Overview of Environmental and Hydrogeologic Conditions at Anchorage Air Route Traffic Control Center, Alaska

By Michael G. Alcorn and Joseph M. Dorava

U.S. GEOLOGICAL SURVEY

Open-File Report 95-409

Prepared in cooperation with the

FEDERAL AVIATION ADMINISTRATION

Anchorage, Alaska
1995

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CONVERSION FACTORS

Multiply	By	To obtain
millimeter (mm)	0.03937	inch
meter (m)	3.281	foot
kilometer (km)	0.6214	mile
square kilometer (km^2)	0.3861	square mile
liter (L)	0.2642	gallon
liter per day (L/d)	0.2642	gallon per day
hectare	2.471	acre
cubic meter per second (m^3/s)	35.31	cubic foot per second

In this report, temperature is reported in degrees Celsius (C), which can be converted to degrees Fahrenheit (F) by the following equation:

$$°F = 1.8\ (°C) + 32$$

ABBREVIATED WATER-QUALITY UNITS

Chemical concentration and water temperature are given only in metric units. Chemical concentration in water is given in milligrams per liter (mg/L) or micrograms per liter (µg/L). Milligrams per liter is a unit expressing the solute mass per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. For concentrations less than 7,000 milligrams per liter, the numerical value is about the same as for concentrations in parts per million. Specific conductance is given in microsiemens per centimeter (µS/cm) at 25°C.

VERTICAL DATUM

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 the United States and Canada, formerly called Sea Level Datum of 1929.

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Abstract

The Federal Aviation Administration is making environmental assessments at most of its present or former facilities in Alaska. The Anchorage Air Route Traffic Control Center is a Federal Aviation Administration facility on Elmendorf Air Force Base near the city of Anchorage, Alaska. The area is underlain by unconsolidated glacial, alluvial, and estuarine sediments of Quaternary ageand weakly consolidated sedimentary rocks of Tertiary age. Ground water is available from both unconfined and confined aquifers. Wetland plants and upland spruce hardwood forest characterize the vegetation. The Anchorage Air Route Traffic Control Center has a transitional climate influenced by both maritime and continental conditions. Surface water is abundant in the area. Ship Creek flows from northeast to southwest, within 1 kilometer and downslope from the Anchorage Air Route Traffic Control Center.

INTRODUCTION

The Federal Aviation Administration (FAA) owns and (or) operates airway support and navigational facilities throughout Alaska. Fuels and other potentially hazardous materials such as solvents, polychlorinated biphenyls, and pesticides may have been used or disposed of at many of these sites. To determine if environmentally hazardous substances have been spilled or disposed of at any of these sites, the FAA is conducting environmental studies mandated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA). To complete these more comprehensive environmental studies, the FAA requires information on the hydrology and geology of areas at and surrounding the facilities. This report is a compilation, review, and summary of existing hydrologic and geologic data at the Anchorage Air Route Traffic Control Center, Alaska. Also presented in this report is a brief description of the history and physical setting of the region surrounding the Anchorage Air Route Traffic Control Center.

BACKGROUND

Location

Anchorage is in south-central Alaska (fig. 1) and has a population of about 240,000, which is about 50 percent of the total state population (Alaska Department of Community and Regional

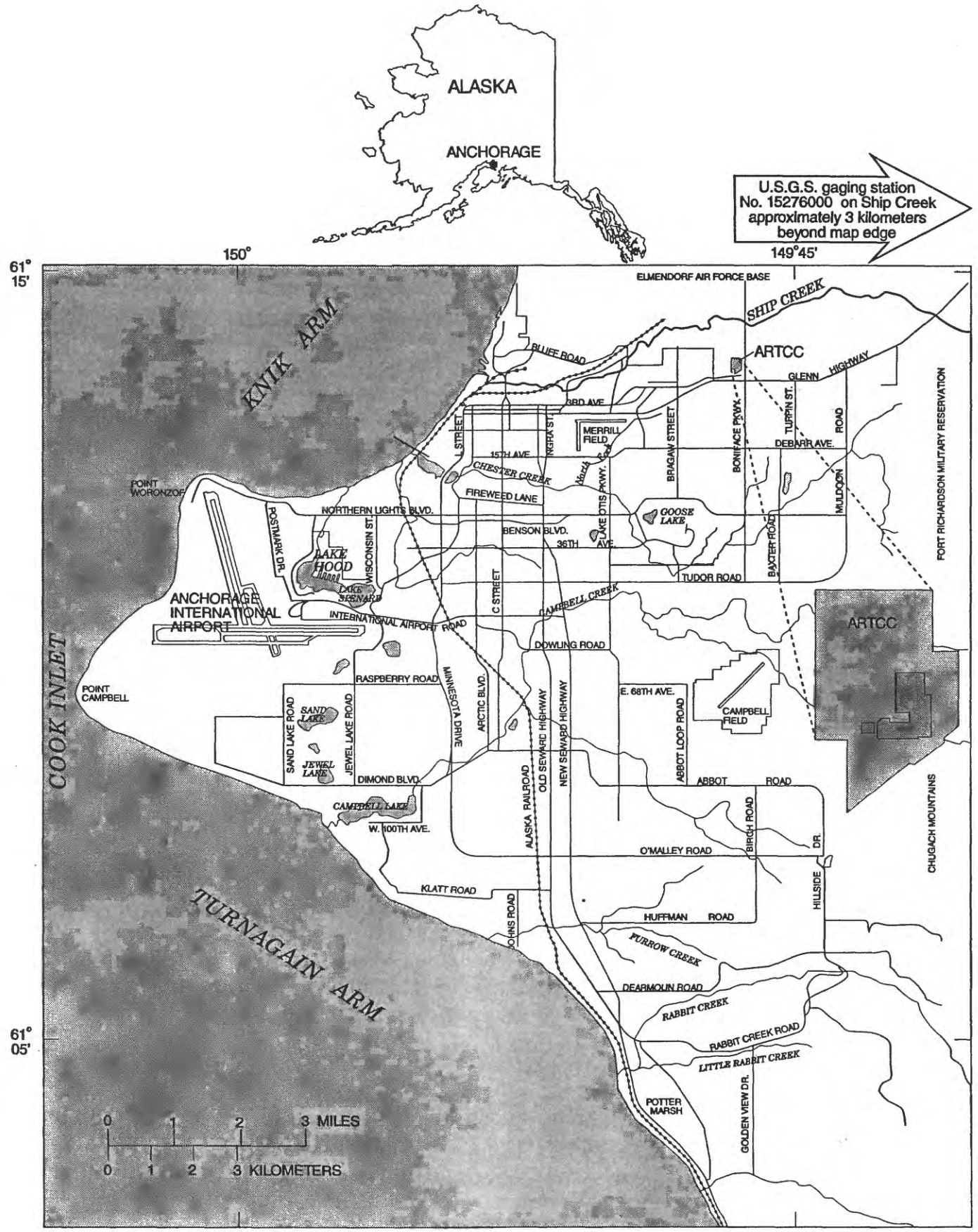

Figure 1. Location of Anchorage Air Route Traffic Control Center (ARTCC) Anchorage, Alaska.

Affairs, 1993). The area is known locally as the "Anchorage Bowl," a relatively flat to gently sloping outwash plain that covers approximately 470 km^2. The Anchorage Bowl 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. The Anchorage Air Route Traffic Control Center (ARTCC) is near northeast Anchorage, on Elmendorf Air Force Base (AFB) near lat 61°14'N., long 149° 46'W (fig. 1). The ARTCC facility is at an elevation of about 58 m.

History and Facility Description

Construction of the Anchorage ARTCC facilities began in 1967 on land leased from the U.S. Air Force. The purpose of the Anchorage ARTCC is to monitor and direct air traffic between airports throughout Alaska and in polar routes. About 350 personnel work at the Anchorage ARTCC. It is surrounded by developed land to the south and west and currently undeveloped land on Elmendorf AFB to the north and east. Historically, some areas on Elmendorf AFB were used for waste disposal and are currently under investigation by the Air Force for environmental hazards. Further details and current status are described in the Elmendorf AFB OU 6 Remedial Investigation Report, and map of CERCLA sites at Elmendorf AFB (U.S. Air Force, 1995a, 1994a). A detailed description of Anchorage ARTCC and an investigation of potential sources of contamination are included in an environmental compliance investigation report by Ecology and Environment (1992).

The Anchorage ARTCC has two wells: both are used as backups for the facility's equipment cooling system. Both wells were installed in 1967 and are screened in a confined aquifer between about 49 and 53 m below ground surface (Appendix 1). The ARTCC's communication receivers and transmitters produce a large amount of waste heat and must remain in operation continuously. This backup cooling system works by withdrawing cool ground water from one well, circulating it through a network of cooling pipes and coils, and then reinjecting the warmed water into the other well. The extraction well is located inside the service wing of the ARTCC, and the injection well is located outside near the cooling towers in the southwest portion of the property. The ARTCC's primary cooling system is a closed-loop mechanical refrigeration system that went online in 1994. Water withdrawal ended in March 1995 (Mary Maurer, Alaska Department of Natural Resources, oral commun., 1995).

PHYSICAL SETTING

Climate

Anchorage is in a transitional climate zone, influenced by maritime effects of Cook Inlet and continental effects of the surrounding mountains and interior of Alaska. 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). The mean annual temperature recorded at Elmendorf AFB is 1.7°C, but temperatures range from a July mean maximum of 18.1°C to a January mean minimum of -14.9°C. Precipitation increases with increasing elevation eastward toward the Chugach Mountains (Patrick and others, 1989). Mean annual precipitation is about 400 mm and mean annual snowfall is about 1,790 mm (Leslie, 1989). The months of greatest rainfall are July through October. Mean monthly and annual temperature, precipitation, and snowfall for the weather station at Elmendorf Air Force Base are summarized in table 1.

Table 1. Mean monthly and annual temperature, precipitation, and snowfall, Elmendorf AFB, Alaska, for the period 1941 to 1987

[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	-7.1	-3.9	0.1	6.1	12.4	16.4	18.1	17.3	12.7	4.4	-2.6	-6.6	5.6
	(Record maximum 30.0 °C, June 1969)												
Mean minimum	-14.9	-12.5	-8.9	-2.3	3.7	8.4	10.8	9.5	5.2	-2.1	-9.4	-13.9	-2.2
	(Record minimum -41.7 °C, Feb., 1947)												
Mean	-10.9	-8.2	-4.4	1.9	8.1	12.4	14.4	13.4	8.9	1.2	-6.0	-10.2	1.7
						Precipitation, in millimeters of moisture							
	24	23	19	16	15	28	54	59	61	42	30	33	Total 404
						Snowfall, in millimeters							
	267	279	221	135	10	0	0	0	5	188	287	396	Total 1788

Vegetation

The ground cover at the Anchorage ARTCC is about 80 percent pavement and buildings, with the remainder being gravel and sown grass. The vegetation near the Anchorage ARTCC consists of wetland plants and upland spruce hardwood forest (Selkregg, 1976). Two wetland areas are found within 500 m of the ARTCC facility: one to the northeast covers about 8 hectares and the other to the northwest covers about 16 hectares (Ecology and Environment, 1992). Wetland areas are interspersed with stands of black spruce, tamarack, paper birch, willows, sedges and grasses (Selkregg, 1976; Viereck and Little, 1972). Upland spruce hardwood forest bounds the ARTCC facility to the north and is also found across the Boniface Parkway to the east and intermittently to the south and west. The forest is a dense, mixed forest composed of white spruce, Alaska paper birch, quaking aspen, black cottonwood, and balsam poplar (Selkregg, 1976). Developed residential areas are found to the south and west.

Geology

The Anchorage Bowl is underlain by unconsolidated sediments of Quaternary age, weakly lithified sedimentary rocks of Tertiary age, and metamorphic rocks of Cretaceous/Jurassic age (Clark and others, 1976). Figure 2 is a generalization of the area south of the ARTCC, and shows the hydrogeologic system at the ARTCC. The unconsolidated deposits beneath the Anchorage ARTCC generally consist of interlayered alluvial, glacial, and estuarine sediments. The alluvial and glacial sediments consist primarily of sands and gravels. The estuarine deposits are composed of clayey silt and silty clay with thin layers of interbedded sand (Ulery and Updike, 1983;

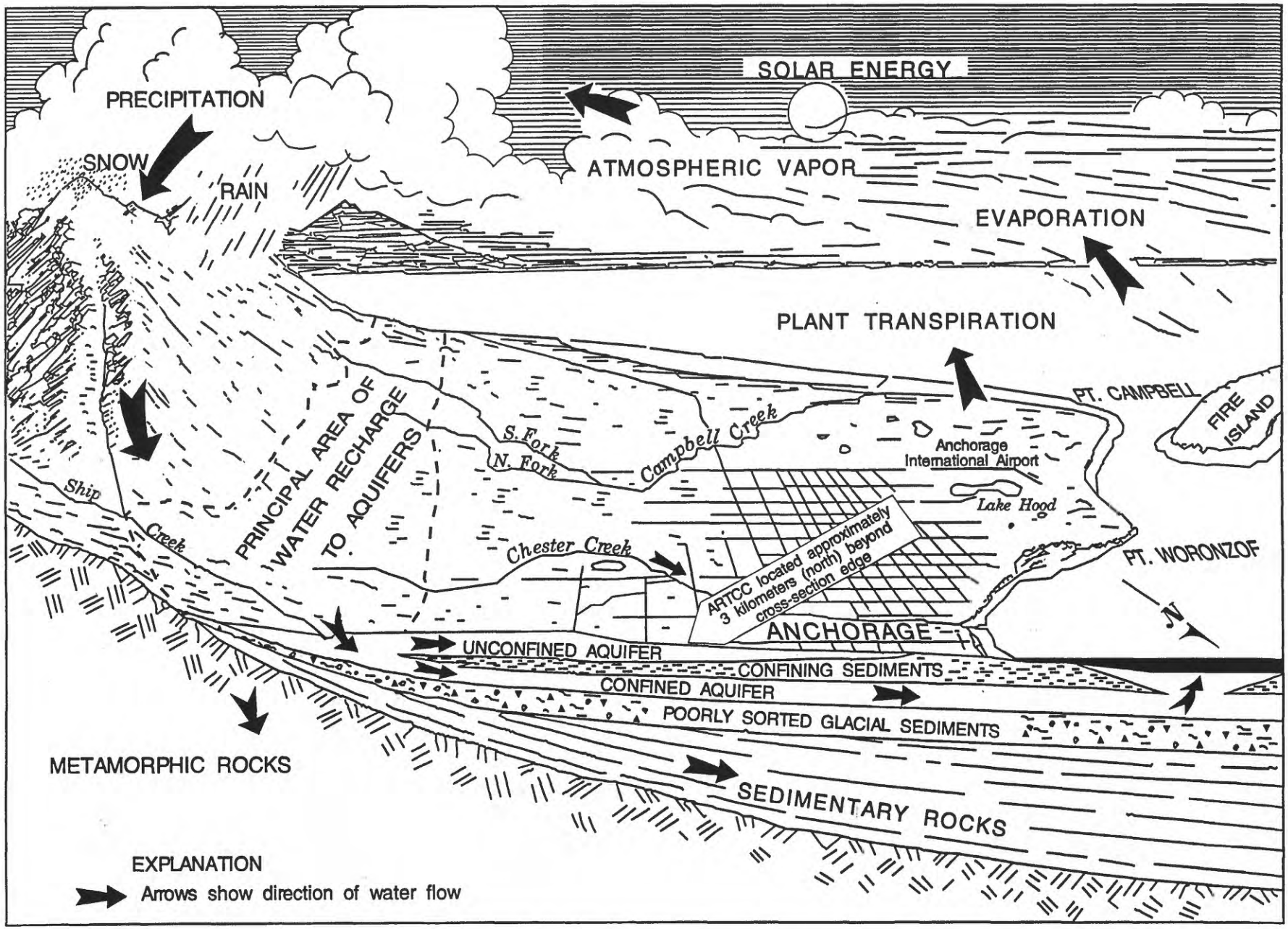

Figure 2. Generalized geology and the hydrologic cycle in the Anchorage Bowl, Alaska (modified from Barnwell and others, 1972).

Cederstrom and others, 1964). The unconsolidated deposits thicken from less than a few meters adjacent to the Chugach Mountains to about 300 m beneath the western part of the Anchorage Bowl (Freethey and Scully, 1980). Based on driller's logs for nearby wells, the unconsolidated deposits are approximately 140 m thick under the ARTCC (Appendix 1). The general sequence of the sediments for the Anchorage Bowl and the ARTCC site is from the top: sand and gravel, clay, till deposits, and sand and gravel (Appendix 1; Schmoll and Barnwell, 1984).

Bedrock near the ARTCC consists of weakly consolidated siltstone, claystone, and sandstone. Deeper underlying rocks are metamorphic sandstones, siltstones, and volcanic rocks that are exposed in the Chugach Mountains (Schmoll and Barnwell, 1984).

HYDROLOGY

Surface Water

Major surface-water bodies near the Anchorage ARTCC include Ship Creek, Knik Arm of Cook Inlet, and wetland areas located northwest and northeast of the facility. Most overland flow of water in the developed area surrounding the ARTCC has been engineered to flow into the city's storm drainage system. About 43 percent of the annual precipitation falls during the months of July, August, and September (table 1), causing significant increases in stream discharge. Additionally, snow that accumulates in the nearby Chugach Mountains during the winter melts during the spring and summer, producing a snowmelt period of sustained above-average discharge in May and June.

Ship Creek is about 900 m north of the ARTCC and at an elevation of about 52 m, which is 6 m below the ARTCC facility. Ship Creek has its headwaters in the Chugach Mountains and discharges into the Knik Arm. It has a drainage area of nearly 200 km^2 and traverses a total of about 16 km of alluvial gravel and glacial outwash deposits in the Anchorage Bowl (Weeks, 1970; Still and Cosby, 1989). Ship Creek has deposited an alluvial fan at the foot of the Chugach Mountains. East of the Anchorage ARTCC, Ship Creek has been shown to be a "losing stream," meaning stream water is lost to the aquifer. In the reach just north and west of the Anchorage ARTCC, Ship Creek is a "gaining stream," receiving water from the ground-water system (Weeks, 1970). The dividing line from losing to gaining reach is where Ship Creek crosses Davis Highway, which is about 600 m north of the ARTCC (Freethey, 1976). Davis Highway is an extension of Boniface Parkway inside Elmendorf AFB.

Weeks (1970) estimated that infiltration of both precipitation and streamflow from Ship Creek through this alluvial fan provides about one-fourth of the total recharge to a confined aquifer system which underlies Anchorage. The mean annual discharge of Ship Creek at gaging station 15276000 at the foothills of the Chugach Mountains and about 9 km upstream from the ARTCC, is about 4 m^3/s (table 2; U.S. Geological Survey, 1995). Typically, the maximum mean monthly discharge occurs in June and is about 13 m^3/s, while the minimum mean monthly discharge occurs in March and is about 0.04 m^3/s. The highest recorded instantaneous peak discharge was 59.5 m^3/s and occurred on August 27, 1989. Water from the upper reach of Ship Creek is withdrawn for the Municipal water supply, Elmendorf AFB, and Fort Richardson. The lower reach is used for cooling water for power plants, fish hatcheries, and recreational purposes such as fishing.

Table 2. Mean monthly, and maximum and minimum monthly mean discharges at stream-gaging station 15276000, Ship Creek near Anchorage, Alaska, for water years 1947-94

[Values in cubic meters per second (m^3/s)]

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Annual
Mean	4.4	2.2	1.3	0.9	0.6	0.4	0.7	4.6	13.1	8.9	6.1	6.1	4.1
Maximum monthly mean	10.4	5.0	3.0	2.2	1.5	1.2	2.0	13.9	22.6	18.3	14.4	13.3	--
Minimum monthly mean	1.4	0.7	0.4	0.2	0.2	0.04	0.1	1.1	6.3	3.6	2.4	1.6	--
Highest instantaneous peak discharge, 59.5 (August 27, 1989)													

More than 30 lakes are within 15 km of the Anchorage ARTCC. Most lakes in the area were formed by glacial processes, including deposition of morainal dams, glacial scouring, slowly melting remnant ice blocks, and from surficial thaw of permafrost.

Topographic gradients at the ARTCC are less than 1 percent (Ecology and Environment, 1992) and surface runoff from buildings and paved areas has been engineered to flow into storm drains and drainage ditches located on the property. The storm drains direct water into dry wells that allow the water to infiltrate into the ground. A portion of the parking lot runoff drains to the parking lot edges where it infiltrates into the ground.

Ground Water

Unconsolidated deposits underlying Anchorage ARTCC form two principal aquifers in the area: an unconfined aquifer and a confined aquifer (fig. 2). The upper unconfined aquifer is composed primarily of sand and gravel and is about 19 m thick. A confining layer, approximately 6 m thick, is composed of silt and clay and separates the unconfined and confined aquifers. The confined aquifer consists of sand and gravel interbedded with silt and clay and is approximately 110 m thick (Appendix 1).

The water in the confined aquifer is under pressure that causes water in wells screened in the aquifer to rise to levels above the confining bed. Well-log data show that the water level in the ARTCC supply well screened in the confined aquifer is only 1.4 m below ground surface. Water levels in the unconfined aquifer in monitoring wells on Elmendorf AFB ranged from 2.4 to 10 m below ground surface within 1 km of the ARTCC (U.S. Air Force, 1994b).

Water levels in the unconfined aquifer in the Anchorage Bowl generally range from 7 to 75 m below the surface (Barnwell and others, 1972). Ground-water mapping on Elmendorf AFB has shown that the flow rate and direction of the unconfined aquifer are about 90 m/year in a due west direction (U.S. Air Force, 1995a, 1994b).

Permafrost can restrict ground-water flow in many areas of Alaska. The area around the Anchorage ARTCC is generally free of permafrost (Ferrians, 1965); however, a layer of permafrost was recently encountered while drilling ground-water monitoring wells on Elmendorf AFB (Lisa M. Alcorn, Environmental Engineer, Elmendorf Air Force Base, oral commun., 1995). Relict

permafrost beneath the ARTCC is unlikely and was not identified by the drillers when the wells at the ARTCC were installed.

Floods and Hydrologic Hazards

Flooding of the Anchorage ARTCC by Ship Creek or other streams is unlikely because of adequate site drainage and distance from the streams. The ARTCC facility is more than 300 m from and about 5 m above Ship Creek's 100-year flood limit (Appendix 2; U.S. Army Corps of Engineers, 1980). Minor site flooding may occur from spring snowmelt and from heavy local rainfall; however, existing storm drains and dry wells usually handle the flows.

The ARTCC facility will not likely be affected by short-term (100 years or less) channel lateral migration of Ship Creek towards the south due to the facility's distance from the creek. Changes in the upstream or downstream channel or inflow characteristics could affect the stream's reach near the ARTCC, but short-term changes are not likely to affect the ARTCC facility. Evidence of previous migration of Ship Creek can be seen in the stream's cut banks and point bars in the meander bends, as well as by abandoned channels that are found in the reach just north of the ARTCC site. Thus, some long-term changes in stream location are likely.

Drinking Water Sources

The primary drinking-water source for most domestic, industrial, and commercial uses in the Anchorage ARTCC area, including the ARTCC, is supplied by the Anchorage Water and Wastewater Utility (AWWU), which obtains water from two surface water sources—Eklutna Lake and Ship Creek —and from wells throughout the city (Anchorage Water and Wastewater Utility, 1993). Water from Ship Creek is withdrawn at a dam located at the mouth of a canyon on the edge of the Chugach Mountains about 8 km east and 105 m higher in elevation than the ARTCC. In 1994, Ship Creek supplied a combined average of 51.0 million L/d for AWWU, Fort Richardson, and Elmendorf AFB (Anchorage Water and Wastewater Utility, 1994). Ship Creek has a production capacity of an estimated 90.8 million L/d (Anchorage Water and Wastewater Utility, 1993). Eklutna Lake is about 20 km northeast of the ARTCC and supplied about 39.0 million L/d in 1994. The lake has a production capacity of 133 million L/d (Anchorage Water and Wastewater Utility, 1993). The AWWU owns 19 wells: 13 are used intermittently to meet peak demands and 6 are pumped for maintenance purposes. In 1994, ground water provided an average of 22.3 million L/d to the city's water system (Anchorage Water and Wastewater Utility, 1994). The AWWU groundwater supply wells have an estimated production capacity of 89.3 million L/d (Anchorage Water and Wastewater Utility, 1993). The average water withdrawn in 1994 from the confined aquifer from the ARTCC cooling well was 100,000 L/d (Mary Maurer, Alaska Department of Natural Resources, written commun., 1995). The estimated average water used for commercial users in Alaska is about 125 L/d per person (Solley and others, 1993). Applying this usage rate to the approximately 350 workers at the ARTCC yields a consumption rate of about 44,000 L/d, all of which is provided by the Municipality of Anchorage.

AWWU is a dependable supply of high-quality drinking water; alternative sources are unlikely to be considered. In the unlikely event that alternative sources should be considered, the best alternative drinking-water source for the ARTCC is the confined aquifer. Water-quality studies by Elmendorf AFB have shown this aquifer to be generally free of external contamination and of good quality (U.S. Air Force, 1995b). Appendix 3 contains water-quality data from drinking-water wells on Elmendorf AFB.

Ship Creek would not likely be used as an alternative source of drinking water because it is currently fully appropriated and some treatment would be necessary due to natural contaminants found in any surface water system, as well as probable anthropogenic sources on Elmendorf AFB. The latter could include leachate from long-ago buried refuse and present day runoff from airfield operations. Recent and historical water-quality data for Ship Creek are in Appendix 3.

Numerous fresh-water lakes near the Anchorage ARTCC may contain potable water; however, larger lakes in the Anchorage ARTCC area are used primarily for recreation and transportation and may be too far away to be economically utilized as an alternative source of drinking water (fig. 1). Furthermore, these lakes are tied directly into the surface-and subsurface-water flow, so any problems with surrounding ground water or surface water would have to be dealt with in the lakes as well.

The unconfined aquifer is a less-desirable alternative drinking-water source. Ground water and soil testing have detected fuels, solvents, lead, antimony, and arsenic at a previous waste disposal site located 200 m north of the ARTCC (U.S. Air Force, 1995a). In 1994, Elmendorf AFB prohibited ground-water withdrawals from the unconfined aquifer for drinking water.

SUMMARY

The Anchorage Air Route Traffic Control Center is near the northern edge of the City of Anchorage on Elmendorf Air Force Base. It is underlain by thick sequences of sand, gravel, and clay that make up an unconfined and a confined aquifer. Ground-water-flow direction under the ARTCC is due west. Depth to the potentiometric surface in the confined aquifer below the ARTCC was measured to be 1.4 m. The ARTCC gets its drinking water from the Anchorage Water and Wastewater Utility, which draws water from two surface-water sources and from wells located throughout the city. This is a dependable and high-quality source. An alternative drinking-water source is ground water from the lower confined aquifer. Hydrologic hazards to the ARTCC facility are slight.

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APPENDIX 1

Well inventory and selected well schedules in the Anchorage ARTCC area

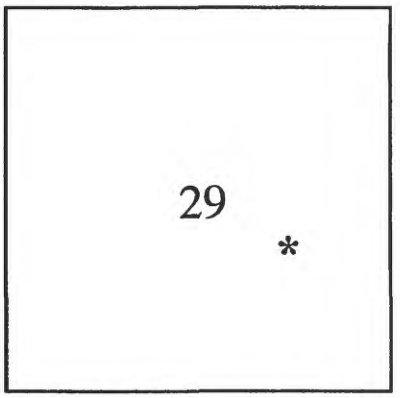
EXPLANATION OF LOCAL NUMBER

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:

B	A
C	D

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.

T. 12 N.



SB01200329DBAD1 016

Wells near the ARTCC

Local Well Number	Date Well Constructed	Primary Use of Well	Owner	Depth of well (m)	Static Water Level (m)	Date Water Level Measured	Type of Log Available
SB01300303DABC1 001	05-05-43	unused	USAF ELMENDORF	23.0	--	04-20-65	--
SB01300302CACD1 002	05-10-73	unused	USAF ELMENDORF	16.3	11.5	05-22-73	drillers
SB01300303CACC1 004	01-01-62	public supply	USAF ELMENDORF	68.6	--	01-01-62	drillers
SB01300302CCAA1 003	05-11-73	unused	USAF ELMENDORF	4.1	2.5	05-22-73	drillers
SB01300302CCBC1 005	05-16-73	unused	USAF ELMENDORF	14.8	10.5	05-22-73	drillers
SB01300303DCAD1 002	05-13-43	unused	USAF ELMENDORF	21.6	--	03-05-58	--
SB01300302CCDA1 004	05-16-73	unused	USAF ELMENDORF	6.9	4.0	05-22-73	drillers
SB01300302DDCC1 001	04-28-69	unused	USGS EAFBHOSP	8.2	--	--	drillers
SB01300310AAAA1 030	01-01-67	unused	USGS ANCHORAG	12.5	--	05-14-69	--
SB01300310ABBA1 003	--	public supply	USAF ELMENDORF	4.9	--	04-20-65	--
SB01300310BABC1 031	07-28-75	unused	ADF&G ANCHORAG	12.0	--	08-15-75	drillers
SB01300310BACB2 019	05-25-69	unused	USGS ANCHORGE	8.2	--	09-01-69	drillers
SB01300311ADAB1 004	07-19-62	recharge	USAF ELMENDORF	48.5	9.8	07-19-62	drillers
SB01300311BDCB2 001	05-06-69	unused	USGS RECH W-5	15.8	--	05-07-69	drillers
SB01300311BCCA1 002	08-23-52	public supply	USAF ELMENDORF	47.9	--	08-23-52	photo
SB01300311BDCB1 001	11-06-52	unused	USGS ANCHORAGE	188	23.0	04-15-65	drillers
--	--	--	--	--	--	--	gamma ray
--	--	--	--	--	--	--	neutron
--	--	--	--	--	--	--	gamma-gamma
SB01300310BDDA1 020	06-09-69	unused	USGS ANCHORGE	20.4	8.7	06-09-69	drillers

Local Well Number	Date Well Constructed	Primary Use of Well	Owner	Depth of well (m)	Static Water Level (m)	Date Water Level Measured	Type of Log Available
SB01300310DBDC1 001	--	unused	USAF ELMENDORF	16.0	--	07-06-60	drillers
SB01300310CAAD1 046	08-01-50	domestic	LAMBERT N H	10.3	9.7	10-09-50	drillers
SB01300310CAAC1 045	--	domestic	BOYD BETTY	15.5	--	10-29-54	drillers
SB01300311BCDA1 005	01-01-52	fire	USDA FOREST S	--	--	--	--
SB01300310BACB1 019	05-28-69	unused	USGS ANCHORGE	25.0	--	--	drillers
SB01300310AABD1 023	08-07-69	unused	USGS ANCHORAGE	10.0	1.3	08-07-69	drillers
SB01300310AAAD1 022	08-04-69	unused	USGS ANCHORGE	9.8	--	--	drillers
SB01300303ADCC1 006	05-05-43	unused	USAF ELMENDORF	--	11.6	--	--
SB01300302DDCC2 001	04-29-69	unused	USGS EAFB	24.0	--	05-07-69	drillers
SB01300310BABB1 037	08-12-75	unused	ADF&G ELMENDRF	14.0	--	08-15-75	drillers
SB01300310BABA1 039	08-13-75	unused	ADF&G ELMENDRF	13.0	--	08-15-75	drillers
SB01300310BABD1 034	08-04-75	unused	ADF&G ELMENDRF	16.0	--	08-15-75	drillers
SB01300310BABB2 037	08-13-75	unused	ADF&G ELMNDRF	14.0	--	08-15-75	drillers
SB01300310BABC2 031	07-31-75	unused	ADF&G ELMENDRF	18.0	--	08-15-75	drillers
SB01300310BABC3 031	10-10-75	unused	ADF&G ELMENDRF	12.0	0.6	10-10-75	drillers
SB01300310BABC4 031	08-11-75	unused	ADF&G ELMENDRF	13.0	--	08-15-75	drillers
SB01300310ABCA1 040	08-13-75	unused	ADF&G ELMENDRF	18.0	--	--	drillers
SB01300310BACA1 032	07-31-75	unused	ADF&G ELMENDRF	16.0	--	08-15-75	drillers
SB01300310BACA2 032	08-01-75	unused	ADF&G ELMENDRF	17.0	--	08-15-75	drillers
SB01300310BACA3 032	08-11-75	unused	ADF&G ELMENDRF	14.0	--	08-15-75	drillers
SB01300310BADA1 029	09-25-69	unused	USGS ANCHORAGE	14.0	1.0	09-01-69	drillers
SB01300310BBDD1 026	09-19-69	unused	USGS ANCHORAG	18.0	0.6	09-19-69	drillers

Local Well Number	Date Well Constructed	Primary Use of Well	Owner	Depth of well (m)	Static Water Level (m)	Date Water Level Measured	Type of Log Available
SB01300310ACBA1 041	08-14-75	unused	ADF&G ELMENDRF	17.0	--	--	drillers
SB01300310BCAD1 025	09-01-69	unused	USGS ANCHORAG	20.0	--	09-01-69	drillers
SB01300310BCDA1 024	09-18-67	unused	USGS ANCHORAG	13.0	0.9	09-18-69	drillers
SB01300310DACC1 016	05-01-67	recharge	FAA ANCHORAG	52.0	2.0	07-19-67	drillers
--	--	--	--	--	1.7	--	gamma ray
--	--	--	--	--	--	--	neutron
--	--	--	--	--	--	--	gamma-gamma
SB01300310DACC2 016	06-14-67	supply	FAA ANCHORAG	50.0	--	--	drillers
--	--	--	--	--	--	--	gamma ray
--	--	--	--	--	--	--	neutron
--	--	--	--	--	--	--	gamma-gamma

13-3-10-16

LOCAL NO. SB 13-3-10 DACS 1-16
SITE ID 6113431494655 01

CLEMENSON DRILLING 344-1422
Star Route A Box 1551
Anchorage, Alaska

SUBSURFACE EXPLORATION
Shift Report of Operations

1. LOCATION FAA PROJECT ARTCC HOLE NO. 1
2. TYPE OF EXPLORATION Production Well
3. CONTRACTOR _____ EQUIPMENT NAME _____
4. CONTRACT NO. _____
5. SURFACE ELEVATION _____ WEATHER _____
DEPTH-BEGIN SHIFT _____ DEPTH-END SHIFT _____ DEPTH DRILLED _____
6. PERMAFROST ENCOUNTERED: FROM _____ TO _____
7. WATER LEVEL _____ DATE & SHIFT May 1967

8. TIME DISTRIBUTION HOURS

DRILLER		CHURN DRILL	FISHING
		TRUCK	REPAIRS
HELPER		DRILLING	STANDBY
		PULL CASING	WELDING
		MOVING	PUMPING
		OTHER	OTHER
		OTHER	OTHER
		OTHER	OTHER

SUMMARY COLUMN

9. CASING LOG

NO.	LENGTH	TOTAL LENGTH

10. SOILS LOG

SAMPLE NO.	DEPTHS FROM	DEPTHS TO	TYPE SAMPLE	MATERIALS AND REMARKS
				0'-37' Sand & Gravel
				37'-43' Sand & Gravel. 4 Cal. 4 H20
				43'-45' Sand & Gravel. 4 Clay-dry
				45' 55' Sand & Gravel 4 H20 fine sand
				55'-62' Gravel 4 H20 Static level 33' in 8 min
				62'-69' Gravelly brown till hard
				69'-82' Sandy blue clay soft open hole
				82'-137' Silty sand
				137'-156'6" Gravelly till Med hard Blue
				156'6"-157' brown clay
				157'-172' sand & gravel 4 H20
				Installed 125 slot Johnson Everstuc screen @ 162'-172'
				Pumped 440 gpm @ 49' Static 6'6"

DRILLER _____ INSPECTOR _____

LOCAL NO. SB13-3-10 DACC 2-16
SITE ID 611343 1494657 01

13-3-10-17
DI 4-1257

CLEMENSON DRILLING
Box 4-503
Spenard, Alaska

SUBSURFACE EXPLORATION
Shift Report of Operations

1. LOCATION FAA PROJECT ARTCC HOLE NO. 2
2. TYPE OF EXPLORATION Re-Charge 10"- Well
3. CONTRACTOR Clemenson EQUIPMENT NAME Bucyrus Erie 22-W
4. CONTRACT NO.
5. SURFACE ELEVATION WEATHER
   DEPTH-BEGIN SHIFT DEPTH-END SHIFT DEPTH DRILLED 180'
6. PERMAFROST ENCOUNTERED: FROM TO
7. WATER LEVEL DATE & SHIFT 6/14/67

8. TIME DISTRIBUTION HOURS

DRILLER	CHURN DRILL	FISHING	
	TRUCK	REPAIRS	
HELPER	DRILLING	STANDBY	
	PULL CASING	WELDING	
	MOVING	PUMPING	
	OTHER	OTHER	
	OTHER	OTHER	
	OTHER	OTHER	

SUMMARY COLUMN

9. CASING LOG

NO.	LENGTH	TOTAL LENGTH
Johnson Stainless steel set @ 162½'	Recommends screen	to 175'

10. SOILS LOG

SAMPLE NO.	DEPTHS FROM	DEPTHS TO	TYPE SAMPLE	MATERIALS AND REMARKS
	250 slot	to be		0'-30' sand & gravel
				30'-60' sand & gravel & H20
				60'-80' blue clay & gravel (dry)
				80'-85' silty sand @ 85'
				85'-86' sand & gravel & H20
				86'-137' heaving sand - silt
				137'-144' gravelly till Mid hard
				144'-149' Gravelly till - soft Open hole 5'
				149'-150' gravel & H20
				150'-162' gravelly blue clay & ~~[illegible]~~ layers of gravel & H20 very soft
				162'-165' gravel & H20 lesser amount of clay
				165'-175' clean coarse gravel & H20
				175'-176' brown sand - fine & H20
				176'-180' brown sand fine & H20

DRILLER INSPECTOR

LOCAL NO. SB 13-3-16 DACC 1-16
SITE ID 611343 1494655 01

13-3-10-16

CLEMENSON DRILLING

344-1422

Star Route A Box 1551
Anchorage, Alaska

SUBSURFACE EXPLORATION
Shift Report of Operations

1. LOCATION FAA PROJECT ARTCC HOLE NO. 1
2. TYPE OF EXPLORATION Production Well
3. CONTRACTOR EQUIPMENT NAME
4. CONTRACT NO.
5. SURFACE ELEVATION WEATHER
DEPTH-BEGIN SHIFT DEPTH-END SHIFT DEPTH DRILLED
6. PERMAFROST ENCOUNTERED: FROM TO
7. WATER LEVEL DATE & SHIFT May 1967

8. TIME DISTRIBUTION HOURS

DRILLER		CHURN DRILL		FISHING	
		TRUCK		REPAIRS	
HELPER		DRILLING		STANDBY	
		PULL CASING		WELDING	
		MOVING		PUMPING	
		OTHER		OTHER	
		OTHER		OTHER	
		OTHER		OTHER	

SUMMARY COLUMN

9. CASING LOG

NO.	LENGTH	TOTAL LENGTH

10. SOILS LOG

SAMPLE NO.	DEPTHS FROM	DEPTHS TO	TYPE SAMPLE	MATERIALS AND REMARKS
				0'-37' Sand & Gravel
				37'-43' Sand & Gravel, Coal
				4H20
				43'-45' Sand & Gravel, Clay-dry
				45'-55' Sand & Gravel 4H20
				fine sand
				55'-62' Gravel 4H20
				Static level 33' in 8 min
				62'-69' Gravelly brown till hard
				69'-82' Sandy blue clay soft
				open hole
				82'-137' Silty sand
				137'-156'6" Gravelly till Med hard
				Blue
				156'6"-157' brown clay
				157'-173' sand & gravel 4H20
				Installed 125 slot Johnson
				Everdur screen @ 162'-172'
				Pumped 440 gpm @ 49'
				Static 6'6"

DRILLER INSPECTOR

LOCAL NO. SB13-3-10 DACC 2-16
SITE ID 611343 1494657 01

13-3-10-17
DI 4-1257

CLEMENSON DRILLING
Box 4-503
Spenard, Alaska

SUBSURFACE EXPLORATION
Shift Report of Operations

1. LOCATION FAA PROJECT ARTCC HOLE NO. 2
2. TYPE OF EXPLORATION Re-Charge 10" - Well
3. CONTRACTOR Clemenson EQUIPMENT NAME Bucyrus Erie 22-W
4. CONTRACT NO.
5. SURFACE ELEVATION WEATHER
DEPTH-BEGIN SHIFT DEPTH-END SHIFT DEPTH DRILLED 180'
6. PERMAFROST ENCOUNTERED: FROM TO
7. WATER LEVEL DATE & SHIFT 6/14/67

8. TIME DISTRIBUTION HOURS

DRILLER	CHURN DRILL	FISHING
	TRUCK	REPAIRS
HELPER	DRILLING	STANDBY
	PULL CASING	WELDING
	MOVING	PUMPING
	OTHER	OTHER
	OTHER	OTHER
	OTHER	OTHER

SUMMARY COLUMN

9. CASING LOG

NO.	LENGTH	TOTAL LENGTH
Johnson recommends stainless steel screen set @ 162½' to 175'	250 slot to be	

10. SOILS LOG

SAMPLE NO.	DEPTHS FROM	DEPTHS TO	TYPE SAMPLE	MATERIALS AND REMARKS
				0'-30' sand & gravel
				30'-60' sand & gravel & H20
				60'-80' blue clay & gravel (dry)
				80'-85' silty sand @ 85'
				85'-86' sand & gravel & H20
				86'-137' heaving sand - silt
				137'-144' gravelly till Mud heave
				144'-149' Gravelly till - soft Open hole 5'
				149'-150' Gravel & H20
				150'-162' Gravelly blue clay & layers of gravel & H20 very difficult
				162'-165' gravel & H20 lesser amount of clay
				165'-175' Clean coarse gravel & H20
				175'-176' brown sand - fine & H20
				176'-180' brown sand fine & H20

DRILLER INSPECTOR

WRD Exp. (GW)
April 1966

Well No. SB13-3/11-B DCB1-V

WELL SCHEDULE

U. S. DEPT. OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

MASTER CARD

Record by R.M. WALLER Source of data FILE Date 12/8/64 Map ANCHORAGE

State Alaska (60) County (or town) Anchorage (3-4)

Latitude: 61 deg 13 min 59 sec 11 N S Longitude: 149 degrees 46 min 05 sec 18 Sequential number: X (19)

Lat-long accuracy: 2 (20) T. 13 N S, R 3 E W, Sec 11, SW ¼, SE ¼, NW ¼ SE ¼ B & M

Local well number: SR 013 05 11 BDCA (21-34) Other number: 64, [illegible]

Local use: 011 (35-40) (45-51) Owner or name: USGS

Owner or name: USGS (52-66) Address: FIRE CENTER, OLM

Ownership: (C) County, (F) Fed Gov't, (M) City, (N) Corp or Co, (P) Private, (S) State Agency, (W) Water Dist ____ (67) F

Use of water: (A) Air cond, (B) Bottling, (C) Comm, (D) Dewater, (E) Power, (F) Fire, (H) Dom, (I) Irr, (M) Med, (N) Ind, (P) P S, (R) Rec, (S) Stock, (T) Instit, (U) Unused, (V) Repressure, (W) Recharge, (X) Desal-P S, (Y) Desal-other, (Z) Other ____ (68) U

Use of well: (A) Anode, (D) Drain, (G) Seismic, (H) Heat Res, (Φ) Obs, (P) Oil-gas, (R) Recharge, (T) Test, (U) Unused, (W) Withdraw, (X) Waste, (Z) Destroyed (69) Φ

DATA AVAILABLE: Well data (70) Freq. W/L meas.: CONTINUOUSLY (71) C Field aquifer char. (72)

Hyd. lab. data: NONE (73)

Qual. water data; type: 8 COMPLETE (LOG FROM CUTTINGS) (74) C

Freq. sampling: IRREGULAR (75) I Pumpage inventory: yes (no) period: (76)

Aperture cards: yes (77)

Log data: DRILLER'S (78-79) D

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD (1-19) Depth well: [illegible] ft (20-23) Meas. rept accuracy (24) C

Depth cased: (first perf.) 137,40 ft (25-28) Casing type: IRON; Diam. 8 in (29-30)

Finish: (C) porous concrete, (F) gravel w. (perf.), (G) gravel w. (screen), (H) horiz. gallery, (Φ) open end, (P) perf., (S) screen, (T) sd. pt., (W) shored, (X) open hole, (Z) other (31) P

Method Drilled: (A) air rot, (B) bored, (C) cable, (D) dug, (H) hyd rot., (J) jetted, (P) air percussion, (R) reverse rotary, (T) trenching, (V) driven, (W) drive wash, (Z) other (32) C

Date Drilled: 11/52 (33-35) Pump intake setting: ____ ft (36-38)

Driller: GEO. ROBERTS name, JUNEAU ALASKA address

Lift (type): (A) air, (B) bucket, (C) cent, (J) jet, (L) multiple, (cent.), (M) multiple, (turb.), (N) none, (P) piston, (R) rot, (S) submerg, (T) turb, (Z) other (39) Deep (40) Shallow

Power (type): nat, LP; diesel, elec, gas, gasoline, hand, gas, wind; H.P. ____ (41) Trans. or meter no. ____

Descrip. MP TOP OF CASING 2.26 ft above below LSD. Alt. MP 209.80

Alt. LSD: 207.54 (42-45) Accuracy: (source) TOPO 5' CI (47) 4

Water Level 23.11 ft above below MP; Ft above below LSD (48-51) Accuracy: TAPE D (52) A

Date meas: 4/15/65 (53-55) Yield: ____ gpm (56-60) Method determined (61)

Drawdown: ____ ft (62-64) Accuracy: ____ (65) Pumping period ____ hrs (66-68)

QUALITY OF WATER DATA: Iron 0.40 ppm (69) 3 Sulfate 14 ppm (70) 1 Chloride 3.5 ppm (71) 0 Hard. 115 ppm (72) 4

Sp. Conduct 221 K x 10^6 (73) 2 Temp. 36 °F (74-76) Date sampled 4/15/65 (77-79)

Taste, color, etc. COLOR-5

Well No.

Elev. 205

Well No. 13-3-11-1

Latitude-longitude 61 13 59 N S 149 46 05
d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD (1–19) Physiographic Province: PACIFIC MT SYSTEM [2|9] (20–21) Section: COOK INLET - SUSITNA

LOWLAND [C] (22) Drainage Basin: [8|0|B] (23–25) Subbasin: [ ] (26)

Topo of well site: (D) depression, (C) stream channel, (E) dunes, (F) flat, (H) hilltop, (K) sink, (L) swamp, (Ø) offshore, (P) pediment, (S) hillside, (T) terrace, (U) undulating, (V) valley flat [V] (27)

MAJOR AQUIFER: QUATERNARY system, PLEISTOCENE series [Q|G] (28–29) SAND & GRAVEL aquifer, formation, group [1|G] (30–31)

Lithology: MEDIUM GR. SAND [3|S] (32–33) Origin: GLACIAL OUTWASH [O] (34) Aquifer Thickness: 45 ft

[4|5] (35–37) Length of well open to: 45 ft [4|5] (38–40) Depth to top of: 166 ft [1|6|6] (41–43)

MINOR AQUIFER: system, series [ ] (44–45) aquifer, formation, group [ ] (46–47)

Lithology: [ ] (48–49) Origin: [ ] (50) Aquifer Thickness: ft

[ ] (51–53) Length of well open to: ft [ ] (54–56) Depth to top of: ft [ ] (57–59)

Intervals Screened: reported to Morgan Perf. at 190, wooden plug above perfs. (12' creasote lightpole) hole is open thru two perfs, however

Depth to consolidated rock: 394 ft [3|9|4] (60–63) Source of data: DRILLER [D] (64)

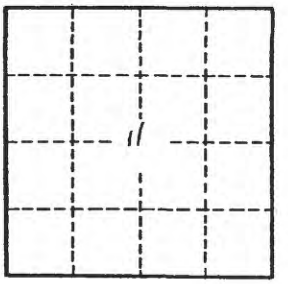
Depth to basement: ft [ ] (65–68) Source of data: [ ] (69)

Surficial material: ORGANIC [Ø|O] (70–71) Infiltration characteristics: GOOD-GRAVEL BELOW [2] (72)

Coefficient Trans: 100,000 gpd/ft [1|0|4] (73–75) Coefficient Storage: .0001 [1|0|5] (76–78)

Coefficient Perm: gpd/ft²; Spec cap: gpm/ft; Number of geologic cards: [ ] (79)

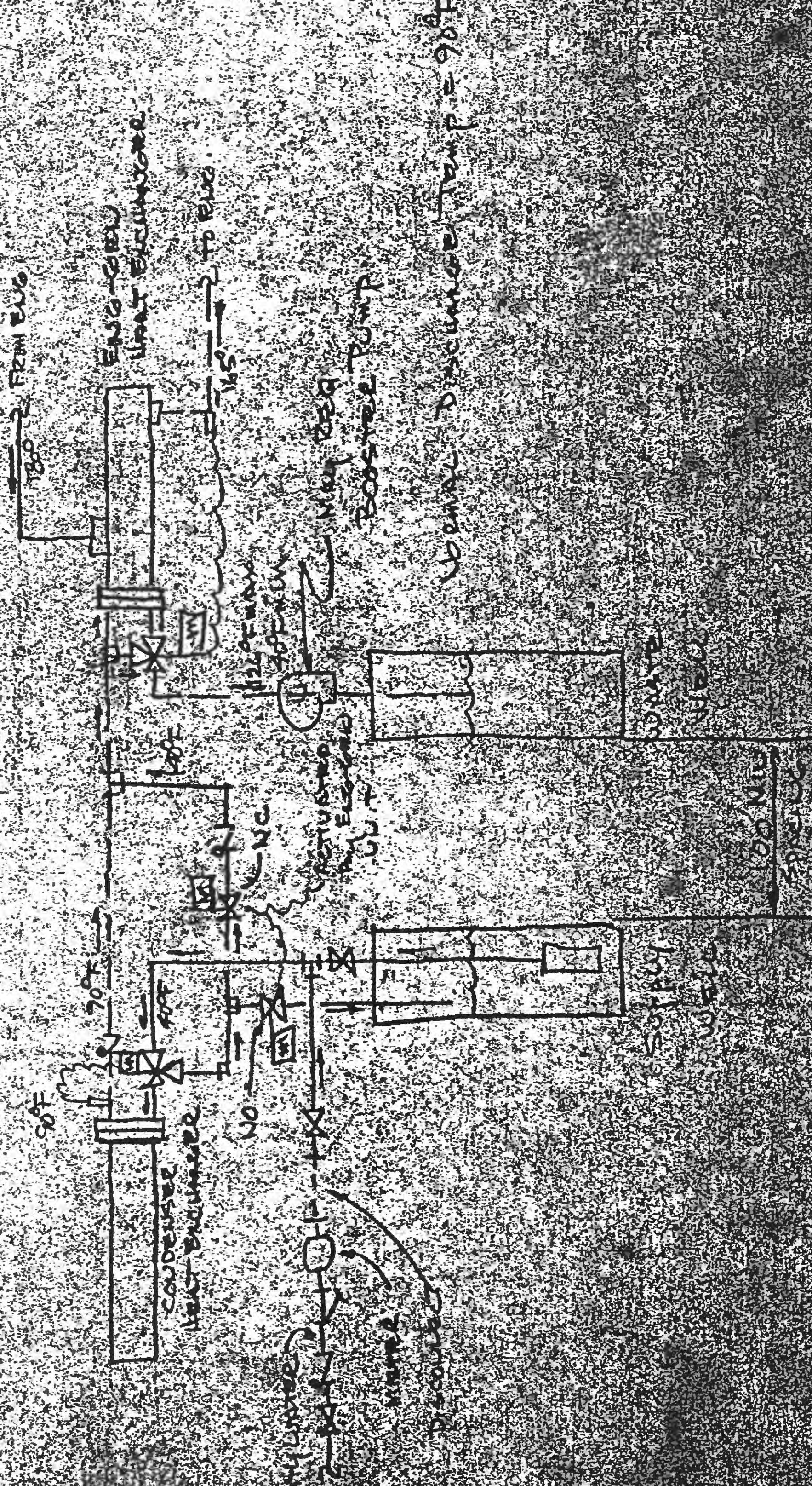
0-3 - Soil
3-45 - Gr.; bouldery below 18'
45-47 - Clay
47-58 - Gravel
58-86 - Till
86-98 - Sand, med. silty; water
98-109 - Till, soft
109-111 - Sand, water
111-119 - Till, hard
119-123 - Clay, gray
123-134 - Sand, fine to medium; a little water
139-153 - Till, hard
153-166 - Sand, med-coarse, silty
166-175 - Sand, harder, med-coarse } MAJOR AQUIFER
175-181 - Gr. coarse, sandy
181-214 - Till, brown
214-252 - Till, gray, very hard, with sandy streaks between 217'-247'
252-348 - Till, brown, very hard
348-370 - Clay, sticky, gray
370-375 - Clay w/ coal fragments
375-390 - Clay, sandy, hard
392-394 - Sand
394-447 - Clay, sandy, gray, bottom of casing at 397'
447-510 - Shale, brown with coal streak & organic matter
510-602 - Sh. gray-black some coal streaks; black sh. contains much org. matter; sticky when wet
602-609 - SS, fairly hard, fine-med grained gray
609-617 - Sh, gray to black as in interval from 510' - 602'



Well No. 1

Local # 5S01S003W11B0CB1-1
Site ID 611359149460501

GPO 857-700



CREWS, MAC INNES & HOFFMAN CONSULTING ENGINEERS ANCHORAGE ALASKA	JOB TITLE FAA - ARTCC NO. [illegible] SUBJECT [illegible] BY DWA CHECKED DATE SHEET OF

36 01 500 515 A6 GA 1-8

Swafford Drilling Co. Drilling Log C. L. HAYWORTH

Well No. 13 B-15

Owner Asa J. Gunter Date Started 6-14-58

Address Clarence L. Hayworth Date completed 6-21-58

Address 110 Burnell St. Randolph Type of well Home

Location of well Other Side

Total depth of drilled well 137 feet

bottom of casing at 137 feet size of casing 6"

Finish (check one) Open end (X) Screen ( ) Perforated ( )

Describe screen or perforations

Well development (bailed) or (pumped) ~~75~~ 50 gallons per (hour)(minute)

for 4 (hours)(minutes) with 11 feet of drawdown.

Static water level 5 feet (above)(below) land surface

Remarks

Description of formation (type of material, hard or soft, water bearing, color, etc.)	Thickness	Depth From	Depth To
Gravel & Brown Clay	26	0	26
Gravel & Clay with pyrite	3	26	29
Hard pan	29	29	58
Hard blue Clay	6	58	64
Clay & Gravel	2	64	66
Sandy Clay	24	66	90
Heaving Gravel with some water	2	90	92
Sandy Clay	38	92	130
Fine gray water sand	1	130	131
Clay & Gravel	4	131	135
Hard pan	2	135	137
Thin layers black water sand at	?		137

(continued on reverse)

SB 13-03-03CACC1-

0-11- GRAVEL FILL
11-57- SANDY GRAVEL, BROWN, RUSTY
57-66- GRAVELLY SAND, H_2O BEARING - HEAVING
66- — SOFT COAL IN SAND
66-97- SILTY SAND - HEAVING
97-177- SANDY CLAY BLUISH
177-194- SILTY ~~SAND~~ GRAVEL SAND
194-199 H_2O SAND
199-202- GRAVELLY SAND, GRAVELLY CLAY
202-212- SANDY GRAVEL
212-220. SILTY GRAVEL, GRAVELLY CLAY
220-227. GRAVELLY SAND
227 — - CLAY - IMPERVIOUS,

9-185
(October 1950)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

USM 11-12

WELL SCHEDULE

Date 11/2/64, 19..... Field No. .....

Record by KM Office No. .....

Source of data DE. LOG

1. *Location:* State ALASKA County .....
   Map N 112, 250 - E 111, 850
   ..... ¼ ..... ¼ sec. 3 T 10 N/S R 3 E/W
2. *Owner:* U.S.A.F. Address ELMENDORF AFB
   Tenant ..... Address .....
   Driller SWAFFORD Address ANCHORAGE
3. *Topography* .....
4. *Elevation* 11 ± ft. above/below .....
5. *Type:* Dug, ~~drilled~~, driven, bored, jetted / 19 62
6. *Depth:* Rept. 227 ft. Meas. ..... ft.
7. *Casing:* Diam. 8 in., to ..... in., Type .....
   Depth 227 ft., Finish SCREEN - 206-217
   220-225
8. *Chief Aquifer* ..... From ..... ft. to ..... ft.
   Others .....
9. *Water level* 93.5 ft. rept. meas. ..... 19..... above/below .....
   ..... which is ..... ft. above/below surface
10. *Pump:* Type ..... Capacity ..... G. M. .....
    Power: Kind ..... Horsepower .....
11. *Yield:* Flow ..... G. M., Pump ..... G. M., Meas., Rept. Est. .....
    Drawdown 3.6 (26.2) ft. after ..... hours pumping 122 (300) G. M.
12. *Use:* Dom., Stock, PS., RR., Ind., Irr., Obs. .....
    Adequacy, permanence .....
13. *Quality* ..... Temp ..... °F.
    Taste, odor, color ..... Sample Yes/No .....
    Unfit for .....
14. *Remarks:* (Log, Analyses, etc.) .....
    .....

2 - Top soil
49 - Silty Sand Gravel
60 - Silty Sand,
85 Till
126 Silty Sandy Gravel (Till)
137 " " " with water
167 " " " gray (Till)
184 " " " brown (Till)
185 Coarse sand water
189 " " med. gravel

E 117 900
N 105-600

Both sites off By pass rd.

9-185
(October 1950)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

303-A

WELL SCHEDULE

Date 7-11, 19 57 Field No. 686

Record by JH Office No. 303-A

Source of data Log Site # 5 (67)

1: *Location:* State ____ County ____

Map ____

SE ¼ SW ¼ sec. 11 T 13 N R 3 E W

2. *Owner:* U.S. Forest Service Address Enterprise

Tenant ____ Address ____

Driller Jensen Drilling Co Address Redmond, Oregon

3. *Topography* level

4. *Elevation* 2265 ft. above below SL

5. *Type:* Dug, drilled, driven, bored, jetted ____ 19____

6. *Depth:* Rept. 187 ft. Meas. ____ ft.

7. *Casing:* Diam. 6 in., to ____ in., Type ____

Depth ____ ft., Finish ____

8. *Chief Aquifer* ____ From ____ ft. to ____ ft.

Others ____

9. *Water level* 20 ft. rept. meas. May 19 57 ~~above~~ below MSD

____ which is ____ ft. above below surface

10. *Pump:* Type ____ Capacity ____ G. M. ____

Power: Kind ____ Horsepower ____

11. *Yield:* Flow ____ G. M., Pump ____ G. M., Meas., Rept. Est. ____

Drawdown 6 ft. after 1 hours pumping 25 G. M.

12. *Use:* Dom., Stock, PS., RR., Ind., Irr., Obs. ____

Adequacy, permanence ____

13. *Quality* ____ Temp ____ °F.

Taste, odor, color ____ Sample Yes No

Unfit for ____

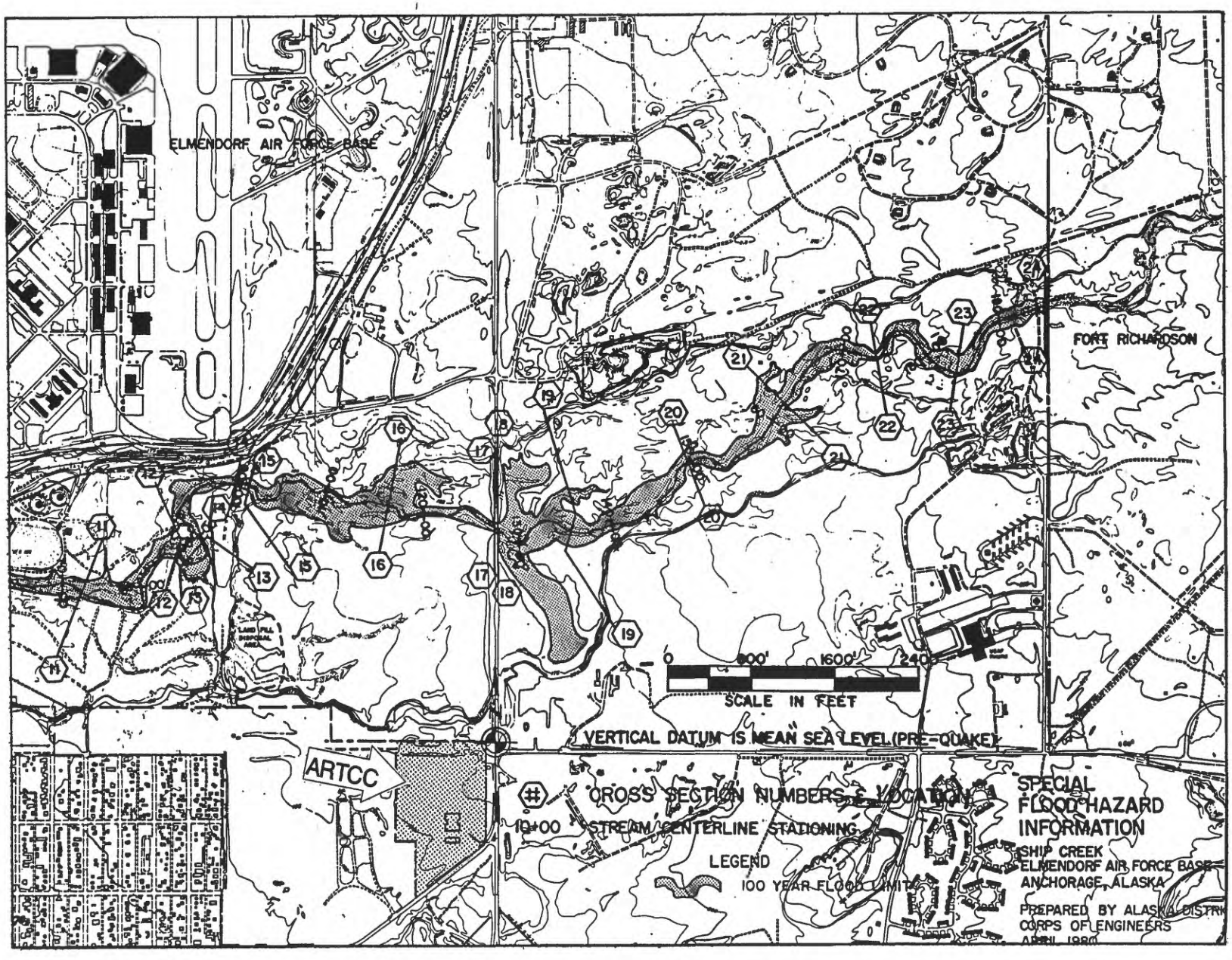
14. *Remarks:* (Log) Analyses, etc.) Acc. file. Log

U. S. GOVERNMENT PRINTING OFFICE 16—02891-1

303-A

APPENDIX 2

100-year flood map of Ship Creek
(U.S. Army Corps of Engineers, 1980)


ELMENDORF AIR FORCE BASE
FORT RICHARDSON
ARTCC
LAND FILL DISPOSAL AREA
0
800'
1600'
2400'
SCALE IN FEET
VERTICAL DATUM IS MEAN SEA LEVEL (PRE-QUAKE)
CROSS SECTION NUMBERS & LOCATION
19+00 STREAM CENTERLINE STATIONING
LEGEND
100 YEAR FLOOD LIMITS
SPECIAL FLOOD HAZARD INFORMATION
SHIP CREEK
ELMENDORF AIR FORCE BASE
ANCHORAGE, ALASKA
PREPARED BY ALASKA DISTRICT
CORPS OF ENGINEERS
APRIL 1980

APPENDIX 3

Water quality data for Ship Creek and wells near the Anchorage ARTCC

ELMENDORF AFB: SHIP CREEK SAMPLING AND ANALYSIS
SAMPLING RESULTS: OCTOBER 1994

Sample	Nitrate-N mg/L	Nitrite-N mg/L	o-Phosphate mg/L	TOC mg/L	TKN mg/L	Total P mg/L	Ammonia mg/L	COD mg/L	SW8260 Acetone	ug/L Benzene	Chloroform
ESC-01-02	0.11	0.10 U	0.10 U	<1	0.254	1.04R	0.334	<5.88			
ESC-02-02	0.12	0.10 U	0.10 U	<1	0.141	<0.02	0.724	<5.88	Data not	Data not	Data not
ESC-02-02-FD	0.12	0.10 U	0.10 U	<1	0.129	<0.02	0.366	<5.88	available	available	available
ESC-03-02	3.49	0.10 U	–	–	ND	–	0.221	–			
ESC-04-02	0.15	0.10 U	0.10 U	<1	0.199	<0.02	0.553	<5.88			
ESC-05-02	0.25	0.10 U	0.10 U	<1	0.165	<0.02	0.426	<5.88			
ESC-08-02	2.04	0.10 U	0.10 U	<1	0.128	<0.02	0.242	<5.88			
ESC-07-02	0.60	0.10 U	0.10 U	<1	0.114	<0.02	0.534	<5.88			
ESC-08-02	0.73	0.10 U	–	–	0.232	–	0.456	–			

Sample	Chloromethane	MeCl2	Toluene	SW7470 (Hg) mg/L	SW7060 (As) mg/L	SW7421 (Pb) mg/L	SW7740 (Se) mg/L	SW7841 (Th) mg/L
ESC-01-02				<0.000033	<0.00214	<0.0022	<0.00118	<0.00184
ESC-02-02	Data not	Data not	Data not	0.00004 B	<0.00214	<0.0022	0.00296 S	<0.00184
ESC-02-02-FD	available	available	available	0.00004 B	<0.00214	<0.0022	0.00153 S	<0.00184
ESC-03-02				–				
ESC-04-02				0.00006 B	<0.00214	<0.0022	0.00161 S	<0.00184
ESC-05-02				0.00011 B	<0.00214	<0.0022	0.00120 S	<0.00184
ESC-06-02				0.00004 B	<0.00214	<0.0022	0.00104 S	<0.00184
ESC-07-02				<0.000033	<0.00214	<0.0022	0.00139 S	<0.00184
ESC-08-02				–				
				b=0.00004				

Sample	SW6010 Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb
ESC-01-02	<0.0523	<0.0760	0.00627	0.00627	<0.000510	<0.00386	20.2 B	<0.00524	<0.00407	<0.00916	0.0355 B	<0.0216
ESC-02-02	0.167 B	<0.0760	<0.0468	0.00717	0.00150 B	<0.00386	20.8 B	<0.00524	<0.00407	<0.00916	0.190 B	<0.0216
ESC-02-02-FD	0.0737 B	<0.0760	<0.0468	0.00588 B	<0.000510	<0.00386	19.4 B	<0.00524	0.00566 B	<0.00916	0.0905 B	<0.0216
ESC-03-02	–	–	–	–	–	–	–	–	–	–	–	–
ESC-04-02	<0.0523	<0.0760	<0.0468	0.00672	<0.000510	<0.00386	21.6 B	<0.00524	0.00418	<0.00916	0.058 B	<0.0216
ESC-05-02	<0.0523	<0.0760	<0.0468	0.00582	<0.000510	<0.00386	22.4 B	<0.00524	0.00558	<0.00916	0.0645 B	<0.0216
ESC-06-02	<0.0523	<0.0760	<0.0468	0.00672	<0.000510	<0.00386	27.4 B	<0.00524	<0.00407	<0.00916	0.0423	<0.0216
ESC-07-02	<0.0523	<0.0760	<0.0468	0.00717	<0.000510	<0.00386	25.2 B	<0.00524	<0.00407	<0.00916	0.0571 B	<0.0216
ESC-08-02	–	–	–	–	–	–	–	–	–	–	–	–
	b=0.0121	b=0.0224	b=0.0134		b=0.00054		b=0.095		b=0		b=0.0121	

Sample	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Th	V	Zn
ESC-01-02	2.89 B	<0.00155	<0.00739	<0.0141	<0.822	<0.0891	<0.00519	1.99 B	<0.0833	<0.00454	0.00547 B
ESC-02-02	3.50 B	0.0339 B	<0.00739	0.0289 B	<0.822	<0.0891	<0.00519	2.11 B	<0.0833	<0.00454	0.00876 B
ESC-02-02-FD	3.08 B	0.0270 B	<0.00739	<0.0141	<0.822	<0.0891	<0.00519	2.05 B	<0.0833	<0.00454	<0.00402
ESC-03-02	–	–	–	–	–	–	–	–	–	–	–
ESC-04-02	3.26 B	0.0243 B	<0.00739	0.0184 B	<0.822	<0.0891	<0.00519	2.21 B	<0.0833	<0.00454	0.00523 B
ESC-05-02	3.41 B	0.0349 B	<0.00739	0.0184 B	<0.822	<0.0891	<0.00519	2.24 B	<0.0833	<0.00454	0.00867 B
ESC-06-02	4.01 B	0.0455 N	<0.00739	0.0216 B	<0.822	<0.0891	<0.00519	2.40 B	<0.0833	<0.00454	0.0103 B
ESC-07-02	3.71 B	0.0402 B	<0.00739	<0.0141	0.983	<0.0891	<0.00519	2.35 B	<0.0833	<0.00454	0.00687 B
ESC-08-02	–	–	–	–	–	–	–	–	–	–	–
								b=0.0721			b=0.0122

ELMENDORF AFB: SHIP CREEK SAMPLING AND ANALYSIS
SAMPLING RESULTS: SEPTEMBER 1994

Sample	Nitrate-N	Nitrite-N	o-Phosphate	TOC MG/L	TKN MG/L	Total P MG/L	Ammonia MG/L	COD MG/L	SW8260 Acetone	Benzene	Chloroform
ESC-01-01	0.11	0.10 U	0.10 U	ND	<0.0825	ND	0.638	ND			
ESC-01-01-F	0.11	0.10 U	0.10	ND	<0.0825	<0.0200	0.719	ND			
ESC-01-01-E	0.10 U	0.10 U	0.10 U	ND	<0.0825	ND	0.396	ND			0.66
ESC-02-01	0.10 U	0.10 U	0.10 U	<0.357	<0.0825	<0.0200	0.552	<5.88			
ESC-03-01	8.0	0.10 U	--	--	ND	--	0.754	--	--	--	--
ESC-04-01	0.13	0.10 U	0.10 U	ND	<0.0825	ND	0.292	<5.88			
ESC-05-01	0.22	0.10 U	0.10 U	ND	<0.0825	ND	0.363	<5.88			
ESC-06-01	0.85	0.10 U	0.10 U	<1	<0.0825	ND	0.805	<5.88	3.32 B		0.34
ESC-07-01	0.63	0.10 U	0.10 U	ND	<0.0825	ND	0.405	<5.88	3.04 B		
ESC-08-01	0.62	0.10 U	--	--	<0.0825	--	0.36	--	--	--	--
									ab = 15.9 B tb=8.16B b=1.91	ab = <0.194 tb=<0.194 b=0.04 J	ab = 0.650

	Chloromethane	MeCl2	Toluene	SW7470 (Hg) mg/L	SW7060 (As) mg/L	SW7421 (Pb) mg/L	SW7740 (Se) mg/L	SW7841 (Th) mg/L
ESC-01-01				<0.000033	<0.00214	0.00556 B	0.0007 S	<0.00185
ESC-01-01-F	0.33			<0.000033	<0.00214	<0.0022	<0.000592 S	<0.00185
ESC-01-01-E	0.55	5.44 B		<0.000033	<0.00214	<0.0022	<0.000592 S	<0.00185
ESC-02-01	0.42			<0.000033	<0.00214	<0.0022	0.00147 S	<0.00185
ESC-03-01	--	--	--	--	--	--	--	--
ESC-04-01	0.58	0.46 B		<0.000033	<0.00214	<0.0022	<0.000592 S	<0.00185
ESC-05-01	0.38			<0.000033	<0.00214	<0.0022	0.00073 S	<0.00185
ESC-06-01	0.33		0.09	<0.000033	<0.00214	<0.0022	0.00152 S	<0.00185
ESC-07-01	0.42		0.12	<0.000033	<0.00214	<0.0022	0.0016 S	<0.00185
ESC-08-01	--	--	--	--	--	--	--	--
	ab = 0.570	ab = 0.65 B tb = 0.53 B b = 0.24 J	tb = <0.088			b = 0.000740 J		b = 0.00037 J

	SW6010 Al	Ab	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb
ESC-01-01	<0.0523	<0.0760	<0.0468	0.0085 B	0.0011 B	<0.0039	22.0 B	<0.0052	<0.0041	<0.0092	0.0398 B	<0.0216
ESC-01-01-F	0.119 B	<0.0760	<0.0468	0.011 B	0.0011 B	<0.0039	20.8 B	0.0055 B	<0.0041	<0.0092	0.129 B	<0.0216
ESC-01-01-E	0.0536 B	<0.0760	<0.0468	0.0013 B	0.0011 B	<0.0039	0.074 B	<0.0052	<0.0041	<0.0092	0.036 B	<0.0216
ESC-02-01	<0.0523	<0.0760	<0.0468	0.0072 B	0.0011 B	0.00562	21.4 B	<0.0052	<0.0041	<0.0092	0.254 B	<0.0216
ESC-03-01	--	--	--	--	--	--	--	--	--	--	--	--
ESC-04-01	0.255 B	<0.0760	<0.0468	0.0140 B	0.0011 B	<0.0039	22.2 B	<0.0052	<0.0041	<0.0092	0.289 B	<0.0216
ESC-05-01	0.581 B	<0.0760	<0.0468	0.0102 B	<0.00051	<0.0039	23.1 B	<0.0052	<0.0041	<0.0092	0.0675 B	<0.0216
ESC-06-01	<0.0523	<0.0760	<0.0468	0.0098 B	0.0011 B	<0.0039	25.8 B	<0.0052	<0.0041	<0.0092	0.0498 B	<0.0216
ESC-07-01	<0.0523	<0.0760	<0.0468	0.0089 B	0.0011 B	<0.0039	24.9	<0.0052	<0.0041	0.0112 B	0.0383 B	<0.0216
ESC-08-01	--	--	--	--	--	--	--	--	--	--	--	--
	b=0.0446	b=0.0324	b=0.00816	b=0.00085	b=0.0011		b=0.114	b=0.00184		b=0.00412	b=0.0034	

	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Th	V	Zn
ESC-01-01	3.25 B	0.0043 B	<0.0074	<0.0141	<0.822	<0.0891	<0.0052	2.70 B	<0.0083	<0.0045	0.00185 B
ESC-01-01-F	3.29 B	<0.00155	<0.0074	<0.0141	<0.822	<0.0891	<0.0052	2.54 B	<0.0083	<0.0045	0.0112 B
ESC-01-01-E	0.106 B	0.0029 B	<0.0074	<0.0141	<0.822	<0.0891	<0.0052	0.0613 B	<0.0083	<0.0045	0.0112 B
ESC-02-01	3.14 B	0.0261 B	<0.0074	<0.0141	<0.822	<0.0891	<0.0052	2.63 B	<0.0083	<0.0045	0.0138 B
ESC-03-01	--	--	--	--	--	--	--	--	--	--	--
ESC-04-01	4.03 B	0.0248 B	<0.0074	<0.0141	<0.822	<0.0891	<0.0052	2.67 B	<0.0083	<0.0045	0.0137 B
ESC-05-01	3.56 B	0.0334 B	<0.0074	<0.0141	<0.822	<0.0891	<0.0052	2.27 B	<0.0083	<0.0045	0.011 B
ESC-06-01	3.87 B	0.0348 B	<0.0074	0.0151	<0.822	<0.0891	<0.0052	2.40 B	<0.0083	<0.0045	0.0137 B
ESC-07-01	3.71 B	0.0348 B	<0.0074	<0.0141	<0.822	<0.0891	<0.0052	2.34 B	<0.0083	<0.0045	0.0136 B
ESC-08-01	--	--	--	--	--	--	--	--	--	--	--
	b=0.0138	b=0.0029	b=0.0015		b=0.0148			b=0.107			b=0.0165

15276500 - SHIP C AT ELMENDORF AFB NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	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)	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)
OCT 23...	5	144	8.1	0.8	51	63	0	0.230	68	16
AUG 18...	5	119	7.1	6.1	39	48	0	0.00	51	11

15276500 - SHIP C AT ELMENDORF AFB NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)
OCT 23...	22	3.1	2.1	0.1	6	0.30	0.0	18	0.10
AUG 18...	16	2.6	1.8	0.1	7	0.20	0.50	13	0.10

15276500 - SHIP C AT ELMENDORF AFB NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	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)	DRAINAGE AREA (SQ. MI.) (81024)
OCT 23...	6.4	84	24.9	0.11	1.0	100	60	143	113
AUG 18...	2.5	60	31.1	0.08	0.0	20	20	143	113

15276500 - SHIP C AT ELMENDORF AFB NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	TIME	LATITUDE	LONGITUDE	MEDIUM CODE	SAMPLE TYPE	RECORD NUMBER	TEMPERATURE WATER (DEG C) (00010)	SURFACE AREA (SQ MI) (00049)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	COLOR (PLATINUM-COBALT UNITS) (00080)
MAY 23...	0930	61 14 20 N	149 47 24 W	9	9	97300139	5.5	113	E60	8

15276500 - SHIP C AT ELMENDORF AFB NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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 DISSOLVED (MG/L AS N) (00602)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N) (00607)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)
MAY 23...	117	7.9	1.1	44	54	0	0.22	0.10	0.010	<0.010	0.110

15276500 - SHIP C AT ELMENDORF AFB NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	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 ORTHO, DISSOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	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)
MAY 23...	0.110	0.11	0.110	0.0	0.010	<0.010	1.5	56	12	18

15276500 - SHIP C AT ELMENDORF AFB NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	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 DISSOLVED (UG/L AS AS) (01000)
MAY										
23...	2.7	2.1	0.1	7	0.40	0.50	13	0.10	6.1	<1

15276500 - SHIP C AT ELMENDORF AFB NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
MAY										
23...	ND	ND	17	210	9	ND	<10	<10	ND	10

15276500 - SHIP C AT ELMENDORF AFB NR ANCHORAGE AK
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L) (38260)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2) (71856)	MERCURY DISSOLVED (UG/L AS HG) (71890)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DRAINAGE AREA (SQ. MI.) (81024)
MAY										
23...	<1	0.0	70	0.09	0.01	0.50	0.0	<0.5	143	113

TABLE 1 FIELD RESULTS FOR BASE WELL SUPPLY AND POTABLE WATER SAMPLES, Elmendorf OU6.

PARAMETER						
SITE ID/RISK AREA	NONE			NONE		
LOCATION ID	WS-02			BW-50		
SAMPLE ID	E600-WS-02-01			E673-BW-50-01		
SAMPLE DATE	17 May 1994			31 August 1994		
A403 - Alkalinity (mg/L as CaCO3)						
Total Alkalinity	74	()	[1]	61	()	[1]
E170.1 - Temperature (deg C)						
Temperature	7.5	()	[1]	5	()	[1]
E180.1 - Turbidity (NTU)						
Turbidity	NA			7.2	()	[1]
SW9040 - pH (pH units)						
pH	6.8	()	[1]	6.99	()	[1]
SW9050 - Specific Conductance (umhos/cm)						
Specific Conductivity	170	()	[1]	160	()	[1]

Compiled: 12/14/94 () = Detection Limit [] = Dilution Factor ND = Not Detected NM = Non Measurable NA = Not Applicable R = Invalidated Result

TABLE 2 RESULTS OF ORGANIC ANALYSES FOR BASE WELL SUPPLY AND POTABLE WATER SAMPLES, Elmendorf OU6.

PARAMETER	SITE ID/RISK AREA			NONE			NONE			NONE		
	LOCATION ID			WS-02			BW-50			BW-50		
	SAMPLE ID			E600-WS-02-01			E600-WS-02-02 Dup of E600-WS-02-01			E673-BW-50-01		
	SAMPLE DATE			17 May 1994			17 May 1994			31 August 1994		
E508 - Determination of Chlorinated Pesicides in Ground Water (ug/L)												
4,4'-DDD	ND	(0.06)	[1]	ND	(0.06)	[1]	NA			ND	(D.06)	[1]
4,4'-DDE	ND	(0.06)	[1]	ND	(0.06)	[1]	NA			ND	(0.06)	[1]
4,4'-DDT	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
Aldrin	ND	(0.05)	[1]	ND	(0.05)	[1]	NA			ND	(0.05)	[1]
Chlordane	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
Chlorobenzilate	ND	(5)	[1]	ND	(5)	[1]	NA			ND	(5)	[1]
Chloroneb	ND	(1)	[1]	ND	(1)	[1]	NA			ND	(1)	[1]
Chlorothalonil	ND	(0.06)	[1]	ND	(0.06)	[1]	NA			ND	(0.06)	[1]
Cis-Permethrin	ND	(1)	[1]	ND	(1)	[1]	NA			ND	(1)	[1]
DCPA(Dacthal)	ND	(0.06)	[1]	ND	(0.06)	[1]	NA			ND	(0.06)	[1]
Dieldrin	ND	(D.06)	[1]	ND	(0.06)	[1]	NA			ND	(0.06)	[1]
Endosulfan I	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
Endosulfan II	ND	(0.2)	[1]	ND	(0.2)	[1]	NA			ND	(0.2)	[1]
Endosulfan Sulfate	ND	(0.3)	[1]	ND	(0.3)	[1]	NA			ND	(0.3)	[1]
Endrin	ND	(0.06)	[1]	ND	(0.06)	[1]	NA			ND	(0.06)	[1]
Endrin Aldehyde	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
Etridiazole	ND	(0.06)	[1]	ND	(0.06)	[1]	NA			ND	(0.06)	[1]
Heptachlor	ND	(0.03)	[1]	ND	(0.03)	[1]	NA			ND	(0.03)	[1]
Heptachlor epoxide	ND	(0.03)	[1]	ND	(0.03)	[1]	NA			ND	(0.03)	[1]
Hexachlorobenzene	ND	(0.02)	[1]	ND	(0.02)	[1]	NA			ND	(0.02)	[1]
Methoxychlor	ND	(0.2)	[1]	ND	(0.2)	[1]	NA			ND	(0.2)	[1]
PCB-1016	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
PCB-1221	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
PCB-1232	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]

Compiled: 12/14/94 () = Detection Limit [] = Dilution Factor ND = Not Detected NM = Non Measurable NA = Not Applicable R = Invalidated Result

PARAMETER	NONE WS-02 E600-WS-02-01 17 May 1994			NONE WS-02 E600-WS-02-02 Dup of E600-WS-02-01 17 May 1994			NONE BW-50 E673-BW-50-01 31 August 1994	NONE BW-50 E673-WS-01-01 17 May 1993		
E508 - Determination of Chlorinated Pesicides in Ground Water, cont. (ug/L)										
PCB-1242	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
PCB-1248	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
PCB-1254	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
PCB-1260	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Permethrin	ND	(1)	[1]	ND	(1)	[1]	NA	ND	(1)	[1]
Propachlor	ND	(1)	[1]	ND	(1)	[1]	NA	ND	(1)	[1]
Toxaphene	ND	(3)	[1]	ND	(3)	[1]	NA	ND	(3)	[1]
Trifluralin	ND	(0.06)	[1]	ND	(0.06)	[1]	NA	ND	(0.06)	[1]
alpha-BHC	ND	(0.05)	[1]	ND	(0.05)	[1]	NA	ND	(0.05)	[1]
alpha-Chlordane	ND	(0.06)	[1]	ND	(0.06)	[1]	NA	ND	(0.06)	[1]
beta-BHC	ND	(0.05)	[1]	ND	(0.05)	[1]	NA	ND	(0.05)	[1]
delta-BHC	ND	(0.05)	[1]	ND	(0.05)	[1]	NA	ND	(0.05)	[1]
gamma-BHC(Lindane)	ND	(0.02)	[1]	ND	(0.02)	[1]	NA	ND	(0.02)	[1]
gamma-Chlordane	ND	(0.06)	[1]	ND	(0.06)	[1]	NA	ND	(0.06)	[1]
E524.2 - VOC by Purge and Trap Capillary Column GC/MS (ug/L)										
1,1,1,2-Tetrachloroethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,1,1-Trichloroethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,1,2,2-Tetrachloroethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,1,2-Trichloroethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,1-Dichloroethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,1-Dichloroethene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,1-Dichloropropene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,2,3-Trichlorobenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,2,3-Trichloropropane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,2,4-Trichlorobenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,2,4-Trimethylbenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,2-Dibromo-3-chloropropane	ND	(2)	[1]	ND	(2)	[1]	NA	ND	(2)	[1]
1,2-Dibromoethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,2-Dichlorobenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,2-Dichloroethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,2-Dichloropropane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,3,5-Trimethylbenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,3-Dichlorobenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
1,3-Dichloropropane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]

PARAMETER	NONE WS-02 E600-WS-02-D1 17 May 1994			NONE WS-02 E600-WS-02-02 Dup of E600-WS-02-01 17 May 1994			NONE BW-50 E673-BW-50-01 31 August 1994	NDNE BW-50 E673-WS-01-01 17 May 1993		
E524.2 - VOC by Purge and Trap Capillary Column GC/MS, cont. (ug/L)										
1,4-Dichlorobenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
2,2-Dichloropropane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
2-Chlorotoluene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
4-Chlorotoluene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Benzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Bromobenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Bromochloromethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Bromodichloromethane	0.5	(0.5)	[1]	0.5	(0.5)	[1]	NA	ND	(0.5)	[1]
Bromomethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Carbon tetrachloride	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Chlorobenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Chloroethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Chloroform	5	(0.5)	[1]	5.1	(0.5)	[1]	NA	0.2 J	(0.5)	[1]
Chloromethane	ND	(0.5)	[1]	1.7	(0.5)	[1]	NA	ND	(0.5)	[1]
Dibromochloromethane	0.2 J	(0.5)	[1]	0.1 J	(0.5)	[1]	NA	ND	(0.5)	[1]
Dibromomethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Dichlorodifluoromethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Ethylbenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Hexachlorobutadiene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Isopropylbenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Methylene chloride	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Naphthalene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Styrene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Tetrachloroethene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Toluene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Tribromomethane(Bromoform)	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Trichloroethene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Trichlorofluoromethane	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
Vinyl chloride	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
cis-1,2-Dichloroethene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
cis-1,3-Dichloropropene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
m & p-Xylene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
n-Butylbenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
n-Propylbenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]
o-Xylene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA	ND	(0.5)	[1]

Compiled: 12/14/94 () = Detection Limit [] = Dilution Factor ND = Not Detected NM = Non Measurable NA = Not Applicable R = Invalidated Result

PARAMETER	NONE WS-02 E600-WS-02-01 17 May 1994			NONE WS-02 E600-WS-02-02 Dup of E600-WS-02-01 17 May 1994			NONE BW-50 E673-BW-50-01 31 August 1994			NONE BW-50 E673-WS-01-01 17 May 1993		
E524.2 - VOC by Purge and Trap Capillary Column GC/MS, cont. (ug/L)												
p-Isopropyltoluene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
sec-Butylbenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
tert-Butylbenzene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
trans-1,2-Dichloroethene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
trans-1,3-Dichloropropene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
E525 - EPA method for Organics in Water (ug/L)												
2,2,4,4,5,6-Hexachlorobiphenyl	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
2,3-Dichlorobiphenyl	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
2,4,5-Trichlorobiphenyl	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
2-Chlorobiphenyl	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
Acenaphthylene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Alachlor	ND	(1)	[1]	ND	(1)	[1]	NA			ND	(1)	[1]
Anthracene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Atrazine	ND	(1)	[1]	ND	(1)	[1]	NA			ND	(1)	[1]
Benzo(a)anthracene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Benzo(a)pyrene	ND	(0.2)	[1]	ND	(0.2)	[1]	NA			ND	(0.2)	[1]
Benzo(b)fluoranthene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Benzo(g,h,i)perylene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Benzo(k)fluoranthene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Butylbenzylphthalate	0.1 J	(0.5)	[1]	0.2 J	(0.5)	[1]	NA			ND	(0.5)	[1]
Chrysene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Di-n-butylphthalate	ND	(0.5)	[1]	0.3 J	(0.5)	[1]	NA			ND	(0.5)	[1]
Dibenz(a,h)anthracene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Diethylphthalate	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			0.2 J	(0.5)	[1]
Oimethylphthalate	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Fluorene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Heptachlorobiphenyl	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
Hexachlorocyclopentadiene	ND	(1)	[1]	ND	(1)	[1]	NA			ND	(1)	[1]
Indeno(1,2,3-cd)pyrene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Octachlorobiphenyl	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
Pentachlorobiphenyl	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
Pentachlorophenol	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Phenanthrene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Pyrene	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]

PARAMETER	NONE WS-02 E600-WS-02-01 17 May 1994			NONE WS-02 E600-WS-02-02 Dup of E600-WS-02-01 17 May 1994			NONE BW-50 E673-BW-50-01 31 August 1994			NONE BW-50 E673-WS-01-01 17 May 1993		
E525 - EPA method for Organics in Water, cont. (ug/L)												
Simazine	ND	(1)	[1]	ND	(1)	[1]	NA			ND	(1)	[1]
Tetrachlorobiphenyl	ND	(0.1)	[1]	ND	(0.1)	[1]	NA			ND	(0.1)	[1]
bis(2-Ethylhexyl)phthalate	ND	(2)	[1]	1 J	(2)	[1]	NA			2	(2)	[1]
di(2-ethylhexyl)adipate	ND	(2)	[1]	ND	(2)	[1]	NA			ND	(2)	[1]
gamma-BHC(Lindane)	ND	(0.5)	[1]	ND	(0.5)	[1]	NA			ND	(0.5)	[1]
Modified SW8015 - Direct Inject (mg/L)												
2-Butanone(MEK)	NA			NA			ND	(0.165)	[1]	NA		
4-Methyl-2-pentanone(MIBK)	NA			NA			ND	(0.658)	[1]	NA		
Ethanol	NA			NA			ND	(0.372)	[1]	NA		
Ethyl ether	NA			NA			ND	(0.254)	[1]	NA		
SW8260 - Volatile Organic Carbons (ug/L)												
1,1,1,2-Tetrachloroethane	NA			NA			ND	(0.081)	[1]	NA		
1,1,1-Trichloroethane	NA			NA			ND	(0.098)	[1]	NA		
1,1,2,2-Tetrachloroethane	NA			NA			ND	(0.152)	[1]	NA		
1,1,2-Trichloroethane	NA			NA			ND	(0.0855)	[1]	NA		
1,1-Dichloroethane	NA			NA			ND	(0.0794)	[1]	NA		
1,1-Dichloroethene	NA			NA			ND	(0.148)	[1]	NA		
1,2,3-Trichloropropane	NA			NA			ND	(0.0907)	[1]	NA		
1,2-Dichlorobenzene	NA			NA			ND	(0.102)	[1]	NA		
1,2-Dichloroethane	NA			NA			ND	(0.0454)	[1]	NA		
1,2-Dichloropropane	NA			NA			ND	(0.0763)	[1]	NA		
1,3-Dichlorobenzene	NA			NA			ND	(0.11)	[1]	NA		
1,4-Dichlorobenzene	NA			NA			ND	(0.116)	[1]	NA		
1-Chlorohexane	NA			NA			ND	(0.181)	[1]	NA		
2-Butanone(MEK)	NA			NA			ND	(3.11)	[1]	NA		
2-Chloroethyl vinyl ether	NA			NA			ND	(0.0881)	[1]	NA		
2-Hexanone	NA			NA			ND	(0.431)	[1]	NA		
4-Methyl-2-pentanone(MIBK)	NA			NA			ND	(0.13)	[1]	NA		
Acetone	NA			NA			3.14 B	(0.641)	[1]	NA		
Benzene	NA			NA			1.18 B	(0.194)	[1]	NA		
Bromobenzene	NA			NA			ND	(0.0703)	[1]	NA		
Bromodichloromethane	NA			NA			ND	(0.0491)	[1]	NA		
Bromomethane	NA			NA			ND	(0.106)	[1]	NA		

Compiled: 12/14/94 () = Detection Limit [] = Dilution Factor ND = Not Detected NM = Non Measurable NA = Not Applicable R = Invalidated Result

PARAMETER	NONE WS-02 E600-WS-02-01 17 May 1994	NONE WS-02 E600-WS-02-02 Dup of E600-WS-02-01 17 May 1994	NONE BW-50 E673-BW-50-01 31 August 1994	NONE BW-50 E673-WS-01-01 17 May 1993
SW8260 - Volatile Organic Carbons, cont. (ug/L)				
Carbon disulfide	NA	NA	ND (0.125) [1]	NA
Carbon tetrachloride	NA	NA	ND (0.127) [1]	NA
Chlorobenzene	NA	NA	ND (0.101) [1]	NA
Chloroethane	NA	NA	ND (0.13) [1]	NA
Chloroform	NA	NA	ND (0.0709) [1]	NA
Chloromethane	NA	NA	ND (0.119) [1]	NA
Dibromochloromethane	NA	NA	ND (0.0554) [1]	NA
Dibromomethane	NA	NA	ND (0.0683) [1]	NA
Ethylbenzene	NA	NA	0.44 (0.139) [1]	NA
Methylene chloride	NA	NA	0.53 B (0.426) [1]	NA
Styrene	NA	NA	ND (0.0811) [1]	NA
Tetrachloroethene	NA	NA	ND (0.179) [1]	NA
Toluene	NA	NA	1.5 (0.088) [1]	NA
Tribromomethane(Bromoform)	NA	NA	ND (0.0776) [1]	NA
Trichloroethene	NA	NA	ND (0.1) [1]	NA
Trichlorofluoromethane	NA	NA	ND (0.172) [1]	NA
Vinyl acetate	NA	NA	ND (0.176) [1]	NA
Vinyl chloride	NA	NA	ND (0.159) [1]	NA
cis-1,2-Dichloroethene	NA	NA	ND (0.0485) [1]	NA
cis-1,3-Dichloropropene	NA	NA	ND (0.086) [1]	NA
m & p-Xylene	NA	NA	0.27 B (0.248) [1]	NA
o-Xylene	NA	NA	0.12 B (0.107) [1]	NA
trans-1,2-Dichloroethene	NA	NA	ND (0.118) [1]	NA
trans-1,3-Dichloropropene	NA	NA	ND (0.0988) [1]	NA
SW8270 - Semivolatile Organics (ug/L)				
1,2,4-Trichlorobenzene	NA	NA	ND (0.465) [1]	NA
1,2-Dichlorobenzene	NA	NA	ND (0.564) [1]	NA
1,3-Dichlorobenzene	NA	NA	ND (0.379) [1]	NA
1,4-Dichlorobenzene	NA	NA	ND (1.49) [1]	NA
2,4,5-Trichlorophenol	NA	NA	ND (0.302) [1]	NA
2,4,6-Trichlorophenol	NA	NA	ND (0.36) [1]	NA
2,4-Dichlorophenol	NA	NA	ND (0.378) [1]	NA
2,4-Dimethylphenol	NA	NA	ND (0.615) [1]	NA
2,4-Dinitrophenol	NA	NA	ND (1.13) [1]	NA

PARAMETER	NONE WS-02 E600-WS-02-01 17 May 1994	NONE WS-02 E600-WS-02-02 Dup of E600-WS-02-01 17 May 1994	NONE BW-50 E673-BW-50-01 31 August 1994	NONE BW-50 E673-WS-01-01 17 May 1993
SW8270 - Semivolatile Organics, cont. (ug/L)				
2,4-Dinitrotoluene	NA	NA	ND (0.296) [1]	NA
2,6-Dinitrotoluene	NA	NA	ND (0.578) [1]	NA
2-Chloronaphthalene	NA	NA	ND (0.745) [1]	NA
2-Chlorophenol	NA	NA	ND (0.502) [1]	NA
2-Methylnaphthalene	NA	NA	ND (0.758) [1]	NA
2-Methylphenol (o-cresol)	NA	NA	ND (0.446) [1]	NA
2-Nitroaniline	NA	NA	ND (0.481) [1]	NA
2-Nitrophenol	NA	NA	ND (0.722) [1]	NA
3,3'-Dichlorobenzidine	NA	NA	ND (3.46) [1]	NA
3-Nitroaniline	NA	NA	ND (0.478) [1]	NA
4,6-Dinitro-2-methylphenol	NA	NA	ND (2.7) [1]	NA
4-Bromophenyl phenyl ether	NA	NA	ND (0.269) [1]	NA
4-Chloro-3-methylphenol	NA	NA	ND (0.355) [1]	NA
4-Chloroaniline	NA	NA	ND (0.839) [1]	NA
4-Chlorophenyl phenyl ether	NA	NA	ND (0.421) [1]	NA
4-Methylphenol/3-Methylphenol	NA	NA	ND (0.413) [1]	NA
4-Nitroaniline	NA	NA	ND (0.58) [1]	NA
4-Nitrophenol	NA	NA	ND (0.711) [1]	NA
Acenaphthene	NA	NA	ND (0.564) [1]	NA
Acenaphthylene	NA	NA	ND (0.576) [1]	NA
Anthracene	NA	NA	ND (0.621) [1]	NA
Benzo(a)anthracene	NA	NA	ND (0.68) [1]	NA
Benzo(a)pyrene	NA	NA	ND (0.618) [1]	NA
Benzo(b)fluoranthene	NA	NA	ND (0.607) [1]	NA
Benzo(g,h,i)perylene	NA	NA	ND (0.656) [1]	NA
Benzo(k)fluoranthene	NA	NA	ND (0.883) [1]	NA
Benzoic acid	NA	NA	ND (5.64) [1]	NA
Benzyl alcohol	NA	NA	ND (0.4) [1]	NA
Butylbenzylphthalate	NA	NA	ND (0.443) [1]	NA
Chrysene	NA	NA	ND (0.689) [1]	NA
Di-n-butylphthalate	NA	NA	ND (0.444) [1]	NA
Di-n-octylphthalate	NA	NA	ND (0.604) [1]	NA
Dibenz(a,h)anthracene	NA	NA	ND (0.757) [1]	NA
Dibenzofuran	NA	NA	ND (0.568) [1]	NA
Diethylphthalate	NA	NA	ND (0.607) [1]	NA

Compiled: 12/14/94 () = Detection Limit [] = Dilution Factor ND = Not Detected NM = Non Measurable NA = Not Applicable R = Invalidated Result

PARAMETER	NONE WS-02 E600-WS-02-01 17 May 1994			NONE WS-02 E600-WS-02-02 Dup of E600-WS-02-01 17 May 1994			NONE BW-50 E673-BW-50-01 31 August 1994				NONE BW-50 E673-WS-01-01 17 May 1993		
SW8270 - Semivolatile Organics, cont. (ug/L)													
Dimethylphthalate	NA			NA			ND		(0.379)	[1]	NA		
Diphenylamine/N-NitrosoDPA	NA			NA			ND		(0.607)	[1]	NA		
Fluoranthene	NA			NA			ND		(0.628)	[1]	NA		
Fluorene	NA			NA			ND		(0.664)	[1]	NA		
Hexachlorobenzene	NA			NA			ND		(0.502)	[1]	NA		
Hexachlorobutadiene	NA			NA			ND		(0.667)	[1]	NA		
Hexachlorocyclopentadiene	NA			NA			ND		(1.85)	[1]	NA		
Hexachloroethane	NA			NA			ND		(1.67)	[1]	NA		
Indeno(1,2,3-cd)pyrene	NA			NA			ND		(0.713)	[1]	NA		
Isophorone	NA			NA			ND		(0.318)	[1]	NA		
N-Nitroso-di-n-propylamine	NA			NA			ND		(0.53)	[1]	NA		
Naphthalene	NA			NA			ND		(0.672)	[1]	NA		
Nitrobenzene	NA			NA			ND		(0.508)	[1]	NA		
Pentachlorophenol	NA			NA			ND		(0.454)	[1]	NA		
Phenanthrene	NA			NA			ND		(0.577)	[1]	NA		
Phenol	NA			NA			ND		(0.401)	[1]	NA		
Pyrene	NA			NA			ND		(0.746)	[1]	NA		
bis(2-Chloroethoxy)methane	NA			NA			ND		(0.51)	[1]	NA		
bis(2-Chloroethyl)ether	NA			NA			ND		(0.556)	[1]	NA		
bis(2-Chloroisopropyl)ether	NA			NA			ND		(0.519)	[1]	NA		
bis(2-Ethylhexyl)phthalate	NA			NA			3.37	B	(0.9)	[1]	NA		
SW9060 - Total Organic Carbon (mg/L)													
Total organic carbon	ND	(0.357)	[1]	ND	(0.357)	[1]	NA				<1	{1}	[1]

TABLE 3 RESULTS OF INORGANIC ANALYSES FOR BASE WELL SUPPLY AND POTABLE WATER SAMPLES, Elmendorf OU6.

PARAMETER	SITE ID/RISK AREA LOCATION ID SAMPLE ID SAMPLE DATE																				
	NONE BW-50 E673-BW-50-01 31 August 1994					NONE BW-50 E673-WS-01-01 17 May 1993					NONE WS-02 E600-WS-02-01 17 May 1994					NONE WS-02 E600-WS-02-02 Dup of E600-WS-02-01 17 May 1994				
E160.1 - Residue, Filterable (TDS) (mg/L)																				
Total dissolved solids	NA					100		(8.88)		[1]	96		(8.88)		[1]	100		(8.88)		[1]
E300 - Anions (mg/L)																				
Chloride	NA					3.24		(0.0281)		[1]	2.01		(0.0281)		[1]	2.02		(0.0281)		[1]
Fluoride	NA					<0.2		{0.2}		[1]	0.811		(0.049)		[1]	0.735		(0.049)		[1]
Sulfate	NA					14.9		(0.0471)		[1]	22.4		(0.0471)		[1]	22.5		(0.0471)		[1]
E350.1 - Nitrogen, Ammonia (mg/L)																				
Ammonia - Distilled	NA					0.11		(0.0468)		[1]	0.193		(0.0468)		[1]	0.184		(0.0468)		[1]
E353.1 - Nitrate-Nitrite (mg/L)																				
Nitrate-Nitrite as N	NA					0.369		(0.00728)		[1]	0.352		(0.00728)		[1]	0.355		(0.00728)		[1]
SW6010 - Metals (mg/L)																				
Aluminum	0.0599	B	(0.0523)		[1]	-0.0405	JB	(0.0523)		[1]	0.027	JB	(0.0523)		[1]	0.0153	JB	(0.0523)		[1]
Antimony	-0.0149	JB	(0.076)		[1]	0.0401	JB	(0.076)		[1]	0.035	JB	(0.076)		[1]	-0.0184	JB	(0.076)		[1]
Arsenic	-0.0148	JB	(0.0468)		[1]	-0.0248	JB	(0.0468)		[1]	-0.016	JB	(0.0468)		[1]	-0.0256	JB	(0.0468)		[1]
Barium	0.00211	B	(0.00086)		[1]	0.00276	B	(0.00086)		[1]	0.00558	B	(0.00086)		[1]	0.00558	B	(0.00086)		[1]
Beryllium	0.00128	B	(0.00051)		[1]	0.00048	JB	(0.00051)		[1]	-0.00001	JB	(0.00051)		[1]	0.00048	JB	(0.00051)		[1]
Cadmium	0.00023	JB	(0.00386)		[1]	0.00132	JB	(0.00386)		[1]	0.00074	JB	(0.00386)		[1]	0.0008	JB	(0.00386)		[1]
Calcium	23		(0.0175)		[1]	21.9		(0.0175)		[1]	24.7		(0.0175)		[1]	25.1		(0.0175)		[1]
Chromium	0.0016	JB	(0.00524)		[1]	0.00291	JB	(0.00524)		[1]	0.00491	J	(0.00524)		[1]	0.00336	J	(0.00524)		[1]
Cobalt	-0.00279	JB	(0.00407)		[1]	0.0013	JB	(0.00407)		[1]	0	JB	(0.00407)		[1]	-0.0013	JB	(0.00407)		[1]
Copper	0.00279	JB	(0.00916)		[1]	-0.058	JB	(0.00916)		[1]	-0.0673	JB	(0.00916)		[1]	-0.0638	JB	(0.00916)		[1]

Compiled: 12/8/94 () = Detection Limit [] = Dilution Factor ND = Not Detected NM = Non Measurable NA = Not Applicable R = Invalidated Result

PARAMETER	NONE BW-50 E673-BW-50-01 31 August 1994				NONE BW-50 E673-WS-01-01 17 May 1993				NONE WS-02 E600-WS-02-01 17 May 1994				NONE WS-02 E600-WS-02-02 Dup of E600-WS-02-01 17 May 1994			
SW6010 - Metals, cont. (mg/L)																
Iron	0.738		(0.00452)	[1]	0.00552	B	(0.005)	[1]	-0.0372	JB	(0.005)	[1]	-0.0406	JB	(0.005)	[1]
Lead	-0.00893	JB	(0.0216)	[1]	0.0246	B	(0.0216)	[1]	0.0481	B	(0.0216)	[1]	0.0226	B	(0.0216)	[1]
Magnesium	4:65		(0.0479)	[1]	4.04		(0.0479)	[1]	3.09		(0.0479)	[1]	3.12		(0.0479)	[1]
Manganese	0.0131		(0.00155)	[1]	0.00043	JB	(0.00155)	[1]	0.00043	JB	(0.00155)	[1]	-0.00007	JB	(0.00155)	[1]
Molybdenum	-0.00019	JB	(0.00739)	[1]	0.0033	JB	(0.00739)	[1]	0.00585	JB	(0.00739)	[1]	0.00609	JB	(0.00739)	[1]
Nickel	-0.00395	JB	(0.0141)	[1]	-0.01	JB	(0.0141)	[1]	0.00429	JB	(0.0141)	[1]	-0.00963	JB	(0.0141)	[1]
Potassium	0.334	JB	(0.822)	[1]	0.986		(0.822)	[1]	1.03		(0.822)	[1]	0.793	J	(0.822)	[1]
Selenium	-0.00774	JB	(0.0891)	[1]	-0.0336	JB	(0.0891)	[1]	-0.0254	JB	(0.0891)	[1]	-0.0116	JB	(0.0891)	[1]
Silver	-0.00064	JB	(0.00519)	[1]	0	JB	(0.00519)	[1]	0.00273	JB	(0.00519)	[1]	0.00203	JB	(0.00519)	[1]
Sodium	2.4		(0.0401)	[1]	2.31		(0.0401)	[1]	2.1		(0.0401)	[1]	2.16		(0.0401)	[1]
Thallium	0.06	JB	(0.0833)	[1]	-0.0124	JB	(0.0833)	[1]	-0.0321	JB	(0.0833)	[1]	0.0145	JB	(0.0833)	[1]
Vanadium	-0.001	JB	(0.00454)	[1]	-0.00232	JB	(0.00454)	[1]	0.0026	JB	(0.00454)	[1]	-0.00242	JB	(0.00454)	[1]
Zinc	0.0289		(0.00402)	[1]	0.0657		(0.00402)	[1]	-0.0139	JB	(0.00402)	[1]	-0.0171	JB	(0.00402)	[1]
SW7060 - Arsenic (mg/L)																
Arsenic	-0.00218	JB	(0.00214)	[1]	-0.00152	JB	(0.000647)	[1]	-0.00162	JB	(0.000647)	[1]	-0.00198	JB	(0.000647)	[1]
SW7421 - Lead (mg/L)																
Lead	0.00128	JB	(0.0022)	[1]	0.00217	J	(0.0022)	[1]	0.00253		(0.0022)	[1]	0.00072	JB	(0.0022)	[1]
SW7470 - Mercury (mg/L)																
Mercury	-0.0001	J	(0.000033)	[1]	-0.00012	J	(0.000033)	[1]	-0.00008	J	(0.000033)	[1]	-0.0001	J	(0.000033)	[1]
SW9012 - Total Cyanide (mg/L)																
Cyanide	NA				<0.00942		(0.00942)	[1]	<0.00942		(0.00942)	[1]	<0.00942		(0.00942)	[1]

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	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)	MANGA-NESE (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)
MAR 10...	20	0.30	9.2	113	0.15	1.0	20	40	150	16	16.00

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
APR 12...	61 14 19 N	149 47 20 W	6	9	97100719	13.5	0	168	8.0	1.2	61

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	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)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
APR 12...	74	0	0.410	79	19	25	4.1	3.4	0.2	8	0.40	2.0

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	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)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	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)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)
APR 12...	19	0.90	8.6	50	0	102	0.14	1.8	150	16	16.00

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
MAR 00...	61 14 19 N	149 47 20 W	6	9	97200998	6.5	0	210	7.2	9.5	77

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	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)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
MAR 00...	94	0	0.360	100	26	32	5.7	2.5	0.1	5	0.40	6.5

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	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)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	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)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)
MAR 00...	20	0.10	9.6	10	0	125	0.17	1.6	150	16	16.00

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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)
APR 17...	61 14 19 N	149 47 20 W	6	9	97300444	6.0	5	213	7.0

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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 TOTAL (MG/L AS N) (00620)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	PHOS-PHATE, TOTAL (MG/L AS PO4) (00650)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
APR 17...	15	79	96	0	0.290	0.290	0.31	100	21

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	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)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
APR 17...	31	5.4	3.1	0.1	6	0.50	2.8	22	0.30

611419149472001 - SB01300310ABBA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)
APR 17...	10	<10	<10	122	0.17	0.100	150	16	16.00

611427149460901 - SB01300302CCDA1 004
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
MAY 22...	1245	61 14 27 N	149 46 09 W	6	9	97300445	4.0	5	132	7.1

611427149460901 - SB01300302CCDA1 004
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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 DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
MAY 22...	6.6	43	52	0	0.36	0.04	<0.010	<0.010	0.320	0.320	0.04

611427149460901 - SB01300302CCDA1 004
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	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)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	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)
MAY 22...	0.320	0.0	<0.010	<0.010	0.5	57	14	18	2.9	2.4	0.1

611427149460901 - SB01300302CCDA1 004
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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)	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)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
MAY 22...	8	0.40	1.0	18	<0.10	7.6	1	ND	ND	25

611427149460901 - SB01300302CCDA1 004
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY 22...	200	50	ND	<10	<10	<20	<100	1	0.0	77

611427149460901 - SB01300302CCDA1 004
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	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)
MAY 22...	0.11	0.0	1.4	0.0	<0.5	184	24	22.50	20	23

611429149461501 - SB01300302CCBC1 005
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
MAY 22...	1350	61 14 29 N	149 46 29 W	6	9	97300446	3.5	7	156	7.6

611429149461501 - SB01300302CCBC1 005
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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 DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
MAY 22...	2.4	48	59	0	0.37	0.08	<0.010	<0.010	0.290	0.290	0.08

611429149461501 - SB01300302CCBC1 005
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	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)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	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)
MAY 22...	0.290	0.0	0.020	<0.010	0.0	66	18	21	3.4	2.8	0.1

611429149461501 - SB01300302CCBC1 005
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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)	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)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
MAY 22...	8	0.40	1.4	23	0.10	7.6	1	ND	ND	18

611429149461501 - SB01300302CCBC1 005
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY 22...	610	40	ND	40	<10	ND	<100	<1	0.0	90

611429149461501 - SB01300302CCBC1 005
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	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)
MAY 22...	0.12	0.0	1.3	0.0	<0.5	200	48	48.50	44	48

611430149470201 - SB01300303DCAD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1952 TO SEPTEMBER 1953

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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
JAN 06...	61 14 30 N	149 47 02 W	6	9	95300608	3.5	4	159	7.2	8.3	67

611430149470201 - SB01300303DCAD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

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)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
APR 05...	61 14 30 N	149 47 02 W	6	9	97100721	4.5	0	198	8.1	1.2	80

611430149470201 - SB01300303DCAD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

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)	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)
APR 05...	98	0	0.360	96	16	30	5.0	2.4	0.1	5	0.40	2.0

611430149470201 - SB01300303DCAD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)
APR 05...	18	0.10	8.3	10	0	116	0.16	1.6	191	72	71.00

611430149470201 - SB01300303DCAD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

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)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
MAR 08...	61 14 30 N	149 47 02 W	6	9	97200999	4.5	0	198	7.9	2.0	80

611430149470201 - SB01300303DCAD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

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)	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)
MAR 08...	98	0	0.380	100	21	33	4.6	2.3	0.1	5	0.40	0.80

611430149470201 - SB01300303DCAD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DATE	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	DEPTH OF WELL, TOTAL (FEET) (72008)
MAR 08...	19	0.10	8.9	0	0	119	0.16	1.7	191	72	71.00

611431149460901 - SB01300302CCAA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
MAY 22...	1110	61 14 31 N	149 46 09 W	6	9	97300447	4.0	6	129	7.1

611431149460901 - SB01300302CCAA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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 DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
MAY 22...	6.2	40	49	0	0.41	0.09	<0.010	<0.010	0.320	0.320	0.09

611431149460901 - SB01300302CCAA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	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)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	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)
MAY 22...	0.320	0.0	<0.010	<0.010	0.0	53	13	17	2.6	3.0	0.2

611431149460901 - SB01300302CCAA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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)	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)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
MAY 22...	11	0.40	1.0	19	<0.10	7.8	3	ND	ND	30

611431149460901 - SB01300302CCAA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY 22...	270	50	ND	20	<10	<20	<100	<1	0.0	76

611431149460901 - SB01300302CCAA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	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)
MAY 22...	0.10	0.0	1.4	0.0	<0.5	174	14	13.50	10	12

611431149460901 - SB01300302CCAA1 003
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)	TEMPER-ATURE AIR (DEG C) (00020)	FLOW RATE, INSTAN-TANEOUS (G/M) (00059)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)
APR											
17...	1330	61 14 31 N	149 46 09 W	6	9	97500665	5.5	4.0	1.5	--	180
JUL											
17...	1300	61 14 31 N	149 46 09 W	6	9	97500666	6.0	--	8.0	5	190

611431149460901 - SB01300302CCAA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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)	CAR-BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)
APR												
17...	6.5	53	86	100	0	--	0.010	0.230	0.230	--	0.240	--
JUL												
17...	6.5	40	65	79	0	0.97	--	--	0.510	0.46	0.510	0.0

611431149460901 - SB01300302CCAA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	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)
APR												
17...	--	--	--	0.7	--	--	--	--	3.6	--	--	--
JUL												
17...	0.060	0.020	<0.010	2.7	75	10	23	4.2	3.4	0.2	9	0.30

611431149460901 - SB01300302CCAA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)
APR												
17...	1.1	--	--	--	1	ND	5400	1400	80	50	--	<1
JUL												
17...	1.8	16	0.20	8.5	<1	ND	310	110	<10	<10	30	<1

611431149460901 - SB01300302CCAA1 003
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	SAMPLE SOURCE (72005)	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)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)
APR												
17...	--	--	--	1.0	0.03	174	28	41	13.50	24	27	25.40
JUL												
17...	103	99	0.14	--	--	174	28	41	13.50	24	27	19.00

611433149460201 - SB01300302CACD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
MAY										
22...	1000	61 14 35 N	149 45 57 W	6	9	97300448	5.0	30	149	7.6

611433149460201 - SB01300302CACD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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 DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
MAY 22...	2.9	59	72	0	0.37	0.08	<0.010	<0.010	0.290	0.290	0.08

611433149460201 - SB01300302CACD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	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)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	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)
MAY 22...	0.290	0.0	0.010	<0.010	0.0	63	4	20	3.2	3.0	0.2

611433149460201 - SB01300302CACD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

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)	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)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
MAY 22...	9	3.0	1.3	18	<0.10	7.8	1	ND	ND	24

611433149460201 - SB01300302CACD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY 22...	1400	<10	<2	30	<10	<20	<100	14	0.0	93

611433149460201 - SB01300302CACD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	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)
MAY 22...	0.13	0.0	1.3	0.0	0.6	208	54	53.50	48	52

611433149460201 - SB01300302CACD1 002
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)	FLOW RATE, INSTAN-TANEOUS (G/M) (00059)	COLOR (PLAT-INUM-COBALT UNITS) (00080)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)
JUL 17...	1100	61 14 35 N	149 45 57 W	6	9	97500667	6.0	8.0	3	160

611433149460201 - SB01300302CACD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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)	CAR-BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)
JUL 17...	6.4	38	48	59	0	0.62	0.370	0.25	0.370	0.03	<0.010

611433149460201 - SB01300302CACD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	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)
JUL 17...	0.080	0.010	0.8	73	25	24	3.2	2.8	0.1	8	0.30

611433149460201 - SB01300302CACD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	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)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
JUL 17...	1.4	16	0.10	8.3	<1	<2	1100	90	20	<10	30

611433149460201 - SB01300302CACD1 002
WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	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)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DEPTH OF HOLE, TOTAL (FEET) (72001)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	SAMPLE SOURCE (72005)	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)
JUL 17...	<1	88	87	0.12	208	54	30	41	53.50	48	52

611444149465301 - SB01300303DABC1 001
WATER-QUALITY DATA, WATER YEAR OCTOBER 1952 TO SEPTEMBER 1953

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)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
JAN 06...	61 14 44 N	149 46 53 W	6	9	95300610	4.0	2	168	7.2	8.8	71

611444149465301 - SB01300303DABC1 001
WATER-QUALITY DATA, WATER YEAR OCTOBER 1952 TO SEPTEMBER 1953

DATE	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)	SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
JAN 06...	87	0	0.180	85	14	27	4.2	2.3	0.1	6	1.0	2.0

611444149465301 - SB01300303DABC1 001
WATER-QUALITY DATA, WATER YEAR OCTOBER 1952 TO SEPTEMBER 1953

DATE	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)	MANGA-NESE (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)
JAN 06...	17	0.0	10	107	0.15	0.80	0	40	196	75	75.00