardson are the Talkeetna Mountains. This range is quite evident because it seems to be invariably bathed in sunshine while Fort Richardson is encompassed by cloud cover. The Talkeetna Range is bounded by the Alaska Range to the north and the Chugach Range to the south. The geologic story of this range is interesting and complex but the most important chapter deals with the intrusion of tremendous bodies of granite and their subsequent erosion; the highest peaks range in elevation from 6,000 to 7,000 feet. This was once an important mining area as evidenced by the numerous ruins of a bygone era. The present value of the Talkeetna's is generally described in mountaineering, skiing, and aesthetic terms even though great mineral wealth is very probably stored within its granitic vaults.

The next area of consideration is the Chugach Range in which Battery B is situated. This is a large region as evidenced by the fact that it contains the second largest National Forest in the United States, but for present purposes the section near Anchorage and down Turnagain Arm will be given prime consideration. Probably the most outstanding aspect of the Chugach Range are the U-shaped valleys characteristic of glacial activity. This is a region of heavy precipitation even though nearby Anchorage experiences only 14.27 inches annually. The Chugach Range therefore includes some of the most extensive valley glacier systems and ice fields in North America. Portage and Aleyska Glaciers south of Anchorage are perhaps the most well known examples of Chugach glaciation although they are far from being the largest.

The Alaska Range is mentioned not for its close proximity to Fort Richardson but primarily for its awesome appearance, which is fittingly



crowned by Mount McKinley, which at 20,300 feet is the monarch of all North American Mountains. Although the Alaska Range is very rugged and intensely glaciated throughout, there are some important passes traversing this barrier. Perhaps the most important of these are the Delta River Pass and the Nenana River Pass which are routes for the Richardson Highway and the Alaska Railroad respectively. Although some of the range is visible from Fort Richardson on a clear day, it is separated from the Cook Inlet by a wide expanse of marsh area, complete with all the necessary ingredients for a traveler's nightmare. The Alaska range is composed of a wide variety of rocks with sedimentary and igneous (volcanic) formations widespread.

The year 1964 brought a drastic change to the landscape under study. At 1736 hours on Good Friday, 27 March 1964, a devastating earthquake, which registered 8.6 on the Richter scale, struck South-Central Alaska. It released at least twice as much energy as the great San Francisco quake of 1906. Fort Richardson was located about 90 miles west of the quake center and although damage to this military installation was relatively slight, with the exception of Battery A and Fire Island, subsidence in the area has been recorded at a maximum of 5.4 feet. The inundated lowlands which may be witnessed on both sides of the Seward Highway southeast of Anchorage are an example of this subsidence. The extensive faulting and accompanying earth movements including slumping, sliding, heaving, etc; have had the expected results in reshaping the earth's surface and this is often quite evident in the higher mountainous areas where nature's healing powers haven't been aided by man's ambition and ingenuity.

In summary, the area has been divided into four topographic regions: The Cook Inlet - Susitna Lowland; the Talkeetna Range; the Chugach Range; and the Alaska Range. This is admittedly an oversimplification of the area from a topographic as well as a geologic point of view, but this paper, when used in conjunction with the accompanying block diagram, will afford useful and informative knowledge of the surrounding landscape.