Overview of Environmental and Hydrogeologic Conditions At Three Federal Aviation Administration Facilities Near Anchorage International Airport, Anchorage, Alaska

By Allan S. Nakanishi and David D. Graham

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CONVERSION FACTORS, VERTICAL DATUM, AND ABBREVIATIONS

Multiply	By	To obtain
millimeter (mm)	0.03937	inch
meter (m)	3.281	foot
kilometer (km)	0.6214	mile
hectare (ha)	2.471	acre
square kilometer (km^2)	0.3861	square mile
meter per day (m/d)	3.281	foot per day
liter per day (L/d)	0.2642	gallon per day
cubic meter per second (m^3/s)	35.31	cubic foot per second
degree Celsius (^oC)	$^oF = 1.8 \times {}^oC + 32$	degree Fahrenheit (^oF)

Sea level:

In this report "sea level" refers to the National Geodetic Vertical Datum of 1929--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Other abbreviation used in this report:

mg/L, milligram per liter

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Abstract

The Federal Aviation Administration (FAA) operates facilities on or near Anchorage International Airport, Lake Hood, and Point Woronzof in the city of Anchorage, Alaska. All of these FAA facilities are within the lowland lakes area of the Anchorage Bowl. The Anchorage International Airport is the largest civilian airport in Alaska. Lake Hood is used by small aircraft as a floatplane base. More than 80 percent of the land surrounding the Anchorage International Airport and Lake Hood facilities is covered by asphalt, concrete, buildings, or other impervious surfaces. The area is underlain by unconsolidated alluvium, estuarine deposits, and weakly lithified sedimentary rocks. Ground water is available from both unconfined and confined aquifers within the Quaternary deposits. Most residential, commercial, and industrial consumers in the area obtain water from the municipal water-supply system.

INTRODUCTION

The Federal Aviation Administration (FAA) owns and (or) operates airway support and navigational facilities throughout Alaska. At many of these facilities, fuels and other potentially hazardous materials such as solvents, polychlorinated biphenyls, and pesticides may have been used and (or) disposed of. To determine if environmentally hazardous materials have been spilled or disposed of at the sites, the FAA is conducting environmental studies mandated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund Act") and the Resource Conservation and Recovery Act (RCRA). To complete these environmental studies, the FAA requires information on the hydrology and geology of areas surrounding the facilities. This report, the product of compilation, review, and summary of existing hydrologic and geologic data by the U.S. Geological Survey, in cooperation with the FAA, provides a brief summary of such information for three FAA facilities near the Anchorage International Airport (AIA): the Anchorage FAA station, the Lake Hood FAA facility, and the Point Woronzof FAA facility. The FAA facilities on Fire Island, located approximately 15 km from the AIA, will be discussed in a separate report.

BACKGROUND

Location

Anchorage is in south-central Alaska and is the largest city in the State. Anchorage had a population of approximately 240,000 in 1990, which was approximately 50 percent of the total State population (Alaska Department of Community and Regional Affairs, 1993). An area known locally as the "Anchorage Bowl" or the "Bowl," encompasses an area of approximately 470 km^2, is bounded on the west by Cook Inlet, on the north by Knik Arm, on the east by the Chugach Mountains, and on the south by Turnagain Arm (fig. 1). The FAA facilities at Anchorage International Airport, Lake Hood, and Point Woronzof are at the western edge of Anchorage in an area known as the "lowland lakes" (Zenone, 1976).

The AIA is the largest civilian airport in terms of size and number of commercial flights in Alaska. The AIA occupies approximately 1,850 ha and includes the Lake Hood floatplane facility and adjacent Lake Hood airstrip (Federal Aviation Administration, 1994). The airport, including Lake Hood and Lake Spenard, is owned by the State of Alaska and operated by the Alaska Department of Transportation and Public Facilities. The main terminal of the AIA (fig. 2), at latitude 61°11' N. and longitude 149°58' W., is approximately 1 km south of Lake Hood and approximately 4 km southeast of Point Woronzof.

Anchorage FAA Station

The Anchorage FAA station consists of air navigation, logistics, and maintenance buildings and sites located on or around the AIA. A detailed description of Anchorage FAA station and an investigation of potential sources of contamination are included in a report by Ecology and Environment (1994).

Lake Hood FAA Facility

The Lake Hood FAA facility is near the southern shore of Lake Hood in the Municipality of Anchorage at latitude 61°10'58" N., longitude 149°58'15" W. This facility occupies about 1.6 ha and includes a building that contains inactive ultra-high frequency/very-high frequency (UHF/VHF) radio equipment with two 15-m-high antennae and two storage trailers: one is empty and the other is used to store batteries and empty drums. A detailed description of FAA facilities near Lake Hood and an investigation of potential sources of contamination are included in a report by Ecology and Environment (1992a).

Point Woronzof FAA Facility

The Point Woronzof FAA facility includes an antenna platform and a set of twin antenna towers used for the remote transmitter and receiver facility (RTR). Two buildings are on this site: one building houses the controls for the RTR and the other is used for storage. This facility occupies approximately 9 ha and is at latitude 61°10'20" N. and 150°00'55" W. It is approximately 2 km south of Point Woronzof and approximately 2.5 km northwest of the AIA main terminal building (fig. 2). A detailed description of FAA facilities at Point Woronzof and an investigation of potential sources of contamination are included in a report by Ecology and Environment (1992b).

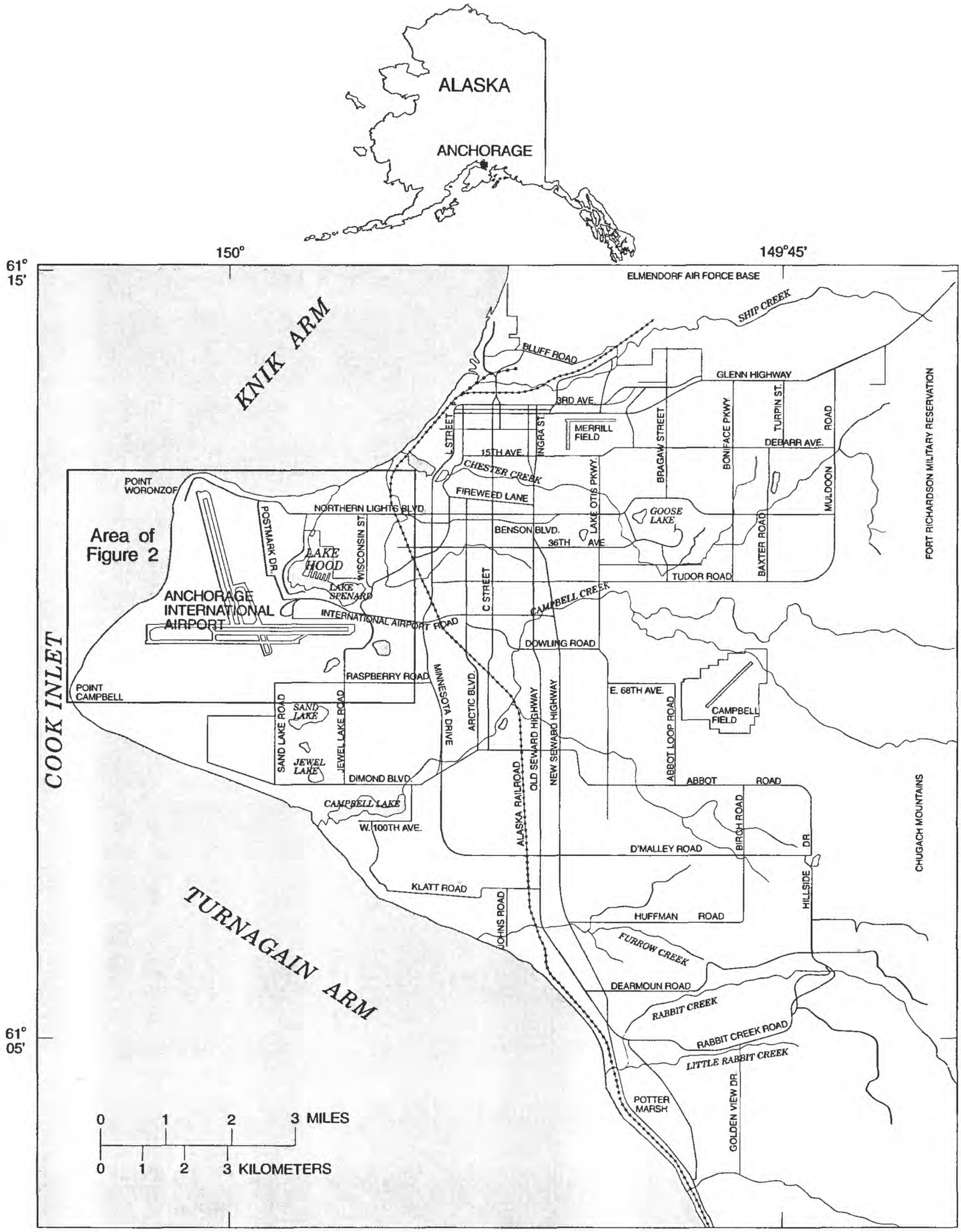
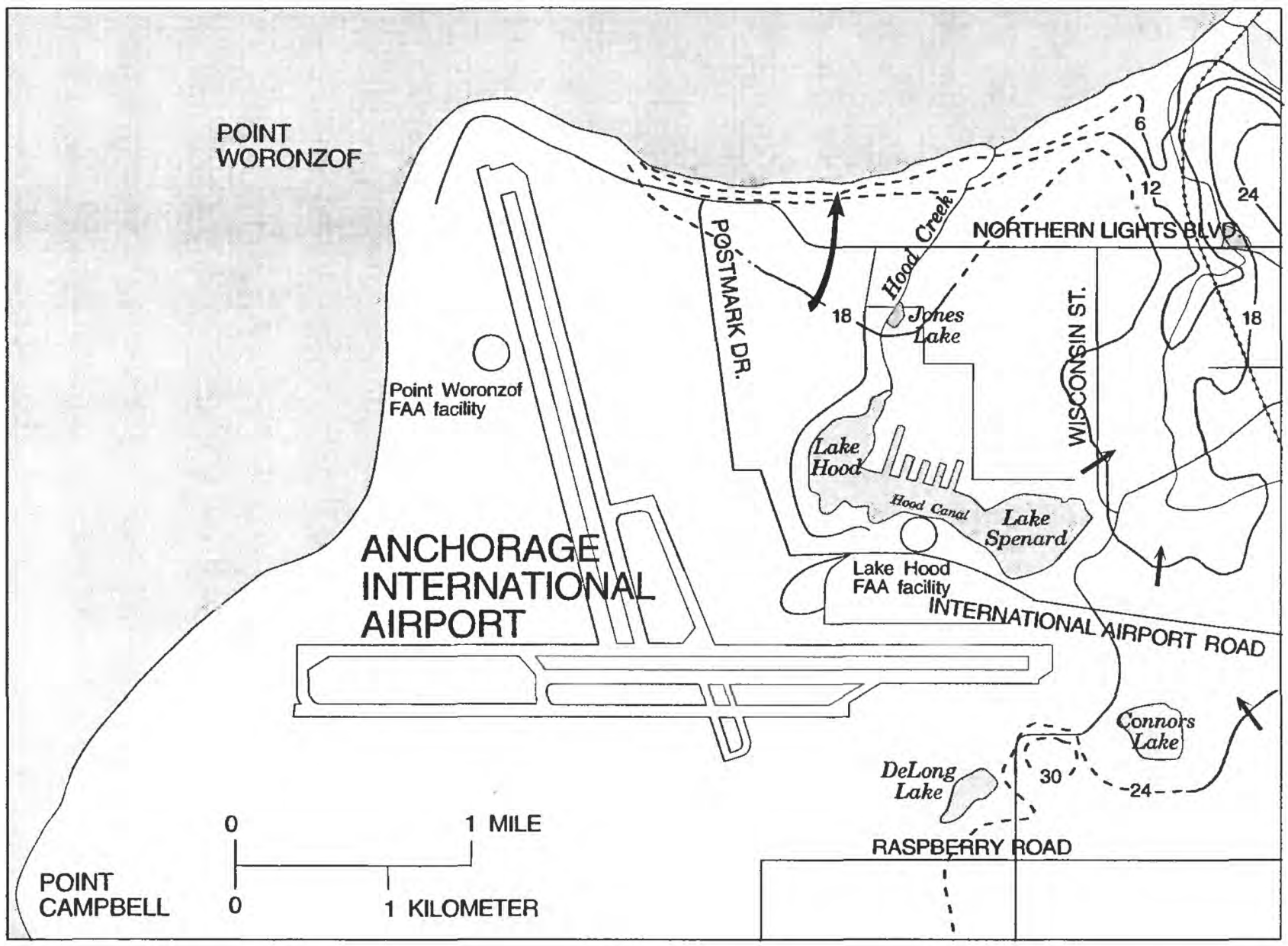


Figure 1. Location of Federal Aviation Administration facilities at Anchorage International Airport, Lake Hood, and Point Woronzof, Anchorage, Alaska.



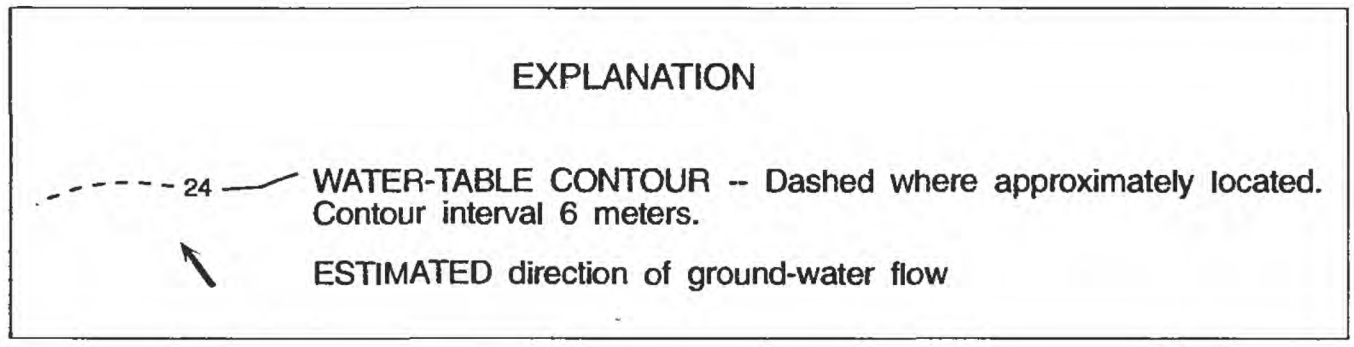


Figure 2. Water-table contours and estimated ground-water flow direction near Anchorage International Airport, Lake Hood, and Point Woronzof, Anchorage, Alaska (modified from Dearborn and Freethey, 1974; Zenone and Donaldson, 1974; and Glass, 1986).

PHYSICAL SETTING

Climate

Anchorage is located in a transitional climate zone, situated between maritime and continental climate zones. Seasonal precipitation patterns in this zone are not sharply defined, fluctuate from year to year, and may resemble those of either the maritime or continental climate zones (Hartman and Johnson, 1984). At the AIA, the mean annual temperature is 2.1 °C, but temperatures range from a July mean maximum of 18.3 °C to a January mean minimum of about -13.2 °C. Precipitation amounts increase with increasing elevation eastward toward the Chugach Mountains (Patrick and others, 1989). Mean annual precipitation at the AIA is about 390 mm; approximately 1,760 mm of snow falls annually (Leslie, 1989). Most rainfall occurs during July through October. Mean monthly temperature, precipitation, and snowfall for the weather station at the AIA are summarized in table 1.

Vegetation

Selkregg and others (1972) provide a map and description of vegetation types in the Anchorage area. Vegetation near the FAA facilities is comprised of four groups: interior forest, treeless bogs, spruce bogs, and developed areas.

The interior forest is found predominantly on the well-drained hills of the northwest and southwest parts of the AIA. Tree species typical of the interior forest include white spruce, paper birch, balsam poplar, black cottonwood, and willow (Viereck and Little, 1972). Shrubs in the interior forest include wild rose, lingonberry, bunchberry, currant, and Labrador tea. The Point Woronzof FAA station is within an area defined as interior forest.

Treeless bogs are found in poorly drained, flat areas north and west of Lake Hood and Lake Spenard where water-saturated soils are unable to support trees. Primary vegetation types include birch brush, Labrador tea, scrub willow, cotton grass, sphagnum moss, and sedges.

Spruce bogs also have water-saturated soils and are found adjacent to treeless bogs to the north and west of Lake Hood and Lake Spenard and near Connors Lake at the eastern edge of AIA. Typical vegetation types consist of black spruce less than 2 m in height, sphagnum mosses, sedges, grasses, and heath shrubs. Paper birch, white spruce, Labrador tea, prickly rose, willows, bog blueberry, red-fruit bearberry, crowberry, and lingonberry are also common in spruce bogs.

More than 80 percent of the land surface in developed areas at the AIA and south of Lake Hood is covered by asphalt, concrete, buildings, or other impervious surfaces (U.S. Army Corps of Engineers, 1979). Vegetation in the unpaved parts of the developed areas consists primarily of domestic grasses, shrubs, and trees.

Table 1. Mean monthly temperature, precipitation, and snowfall for the period 1952-87, Anchorage, Alaska
[Modified from Leslie (1989); °C, degree Celsius; mm, millimeter]

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Temperature (°C)													
Mean maximum	-5.8	-3.3	0.3	5.8	12.4	16.6	18.3	17.2	12.8	4.9	-2.2	-5.8	5.9
(Record maximum, 29.4 °C, June 1969)													
Mean minimum	-13.2	-11.7	-8.4	-2.3	3.6	8.3	10.7	9.5	4.9	-1.9	-9.0	-12.9	-1.9
(Record minimum, -36.7°C, January 1975)													
Mean	-9.6	-7.5	-4.1	1.8	8.1	12.4	14.5	13.4	8.9	1.5	-5.7	-9.3	2.1
Precipitation (mm of moisture)	20.3	21.8	16.5	16.0	16.0	25.9	49.8	58.7	63.8	47.2	27.4	26.9	390.4
Snowfall (mm)	223.5	309.9	236.2	154.9	5.1	0	0	0	7.6	193.0	274.3	355.6	1,760.2

Geology

The geology of the lowland lakes area is described by Miller and Dobrovolny (1959) and Cederstrom and others (1964). Trainer and Waller (1965) summarized the subsurface deposits in the Anchorage area on the basis of water-well data. The well drillers' logs used in their analyses of the subsurface geology are in the files of the Water Resources Division of the U.S. Geological Survey in Anchorage; however, relatively few wells exist near the FAA facilities (appendix 1). Zenone (1976, fig. 3) provides a map of the surface geology of the lowland lakes area and an explanation of the interrelationship of the geology and hydrology of the area. A series of geotechnical investigations (CH2M Hill, 1984, 1985, 1986) for expansion of Anchorage's wastewater treatment plant characterize the surficial geology and soil properties of the Point Woronzof vicinity north and northwest of the airport.

The Anchorage Bowl is underlain by thick wedges of unconsolidated deposits of Quaternary age, weakly lithified deposits of Tertiary age, and metamorphic bedrock of Cretaceous/Jurassic age (Clark and others, 1976). The unconsolidated Quaternary deposits thicken progressively from less than a few meters on much of the Chugach Mountains to about 300 m beneath the western part of the FAA facilities (Freethey and Scully, 1980). Glass (1988) provides a map of the depth to bedrock in the Anchorage Bowl.

The Quaternary-age deposits beneath the AIA area are not well understood and are relatively unexplored compared with other areas of Anchorage. Sediments in the AIA area were deposited by glacial advance and retreat from both the Turnagain and Knik Arms and consist of complexly interlayered alluvial, glacial, and estuarine unconsolidated sediments. The alluvial and glacial sediments consist of silty sand and sand with some gravel (Schmoll and Dobrovolny, 1972; Freethey, 1976). The estuarine deposits are composed of clayey silt and silty clay with some interbedded sand (Ulery and Updike, 1983) and are generally not present beneath the western part of the AIA. Underlying the unconsolidated Quaternary sediments are weakly lithified sedimentary rocks of Tertiary age, consisting mainly of siltstone, claystone, and sandstone (Schmoll and Barnwell, 1984). Underlying the Tertiary rocks and exposed in the Chugach Mountains are metamorphic sandstones, siltstones, and volcanic rocks.

HYDROLOGY

Surface Water

Major surface-water bodies within the vicinity of the FAA facilities include Lake Hood and Lake Spenard, which have a total surface area of approximately 80 ha; Knik and Turnagain Arms of Cook Inlet; Connors Lake; Jones Lake; Little Campbell Lake; Delong Lake; and wetland areas consisting of ponds, bogs, and marshy areas. Lake Hood and Lake Spenard are connected by Hood Canal and are used by floatplanes in summer and ski-planes in winter. The lake level is regulated by a weir at the north end of Lake Hood. Water flows down Hood Creek for about 2 km to Knik Arm. In 1961, Hood Creek had a measured discharge of 0.01 m^3/s (Scully and others, 1978). Lakes in the area are not used for drinking purposes but are used extensively for recreation, including float and ski-plane operation. No commercial fisheries are present at Lake Hood and Lake Spenard, or along Hood Creek, although recreational fishing does occur.

Water within the wetlands north and west of Lake Hood and Lake Spenard is primarily from precipitation and runoff. Surface drainage in these areas is poor because of low relief. Low-permeability layers of glacial or estuarine deposits act as barriers to subsurface drainage; thus, it is unlikely that recharge of precipitation is a significant source of ground water (Zenone, 1976; Ecology and Environment, 1992b). Within the AIA area, surface-water runoff drains primarily into roadside trenches during the spring melt and during periods of high precipitation. At the AIA and Lake Hood FAA facilities, surface drainage is generally northward into Lake Hood, Hood Canal, and Lake Spenard. HDR Engineering (1993a) developed a model of the Lake Hood/Lake Spenard watershed. They estimated that the AIA contributes a significant quantity of runoff draining into Lake Hood and Lake Spenard. It should be noted that in the model, ground-water discharge into the lakes was assumed not to occur.

A report by HDR Engineering (1993b) of the water quality of Lake Hood and Lake Spenard and of water in several storm drains within the AIA concluded that runway and aircraft de-icing are the two most significant sources of storm-water pollutants at the AIA. De-icing agents—usually a mixture of ethylene glycol, urea, and water—are applied and accumulate during winter and are rapidly transported during spring snowmelt and summer storms into drainage ditches that flow toward the lakes. Fuels, lubricants, and septic wastes were also identified in the storm-water samples.

Surface drainage at the Point Woronzof FAA facility is westward toward Cook Inlet. Murphy and others (1972) studied the effect of discharging domestic wastewater into the inlet and concluded that because the inlet is a "completely and continuously mixed basin," it is unlikely to become adversely affected by domestic waste water discharge by a population of 10 times that of the 1990 Anchorage census. The study by Murphy and others (1972), however, did not examine the potential effects of hazardous waste discharge into Cook Inlet.

Ground Water

The sediments in the Anchorage Bowl generally form a freshwater aquifer system consisting of an unconfined aquifer and one or more confined aquifers separated by a less permeable layer (fig. 3). Recharge to the aquifers is primarily from infiltration of precipitation and seepage from streams. Patrick and others (1989) present an analysis of the distribution and relative contribution of recharge to the aquifer system. An estimated 280 to 380 million L/d is lost naturally from the ground-water system in the Anchorage Bowl from evaporation, plant transpiration, and seepage (Glass, 1987). Evapotranspiration is estimated to be between 250 and 500 mm of water per year (Zenone, 1976).

A mathematical simulation of ground-water flow by Patrick and others (1989) indicates that the regional flow direction for the Anchorage Bowl is westward, from the Chugach Mountains towards Cook Inlet, Knik Arm, and Turnagain Arm. A water-table contour map based on measured water levels in wells in the unconfined aquifer shows that locally, ground water at Lake Hood flows northward towards Knik Arm (Dearborn and Freethey, 1974). At the old Anchorage Borough Landfill near Connors Lake, about 2 km southeast of the Lake Hood FAA facility, shallow ground-water flow direction is northwestward (Zenone and Donaldson, 1974; Glass, 1986). Ground-water flow direction appears strongly influenced by the northward flowing Hood and Fish Creeks and it moves farther northward as proximity to the drainages increase (fig. 2). Water-table levels in wells near the AIA, Lake Hood, and Connors Lake have seasonal fluctuations of about 1 m to 1.5 m (Brunett, 1986; Still and Brunett, 1987).

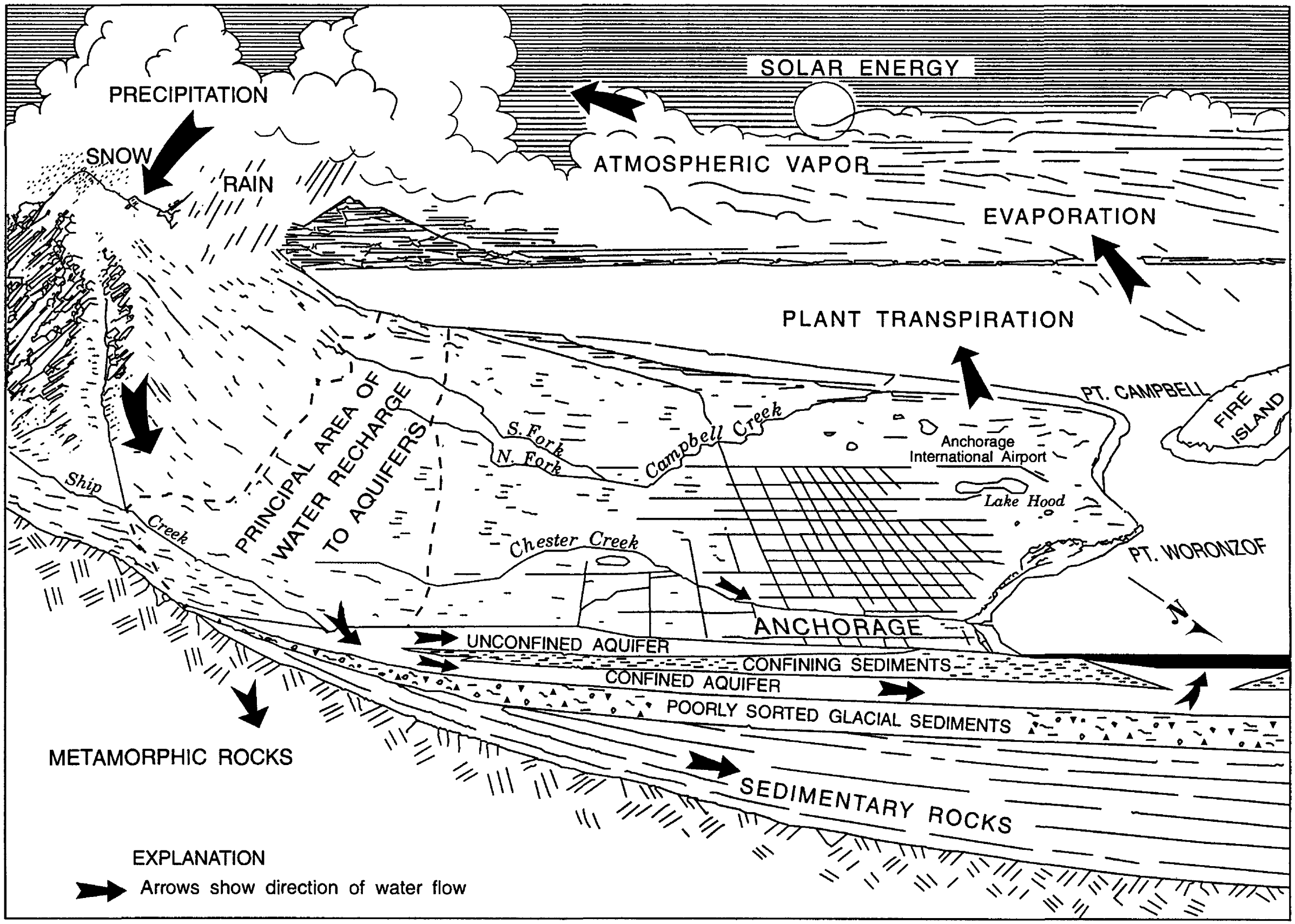


Figure 3. Generalized geology and the hydrologic cycle in the Anchorage Bowl, Alaska (modified from Barnwell and others, 1972).

Patrick and others (1989, fig. 4) provide a generalized map illustrating the variation in thickness of the unconfined aquifer throughout the Anchorage Bowl. The thickness of the unconfined aquifer in the vicinity of the AIA and the Lake Hood FAA facilities ranges from 0 to about 15 m. Zenone (1976, fig. 4) indicates that in some areas, the unconfined aquifer is absent and the confining layer, which consists of silty to sandy clay, is exposed at the surface. The depth to ground water along the shores of Lake Hood and the Lake Hood FAA facility is generally less than 3 m (Freethey and others, 1974). South of Lake Hood, beneath much of the AIA where the topography is slightly higher, the depth to ground water is between 3 m and 6 m. The surficial deposits near the AIA, Lake Hood, and Point Woronzof FAA facilities are considered moderately to highly permeable relative to other soils in the Anchorage area (Freethey, 1976). Patrick and others (1989) estimate that horizontal hydraulic conductivity of the unconfined aquifer in the Anchorage Bowl ranges from about 1 to 46 m/d on the basis of local lithology and specific capacity data. Hydraulic conductivity is a property of geologic materials that describes its capacity to transmit water. The rate at which water can flow laterally through geologic materials is proportional to the horizontal hydraulic conductivity. The hydraulic conductivity of the sediments of the unconfined aquifer in the vicinity of the AIA and the Lake Hood FAA facility was estimated by Patrick and others (1989) to be 14 m/d.

The confined aquifer underlying the Anchorage Bowl generally thickens from east to west. The thickness of the confined aquifer ranges from 0 m near the mountain front to more than 330 m in the western part of the Anchorage Bowl. Adjacent to the Chugach Mountains, the confined and unconfined aquifers share a common source of recharge because the confining sediments are discontinuous. Patrick and others (1989, fig. 6) provide a generalized map illustrating the variation in thickness of the confined aquifer. The thickness of the confined aquifer in the vicinity of the Lake Hood FAA facility ranges from about 240 to 300 m. On the basis of lithologic and aquifer test data, Patrick and others (1989, fig. 13) estimated that the horizontal hydraulic conductivity of the sediments of the confined aquifer in the Anchorage Bowl ranges from 0.9 to 21 m/d. In the vicinity of the Lake Hood FAA facility, the value of the hydraulic conductivity of the sediments of the confined aquifer used in the model was approximately 2 m/d.

The confining layers are variable in lithology and thickness, which results in local differences in their ability to retard movement of water from one aquifer to another. The main confining layer in the central part of the Anchorage Bowl is the estuarine deposits which are an areally extensive layer of silty clay and clayey silt with some interbedded lenses of sand. In the western and eastern parts of the Anchorage Bowl, the confining layer consists of coarser till or till-like deposits and may be discontinuous or absent. The confining layer ranges from 0 to about 80 m in thickness, as shown by Patrick and others (1989, fig. 5). The vertical hydraulic conductivity of the confining unit was estimated to be approximately 0.00003 m/d where the confining unit is predominantly clay and 0.3 m/d in the mountain front area where the confining unit is discontinuous. In the vicinity of the Lake Hood FAA facility, the vertical hydraulic conductivity of the confining unit was estimated by Patrick and others (1989) to be 0.00003 m/d. Elsewhere, the vertical hydraulic conductivity of the confining unit has been estimated to be 0.003 m/d for gravelly sand/silt, and 0.00006 m/d for silty clay (Nelson, 1982).

DRINKING WATER

Present Drinking-Water Supplies

Most of the water used for domestic, industrial, and commercial uses in the airport area is from a public water-distribution system: relatively few people utilize private water wells. The water system, operated by the Anchorage Water and Wastewater Utility (AWWU), is supplied from two surface water sources—Eklutna Lake and Ship Creek—and from wells located throughout the city (Anchorage Water and Wastewater Utility, 1993). Ship Creek (fig. 1), which has a withdrawal site at a dam located at the mouth of a canyon on the edge of the Chugach Mountains, is the main water source. In 1992, Ship Creek supplied an average 47.3 million L/d and has a production capacity of 90.8 million L/d. Eklutna Lake, located approximately 24 km northeast of Anchorage, supplied approximately 34.4 million L/d in 1992 and has a production capacity of 133 million L/d. The Municipality of Anchorage pumps water from 19 wells: 1 well is pumped continuously, 12 wells are used intermittently, and 6 are pumped for only maintenance purposes and are available if needed. In 1992, ground-water sources provided an average of 8.2 million L/d to the city's water system but have a production capacity of 89.3 million L/d. Total water withdrawals for the Municipality of Anchorage in 1990 represent about 25 percent of the production capacity of the surface- and ground-water sources. Pumpage data for wells in the Anchorage area during 1990 is summarized by Petrik (1991).

Most private wells used for water supply in the lowland lakes area were completed in the unconsolidated Quaternary sediments at depths generally less than 90 m. Many of these wells were installed during a period of accelerated residential development before municipal services were extended into these locations. Records in the USGS Ground Water Site Inventory (GWSI) database for selected wells near the AIA, Lake Hood, and Point Woronzof FAA facilities are shown in appendix 1. A recent survey, however, has not been conducted to determine how many of the wells in the area are currently in use.

The surface- and ground-water supply of the Municipality of Anchorage is flocculated, filtered, chlorinated, and fluoridated before it is distributed (AWWU, 1993). The AWWU Annual Water Quality Report for 1992 contains water-quality data for surface and ground-water supplies and indicates that both met the drinking-water regulations established by State of Alaska.

Alternative Drinking-Water Sources

If the aquifers from which a few residents obtain drinking water were contaminated, new wells could be drilled outside of the affected area or the municipal water system could be made available as an alternative water supply. The AWWU system has the capacity to increase production and a water-distribution system already exists in much of the area around the AIA.

The confined aquifer could be an alternative drinking-water source if the confining layer is continuous and impermeable beneath the Lake Hood FAA facility. This layer however, shows up inconsistently in drillers' well logs and it is likely that the confining layer is not continuous and (or) does not have a low enough permeability to protect the confined aquifer from infiltration of all contaminants.

The USGS has a water-quality record for testing done in May 1959 from a 113-m-deep drinking-water supply well which served the AIA (well SB01300434BDCA1 002, appendix 1, tables A-3, A-4). This record shows that the water had a dissolved silica concentration of 8.6 mg/L, an iron concentration of 0 mg/L, and a hardness as $CaCO_3$ concentration of 120 mg/L. In 1965, coliform bacteria were detected and the use of this well was discontinued in 1966 when the airport was connected to the municipal water supply.

Local lakes such as Lake Hood and Lake Spenard are also possible sources of drinking water but may not be a good alternatives because they are subject to contamination from surface runoff from AIA (HDR Engineering, 1993a) and from fuel spills from aircraft that use the lakes as a runway. Water-quality information on Lake Hood, Lake Spenard, and Hood Creek is given by Donaldson and others (1975). The Alaska Department of Environmental Conservation (ADEC) periodically checks the water quality at the north shore of Lake Spenard near a park that is used as a public beach during the summer. Water-quality data collected by the ADEC for Lake Spenard are shown in appendix 2.

SUMMARY

Three FAA facilities near the Anchorage International Airport are in the lowland lakes area of the Anchorage Bowl. More than 80 percent of the developed land surrounding the FAA facilities is covered by asphalt, concrete, buildings, or other impervious surfaces. Runoff from the AIA and Lake Hood facilities drains into Lake Hood and Lake Spenard and runoff from the Point Woronzof facility drains westward into Knik Arm. The areas are underlain by unconsolidated alluvium, glacial, and estuarine deposits of Quaternary age. The total thickness of surficial sediments beneath the facilities is about 300 m. Ground water is present in both unconfined and confined aquifers within the alluvial and glacial deposits. The depth to ground water beneath the Lake Hood and AIA facilities ranges from 3 to 6 m. Ground-water flow in the unconfined aquifer near the facilities is generally northward. Most water used for residential, commercial, and industrial purposes is obtained from a municipal water-supply system not from on-site water wells.

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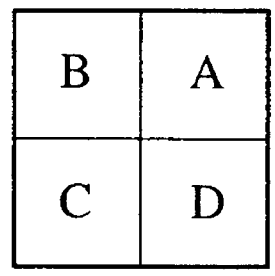
APPENDIX 1

Well and ground-water quality data near the Anchorage International Airport

EXPLANATION OF LOCAL NUMBER

The local well-numbering system is based on the rectangular subdivision of public lands. The first two letters indicate the well's position in reference to a base and meridian (first letter) and the quadrant formed by the intersection of the base line and the principal meridian (second letter), lettered counter-clockwise from the northeast corner:



The first three digits indicate the township in which the well is located, the next three digits, the range, and the last two digits, the section. For example, a well in south Anchorage numbered SB01200329DBAD1 016 is located in township 12 north, range 3 west, section 29. Letters following the section number indicate further subdivision: the quarter section, the quarter-quarter section, and so forth to the fourth section subdivision. Like the quadrants formed by the base and meridian, each succeeding subdivision is lettered counter-clockwise from the northeast corner. The number after the letters refers to the sequential listing of wells in the smallest subdivision. Thus, well SB01200329DBAD1 was the first well located in the southeast quarter (D) of the northeast quarter (A) of the northwest quarter (B) of the southeast quarter (D) of section 29. The number following the fourth section subdivision is a sequence number referring to the number of wells in that fourth section subdivision.

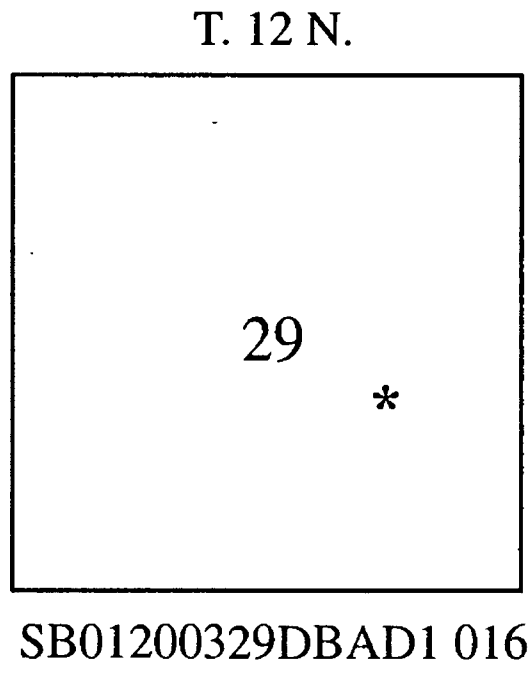


Table A-1. Wells within 1-mile radius of Anchorage International Airport

Local well number	Date well constructed	Primary use of water	Owner	Depth of well (m)	Static water level (m)	Date water level measured	Type of log available
SB01300434BDCA1 002	04-11-59	Commercial	AK STATE INTL AIRPT	113	19.0	04-11-59	Drillers
--	--	--	--	--	20.0	--	Electric
--	--	--	--	--	--	--	Neutron
--	--	--	--	--	--	--	Fluid velocity
SB01300434BCDB1 004	01-01-52	Commercial	INTERNATL AIRPORT	93.9	--	--	Drillers
SB01200403BABD1 001	05-01-54	institutional	USNG	81.7	24.0	05-01-54	Drillers
SB01200403BABC1 003	07-01-65	Commercial	USNG NO 2	87.5	25.4	08-24-63	Drillers
SB01200403BCCC1 023	07-20-66	Commercial	FOUR CORNERS CAFE	--	--	--	-
SB01200403ACBA1 028	07-16-65	Domestic	HAYWARD JOHN	20	16.0	07-16-65	Drillers
SB01200403ACBB1 031	10-18-83	Domestic	CLOUTIER DWIGHT	66.4	18.0	10-18-83	Drillers
SB01200403ABDC1 006	12-01-82	Domestic	KROON LOREN	30.0	--	--	Drillers
SB01200403ABDC2 006	11-24-82	Domestic	KROON LOREN	68.3	--	--	Drillers
SB01200403ABCB1 007	09-25-66	Domestic	RICHISION ALLEN	60.9	19.0	09-25-66	Drillers
SB01200403ABCB2 007	08-12-82	Domestic	WYSOCKI MARK E	40	--	08-12-82	Drillers
SB01200403ABCB3 007	08-12-82	Domestic	BARBER THOMAS	40	--	08-12-82	Drillers
SB01200403BBBB1 026	03-01-49	industrial	UNKNOWN	47.2	27.0	10-01-50	Drillers
SB01300434DABA1 005	06-23-58	Commercial	MK HANGAR	46.6	18.0	06-23-58	Drillers
SB01300434DABA2 005	01-01-52	Domestic	NORTHERN CONSOLIDATED	40.2	--	--	Drillers

Table A-1. Wells within 1-mile radius of Anchorage International Airport--Continued

Local well number	Date well constructed	Primary use of water	Owner	Depth of well (m)	Static water level (m)	Date water level measured	Type of log available
SB01300434ACCD1 003	06-01-52	Commercial	AK AIRLINES	48.2	21.0	06-01-52	Drillers
SB01300434ACCA1 007	11-01-53	Commercial	UNION OIL	97	17.0	11-27-53	Drillers
SB01300434ACAC1 010	09-08-70	--	USGS AUGER NO. 1	14.0	--	--	Drillers
SB01300434ABDA1 009	01-01-46	institutional	US ARMY LAKE HOOD	49.4	--	--	Drillers
SB01300434BAAD1 006	09-14-59	Commercial	AK AERONAUTICAL	68.6	22.0	09-14-59	Drillers
SB01300434BABA1 001	12-01-53	Commercial	SEA AIRMOTIVE LAKE HOOD	76	18.0	12-01-53	Drillers
SB01300434ABDB1 011	09-11-70	unused	USGS LK HOOD	8.2.0	--	09-10-70	Drillers
SB01200403ABBB1 021	09-18-70	unused	USGS USNG	11.0	--	--	Drillers
SB01200403ABBB2 021	09-18-70	--	USGS USNG	5.9	--	--	Drillers
SB01300434ABBC1 008	??-??-46	Domestic	USAF 10TH SEA & AIR RESCUE BASE LAKE HOOD	49	--	--	Drillers

Table A-2. Wells within 0.5-mile radius of the Lake Hood FAA facility

Local Well Number	Date Well Constructed	Primary Use of Water	Owner	Depth of Well (m)	Static Water Level (m)	Date Water Level Measured	Type of Log Available
SB01300434BDCA1 002	04-11-59	Commercial	AK STATE INTL AIRPT	113	19.0	04-11-59	Drillers
--	--	--	--	--	20.0	--	electric
--	--	--	--	--	--	--	neutron
--	--	--	--	--	--	--	fluid velocity
SB01300434DABA1 005	06-23-58	Commercial	MK HANGAR	47	18.2	06-23-58	Drillers
SB01300434DABA2 005	01-01-52	Domestic	NORTHERN CONSOLIDATED	40.2	--	--	Drillers
SB01300434ACCD1 003	06-01-52	Commercial	AK AIRLINES	48.2	20.7	06-01-52	Drillers
SB01300434ACCA1 007	11-01-53	Commercial	UNION OIL	97.2	17.0	11-27-53	Drillers
SB01300434ACAC1 010	09-08-70	--	USGS AUGER NO. 1	14.0	--	--	Drillers
SB01300434ABDA1 009	01-01-46	Institutional	US ARMY LAKE HOOD	49.4	--	--	Drillers
SB01300434BAAD1 006	09-14-59	Commercial	AK AERONAUTICAL	68.6	22.0	09-14-59	Drillers
SB01300434BABA1 001	12-01-53	Commercial	SEA AIRMOTIVE LAKE HOOD	76	18.0	12-01-53	Drillers
SB01300426CCCD1 028	09-22-59	Domestic	SWANSON JOSEPH	76.8	17.0	09-22-59	Drillers
SB01300426CCCA1 011	08-08-56	Domestic	JEFFERSON W K	78.6	20.0	08-08-56	Drillers
SB01300426CCBD1 026	08-07-59	Domestic	WHEELES & KINNEY	80.8	21.0	08-07-59	Drillers
SB01300434ABDB1 011	09-11-70	unused	USGS LK HOOD	8.2	--	09-10-70	Drillers
SB01300434ABBC1 008	??-??-46	Domestic	USAF 10TH SEA & AIR RESCUE BASE LAKE HOOD	49	--	--	Drillers

Table A-3. Wells within 1.0-mile radius of the Point Woronzof FAA facilities.

Local Well Number	Date Well Constructed	Primary Use of Water	Owner	Depth of Well (m)	Static Water Level (m)	Date Water Level Measured	Type of Log Available
SB01300429ADDD1 001	03-23-56	Domestic	FAA WORONZOF	69	58	03-23-56	Drillers
SB01300433BBCB1 002	01-01-71	Institutional	FAA ASR-5 SITE	65	47	01-01-71	Drillers
SB01300428AACC1 001	09-25-70	Unused	USGS GAAB	5.2	--	10-23-70	Drillers
SB01300420DDCD1 001	01-01-67	Unused	ANCHORAGE MUNICIPL	33	--	--	Drillers
SB01300420DDCC1 002	01-01-67	Unused	ANCHORAGE MUNICIPL	35	--	--	Drillers
SB01300420DDDD1 003	11-02-70	Institutional	ANCHORAGE MUNICIPL	38	25.7	11-16-70	Drillers
--	--	--	--	--	--	--	gamma ray
--	--	--	--	--	--	--	neutron
--	--	--	--	--	--	--	gamma-gamma
SB01300420DDDD2 003	12-18-70	Other	ANCHORAGE MUNICIPL	31	20.0	12-16-70	Drillers

Table A-4. Water-quality data from wells near the Anchorage International Airport

611028149584901 - SB01300434BCDB1 004

WATER-QUALITY DATA, WATER YEAR OCTOBER 1952 TO SEPTEMBER 1953

DATE	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICAR-BONATE WATER WH FET FIELD MG/L AS HCO3 (00440)
NOV 18...	61 10 28 N	149 58 49 W	6	9	95300570	3	256	7.5	8.4	136	170

611028149584901 - SB01300434BCDB1 004

WATER-QUALITY DATA, WATER YEAR OCTOBER 1952 TO SEPTEMBER 1953

DATE	CAR-BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 18...	0	0.070	130	0	21	18	4.4	0.2	7	1.8	4.0

611028149584901 - SB01300434BCDB1 004

WATER-QUALITY DATA, WATER YEAR OCTOBER 1952 TO SEPTEMBER 1953

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	IRON (UG/L AS FE) (71885)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)
NOV 18...	3.0	20	154	0.21	0.30	40	100	354	308.00	293	308

611028149584901 - SB01300434BCDB1 004
WATER-QUALITY DATA, WATER YEAR OCTOBER 1954 TO SEPTEMBER 1955

DATE	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	SPECIFIC CONDUCTANCE (US/CM) (00095)
JAN 17...	61 10 28 N	149 58 49 W	6	9	95500346	293

611028149584901 - SB01300434BCDB1 004
WATER-QUALITY DATA, WATER YEAR OCTOBER 1954 TO SEPTEMBER 1955

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	MANGANESE (UG/L AS MN) (71883)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)
JAN 17...	0.10	0	100	354	308.00	293	308

611028149584901 - SB01300434BCDB1 004
WATER-QUALITY DATA, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DATE	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)
OCT 21...	61 10 28 N	149 58 49 W	6	9	96700668	6.5	5

611028149584901 - SB01300434BCDB1 004
WATER-QUALITY DATA, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)
OCT							
21...	276	8.1	100	354	308.00	293	308

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1958 TO SEPTEMBER 1959

DATE	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICAR-BONATE WATER WH FET FIELD MG/L AS HCO3 (00440)
MAY											
19...	61 10 32 N	149 58 32 W	6	9	95900393	5	238	7.3	11	117	140

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1958 TO SEPTEMBER 1959

DATE	CAR-BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
MAY												
19...	0	0.180	120	0	23	14	4.5	0.2	8	2.1	3.5	5.5

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1958 TO SEPTEMBER 1959

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	MANGANESE (UG/L AS MN) (71883)	IRON (UG/L AS FE) (71885)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)
MAY 19...	0.10	8.6	132	0.18	0.80	0	0	87.0	489	370.00	212	350

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DATE	LATITUDE	LONGITUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	COLOR (PLATINUM COBALT UNITS) (00080)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICARBONATE WATER WH FET FIELD MG/L AS HCO3 (00440)
SEP 23...	61 10 32 N	149 58 32 W	6	9	96600533	0	273	8.0	2.9	149	180

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DATE	CARBONATE WATER WH FET FIELD MG/L AS CO3 (00445)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
SEP 23...	0	0.050	130	0	21	20	4.7	0.2	7	1.2	2.8	1.0

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	MANGANESE (UG/L AS MN) (71883)	IRON (UG/L AS FE) (71885)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)
SEP 23...	0.10	16	157	0.21	0.20	30	90	87.0	489	370.00	212	350

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1958 TO SEPTEMBER 1959

DATE	LATITUDE	LONGITUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	COLOR (PLATINUM-COBALT UNITS) (00080)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICARBONATE WATER WH FET FIELD MG/L AS HCO3 (00440)
MAY 19...	61 10 32 N	149 58 32 W	6	9	95900393	5	238	7.3	11	117	140

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1958 TO SEPTEMBER 1959

DATE	CARBONATE WATER WH FET FIELD MG/L AS CO3 (00445)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
MAY 19...	0	0.180	120	0	23	14	4.5	0.2	8	2.1	3.5	5.5

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1958 TO SEPTEMBER 1959

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	MANGANESE (UG/L AS MN) (71883)	IRON (UG/L AS FE) (71885)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)
MAY 19...	0.10	8.6	132	0.18	0.80	0	0	87.0	489	370.00	212	350

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DATE	LATITUDE	LONGITUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	COLOR (PLATINUM COBALT UNITS) (00080)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICARBONATE WATER WH FET FIELD MG/L AS HCO3 (00440)
SEP 23...	61 10 32 N	149 58 32 W	6	9	96600533	0	273	8.0	2.9	149	180

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DATE	CARBONATE WATER WH FET FIELD MG/L AS CO3 (00445)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
SEP 23...	0	0.050	130	0	21	20	4.7	0.2	7	1.2	2.8	1.0

611032149583201 - SB01300434BDCA1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	MANGANESE (UG/L AS MN) (71883)	IRON (UG/L AS FE) (71885)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)
SEP 23...	0.10	16	157	0.21	0.20	30	90	87.0	489	370.00	212	350

611120150005601 - SB01300429ADDD1 001
WATER-QUALITY DATA, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	LATITUDE	LONGITUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	COLOR (PLATINUM-COBALT UNITS) (00080)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICARBONATE WATER WH FET FIELD MG/L AS HCO3 (00440)
MAR 06...	61 11 20 N	150 00 56 W	6	9	97000816	0	353	7.8	5.8	187	230

611120150005601 - SB01300429ADDD1 001
WATER-QUALITY DATA, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	CARBONATE WATER WH FET FIELD MG/L AS CO3 (00445)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
MAR 06...	0	0.00	180	0	42	18	6.8	0.2	8	1.9	3.9	2.4

611120150005601 - SB01300429ADDD1 001
WATER-QUALITY DATA, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	MANGANESE (UG/L AS MN) (71883)	IRON (UG/L AS FE) (71885)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)
MAR												
06...	0.10	18	205	0.28	0.0	140	1300	187	226	226.00	221	226

APPENDIX 2

Surface-water quality data for lakes and streams near

Anchorage International Airport

611034149570200 - DITCH INTO S END LK SPENARD NR ANCHORAGE AK

WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	TEMPERATURE WATER (DEG C) (00010)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)
APR 18...	1415	61 10 34 N	149 57 02 W	9	9	97500623	0.5	E1.5

611034149570200 - DITCH INTO S END LK SPENARD NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	SPECIFIC CONDUCTANCE (US CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	CARBON DIOXIDE DISSOLVED (MG L AS CO2) (00405)	ALKALINITY WAT WH TOT FET FIELD MG L AS CACO3 (00410)	BICARBONATE WATER WH FET FIELD MG L AS HCO3 (00440)	NITROGEN, TOTAL (MG L AS N) (00600)	NITROGEN, ORGANIC TOTAL (MG L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG L AS N) (00625)
APR 18...	400	8.3	1.6	180	220	80	80	80

611034149570200 - DITCH INTO S END LK SPENARD NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	PHOSPHORUS TOTAL (MG L AS P) (00665)	CHLORIDE, DISSOLVED (MG L AS CL) (00940)	CADMIUM TOTAL RECOVERABLE (UG L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG L AS CU) (01042)	IRON, TOTAL RECOVERABLE (UG L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (UG L AS PB) (01051)	SAMPLE SOURCE (72005)
APR 18...	0.470	3.6	<20	<20	60	1900	6500	43

611050149580700 - HOOD LK (S SHORE) NR ANCHORAGE AK

WATER-QUALITY DATA, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	SAMPLING DEPTH (FEET) (00003)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	SPECIFIC CONDUCTANCE (US CM) (00095)	CARBON, ORGANIC DISSOLVED (MG L AS C) (00681)
OCT 18...	0930	61 10 50 N	149 58 07 W	9	9	97400517	0.0	3.5	20	180	12

15274770 - HOOD C AT NO LIGHTS BLVD ANCHORAGE AK

WATER-QUALITY DATA, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DATE	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	COLOR (PLATINUM-COBALT UNITS) (00080)	SPECIFIC CONDUCTANCE (US CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	CARBON DIOXIDE DISSOLVED (MG L AS CO2) (00405)	ALKALINITY WAT WH TOT FET FIELD MG L AS CACO3 (00410)
JUL 28...	61 11 45 N	149 57 36 W	9	9	96100140	140	106	7.0	6.7	34

15274770 - HOOD C AT NO LIGHTS BLVD ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DATE	BICARBONATE WATER WH FET FIELD MG L AS HCO3 (00440)	CARBONATE WATER WH FET FIELD MG L AS CO3 (00445)	NITROGEN, NITRATE DISSOLVED (MG L AS N) (00618)	PHOSPHATE, TOTAL (MG L AS PO4) (00650)	HARDNESS TOTAL (MG L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG L AS CACO3 (00902)	CALCIUM DISSOLVED (MG L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG L AS MG) (00925)	SODIUM, DISSOLVED (MG L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)
JUL											
28...	42	0	0.290	0.06	45	11	13	3.1	3.2	0.2	13

15274770 - HOOD C AT NO LIGHTS BLVD ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DATE	POTASSIUM, DISSOLVED (MG L AS K) (00935)	CHLORIDE, DISSOLVED (MG L AS CL) (00940)	SULFATE DISSOLVED (MG L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG L AS F) (00950)	SILICA, DISSOLVED (MG L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRATE DISSOLVED (MG L AS NO3) (71851)	MANGANESE (UG L AS MN) (71883)	IRON (UG L AS FE) (71885)
JUL										
28...	0.90	5.0	11	0.10	16	74	0.10	1.3	0	480

15274770 - HOOD C AT NO LIGHTS BLVD ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DATE	LATITUDE	LONGITUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	SPECIFIC CONDUCTANCE (US CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)
MAY									
31...	61 11 45 N	149 57 36 W	9	9	96700227	11.0	150	67	6.4

15274770 - HOOD C AT NO LIGHTS BLVD ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DATE	CARBON DIOXIDE DISSOLVED (MG L AS CO2) (00405)	ALKALINITY WAT WH TOT FET FIELD MG L AS CACO3 (00410)	BICARBONATE WATER WH FET FIELD MG L AS HCO3 (00440)	CARBONATE WATER WH FET FIELD MG L AS CO3 (00445)	NITROGEN, NITRATE DISSOLVED (MG L AS N) (00618)	HARDNESS TOTAL (MG L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG L AS CACO3 (00902)	CALCIUM DISSOLVED (MG L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG L AS MG) (00925)	SODIUM, DISSOLVED (MG L AS NA) (00930)
MAY										
31...	16	21	25	0	0.140	27	6	6.7	2.5	2.3

15274770 - HOOD C AT NO LIGHTS BLVD ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DATE	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG L AS K) (00935)	CHLORIDE, DISSOLVED (MG L AS CL) (00940)	SULFATE DISSOLVED (MG L AS SO4) (00945)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRATE DISSOLVED (MG L AS NO3) (71851)	IRON (UG L AS FE) (71885)
MAY									
31...	0.2	15	0.70	2.1	8.0	35	0.05	0.60	4500

15274770 - HOOD C AT NO LIGHTS BLVD ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
OCT 19...	1400	61 11 45 N	149 57 36 W	9	9	97100291	200	148	8.0

15274770 - HOOD C AT NO LIGHTS BLVD ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	CARBON DIOXIDE DIS-SOLVED (MG L AS CO2) (00405)	ALKA-LINITY WAT WH TOT FET FIELD MG L AS CACO3 (00410)	BICAR-BONATE WATER WH FET FIELD MG L AS HCO3 (00440)	CAR-BONATE WATER WH FET FIELD MG L AS CO3 (00445)	NITRO-GEN, NITRATE DIS-SOLVED (MG L AS N) (00618)	HARD-NESS TOTAL (MG L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG L AS CACO3 (00902)	CALCIUM DIS-SOLVED (MG L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG L AS MG) (00925)	SODIUM, DIS-SOLVED (MG L AS NA) (00930)
OCT 19...	1.1	57	69	0	1.00	67	10	16	6.5	5.0

15274770 - HOOD C AT NO LIGHTS BLVD ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG L AS CL) (00940)	SULFATE DIS-SOLVED (MG L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG L AS F) (00950)	SILICA, DIS-SOLVED (MG L AS SIO2) (00955)	ARSENIC DIS-SOLVED (UG L AS AS) (01000)	CADMIUM DIS-SOLVED (UG L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG L AS CR) (01030)
OCT 19...	0.3	14	1.2	6.2	4.6	0.10	13	0	<0	<0

15274770 - HOOD C AT NO LIGHTS BLVD ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	COBALT, DIS-SOLVED (UG L AS CO) (01035)	IRON, DIS-SOLVED (UG L AS FE) (01046)	LEAD, DIS-SOLVED (UG L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG L AS MN) (01056)	ZINC, DIS-SOLVED (UG L AS ZN) (01090)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRATE DIS-SOLVED (MG L AS NO3) (71851)	MERCURY DIS-SOLVED (UG L AS HG) (71890)
OCT 19...	3	5600	3	130	110	97	0.13	4.4	<0.5

610949150012000 - L CAMPBELL LK AT ANCHORAGE AK

WATER-QUALITY DATA, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	SAM-PLING DEPTH (FEET) (00003)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US CM) (00095)	CARBON, ORGANIC DIS-SOLVED (MG L AS C) (00681)
OCT 18...	1105	61 09 49 N	150 01 20 W	9	9	97400487	0.0	3.0	9	40	16

610949150012000 - L CAMPBELL LK AT ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US CM) (00095)	ALKA-LINITY WAT WH TOT FET FIELD MG L AS CACO3 (00410)
MAY										
27...	1000	61 09 49 N	150 01 20 W	9	9	97500597	8.5	5	38	9

610949150012000 - L CAMPBELL LK AT ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	BICAR-BONATE WATER WH FET FIELD MG L AS HCO3 (00440)	NITRO-GEN, TOTAL (MG L AS N) (00600)	NITRO-GEN, ORGANIC TOTAL (MG L AS N) (00605)	NITRO-GEN, AMMONIA TOTAL (MG L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG L AS N) (00620)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG L AS N) (00625)	NITRO-GEN, NO2+NO3 TOTAL (MG L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG L AS N) (00631)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG L AS PO4) (00660)	PHOS-PHORUS TOTAL (MG L AS P) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG L AS P) (00671)
MAY											
27...	11	0.90	0.71	0.070	0.120	0.78	0.120	0.110	0.0	0.010	<0.010

610949150012000 - L CAMPBELL LK AT ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	CARBON, ORGANIC TOTAL (MG L AS C) (00680)	HARD-NESS TOTAL (MG L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG L AS CACO3 (00902)	CALCIUM DIS-SOLVED (MG L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG L AS MG) (00925)	SODIUM, DIS-SOLVED (MG L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG L AS CL) (00940)	SULFATE DIS-SOLVED (MG L AS SO4) (00945)
MAY											
27...	4.1	9	0	2.1	0.80	2.4	0.4	31	2.6	3.6	2.0

610949150012000 - L CAMPBELL LK AT ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	FLUO-RIDE, DIS-SOLVED (MG L AS F) (00950)	SILICA, DIS-SOLVED (MG L AS SIO2) (00955)	BORON, TOTAL RECOV-ERABLE (UG L AS B) (01022)	IRON, DIS-SOLVED (UG L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, AMMONIA TOTAL (MG L AS NH4) (71845)	NITRO-GEN, TOTAL (MG L AS NO3) (71887)
MAY										
27...	0.10	<0.10	30	130	50	24	20	0.03	0.09	4.0

610949150012000 - L CAMPBELL LK AT ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	SAM-PLING DEPTH (FEET) (00003)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (JCU) (00070)	TRANS-PAR-ENCY (SECCHI DISK) (M) (00078)	COLOR (PLAT-INUM-COBALT UNITS) (00080)
OCT											
07...	0800	61 09 49 N	150 01 20 W	9	9	97600456	0.50	8.0	--	--	--
07...	0801	61 09 49 N	150 01 20 W	9	9	97600457	3.00	8.0	--	--	--
07...	0802	61 09 49 N	150 01 20 W	9	9	97600458	7.00	8.0	--	--	--
07...	0803	61 09 49 N	150 01 20 W	9	9	97600459	10.0	8.0	--	--	--
07...	0804	61 09 49 N	150 01 20 W	9	9	97600460	13.0	8.0	--	--	--
07...	1000	61 09 49 N	150 01 20 W	9	9	97600461	--	8.0	1	3.50	15

610949150012000 - L CAMPBELL LK AT ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SPECIFIC CONDUCTANCE (US CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	CARBON DIOXIDE DISSOLVED (MG L AS CO2) (00405)	ALKALINITY WAT WH TOT FET FIELD MG L AS CACO3 (00410)	BICARBONATE WATER WH FET FIELD MG L AS HCO3 (00440)	CARBONATE WATER WH FET FIELD MG L AS CO3 (00445)	NITROGEN, TOTAL (MG L AS N) (00600)	NITROGEN DISSOLVED (MG L AS N) (00602)	NITROGEN, ORGANIC TOTAL (MG L AS N) (00605)	NITROGEN, ORGANIC DISSOLVED (MG L AS N) (00607)	NITROGEN, AMMONIA DISSOLVED (MG L AS N) (00608)	NITROGEN, AMMONIA TOTAL (MG L AS N) (00610)
OCT												
07...	35	6.8	2.5	8	10	--	--	--	--	--	--	--
07...	35	6.7	2.9	7	9	--	--	--	--	--	--	--
07...	35	6.7	2.9	7	9	--	--	--	--	--	--	--
07...	35	6.8	2.3	7	9	--	--	--	--	--	--	--
07...	35	6.7	2.9	7	9	--	--	--	--	--	--	--
07...	35	6.7	2.9	7	9	0	1.0	1.0	0.77	0.85	0.020	0.040

610949150012000 - L CAMPBELL LK AT ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	NITROGEN, NITRATE TOTAL (MG L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC DIS. (MG L AS N) (00623)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG L AS N) (00625)	NITROGEN, NO2+NO3 TOTAL (MG L AS N) (00630)	NITROGEN, NO2+NO3 DISSOLVED (MG L AS N) (00631)	PHOSPHATE, ORTHO, DISSOLVED (MG L AS PO4) (00660)	PHOSPHORUS TOTAL (MG L AS P) (00665)	PHOSPHORUS DISSOLVED (MG L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG L AS P) (00671)	CARBON, ORGANIC TOTAL (MG L AS C) (00680)	HARDNESS TOTAL (MG L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG L AS CACO3 (00902)
OCT												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	0.190	0.87	0.81	0.190	0.160	0.0	0.020	0.010	<0.010	6.1	9	1

610949150012000 - L CAMPBELL LK AT ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	CALCIUM DISSOLVED (MG L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG L AS MG) (00925)	SODIUM, DISSOLVED (MG L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	SODIUM PERCENT (00932)	POTASSIUM, DISSOLVED (MG L AS K) (00935)	CHLORIDE, DISSOLVED (MG L AS CL) (00940)	SULFATE DISSOLVED (MG L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG L AS F) (00950)	SILICA, DISSOLVED (MG L AS SIO2) (00955)	ARSENIC TOTAL (UG L AS AS) (01002)	IRON, DISSOLVED (UG L AS FE) (01046)
OCT												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	2.0	0.90	1.9	0.3	26	2.4	3.4	2.6	0.10	0.10	<1	40

610949150012000 - L CAMPBELL LK AT ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	MANGANESE, DISSOLVED (UG L AS MN) (01056)	STREPTOCOCCI FECAL, (COLS. PER 100 ML) (31679)	CHLOROPHYLL A PHYTOPLANKTON, UNCORR. (UG L) (32230)	CHLOROPHYLL B PHYTOPLANKTON, UNCORR. (UG L) (32231)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, AMMONIA TOTAL (MG L AS NH4) (71845)	NITROGEN, AMMONIA DISSOLVED (MG L AS NH4) (71846)	NITROGEN, TOTAL (MG L AS NO3) (71887)	ALGAL GROWTH POTENTIAL, BOTTLE TEST (MG L) (85209)
OCT											
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
07...	<10	K6	0.00	0.00	29	19	0.04	0.05	0.03	4.4	1.2

611050149580700 - HOOD LK (S SHORE) NR ANCHORAGE AK

WATER-QUALITY DATA, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974

DATE	TIME	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	SAM-PLING DEPTH (FEET) (00003)	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US CM) (00095)	CARBON, ORGANIC DIS-SOLVED (MG L AS C) (00681)
OCT											
18...	0930	61 10 50 N	149 58 07 W	9	9	97400517	0.0	3.5	20	180	12

611132149575900 - JONES LK NR SPENARD AK

WATER-QUALITY DATA, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DATE	LAT-I-TUDE	LONG-I-TUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	TEMPER-ATURE WATER (DEG C) (00010)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	CARBON DIOXIDE DIS-SOLVED (MG L AS CO2) (00405)
NOV										
18...	61 11 32 N	149 57 59 W	9	9	96700681	3.0	5	59	6.8	3.5

611132149575900 - JONES LK NR SPENARD AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DATE	ALKA-LINITY WAT WH TOT FET FIELD MG L AS CACO3 (00410)	BICAR-BONATE WATER WH FET FIELD MG L AS HCO3 (00440)	CAR-BONATE WATER WH FET FIELD MG L AS CO3 (00445)	NITRO-GEN, NITRATE DIS-SOLVED (MG L AS N) (00618)	HARD-NESS TOTAL (MG L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG L AS CACO3 (00902)	CALCIUM DIS-SOLVED (MG L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG L AS MG) (00925)	SODIUM, DIS-SOLVED (MG L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)
NOV										
18...	11	14	0	0.090	21	10	4.4	2.4	2.9	0.3

611132149575900 - JONES LK NR SPENARD AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DATE	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG L AS CL) (00940)	SULFATE DIS-SOLVED (MG L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG L AS F) (00950)	SILICA, DIS-SOLVED (MG L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, NITRATE DIS-SOLVED (MG L AS NO3) (71851)	IRON (UG L AS FE) (71885)
NOV										
18...	23	0.40	6.0	1.0	0.20	15	40	0.05	0.40	960