U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OPEN-FILE REPORT 95-128
Surficial Geology-Plate 1
Waythomas, C.F., 1995, Surficial Geologic Map of Northern Adak Island, Alaska

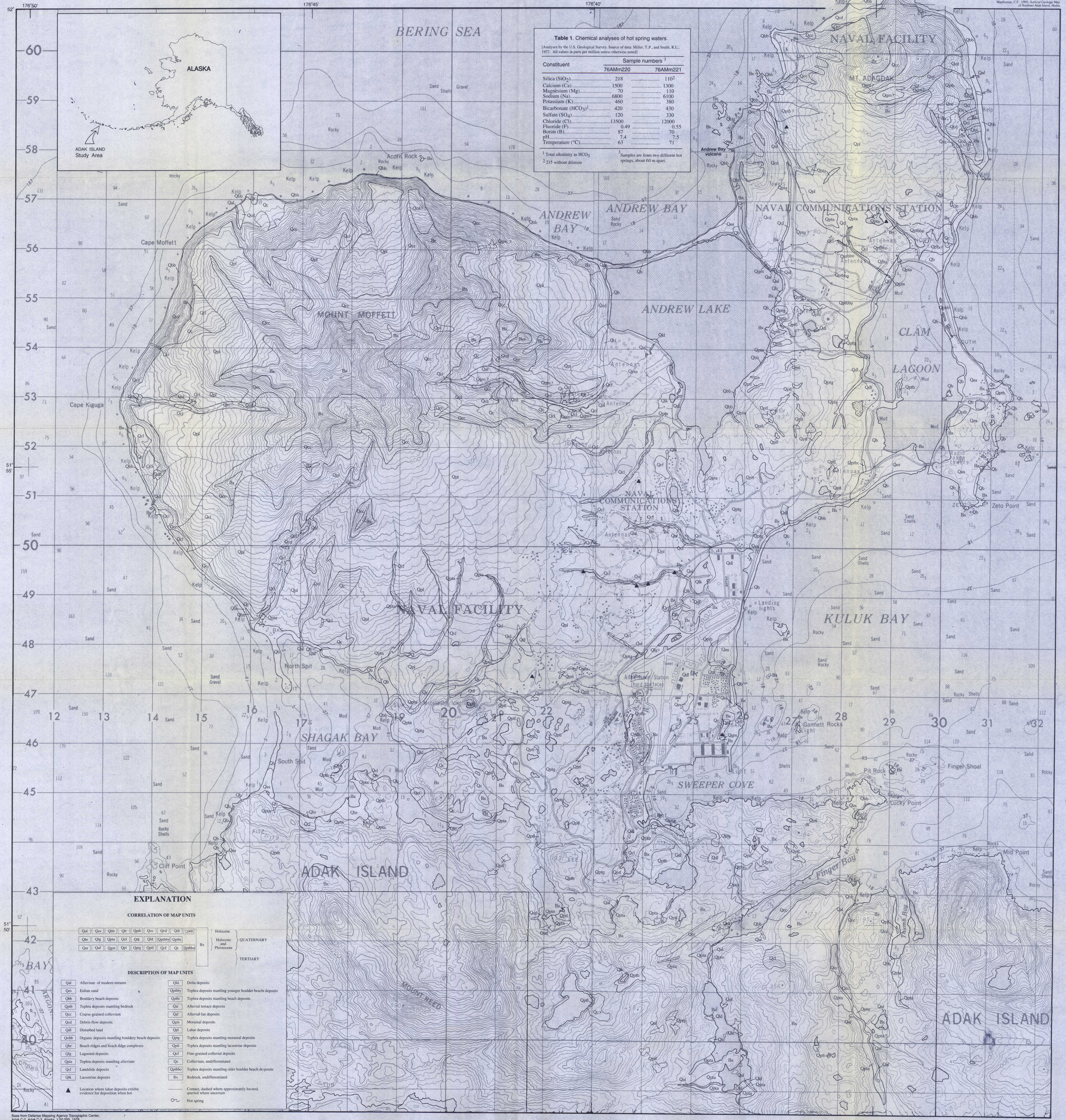


Table 1. Chemical analyses of hot spring waters.

[Analyses by the U.S. Geological Survey. Source of data: Miller, T.P., and Smith, R.L., 1977. All values in parts per million unless otherwise noted]

Constituent	Sample numbers [3]	
	76AMm220	76AMm221
Silica (SiO_2)	218	110[2]
Calcium (Ca)	1500	1300
Magnesium (Mg)	70	110
Sodium (Na)	6800	6100
Potassium (K)	460	380
Bicarbonate (HCO_3)[1]	420	430
Sulfate (SO_4)	120	330
Chloride (Cl)	13500	12000
Fluoride (F)	0.49	0.55
Boron (B)	87	70
pH	7.4	7.5
Temperature (°C)	63	71

[1] Total alkalinity as HCO_3

[2] 215 without dilution

[3] Samples are from two different hot springs, about 60 m apart.

EXPLANATION

CORRELATION OF MAP UNITS

Qal	Qes	Qbb	Qb	Qptb	Qcc	Qcd	Qdl	Qobb	Bx	Holocene
Qbr	Qlg	Qpta	Qcl	Qlk	Qld	Qptbby	Qptbc			Holocene and Pleistocene — QUATERNARY
Qat	Qaf	Qgm	Qpl	Qptg	Qptl	Qcf	Qc	Qptbbo		TERTIARY

DESCRIPTION OF MAP UNITS

Qal	Alluvium of modern streams	Qld	Delta deposits
Qes	Eolian sand	Qptbby	Tephra deposits mantling younger boulder beach deposits
Qbb	Bouldery beach deposits	Qptbc	Tephra deposits mantling beach deposits
Qptb	Tephra deposits mantling bedrock	Qat	Alluvial terrace deposits
Qcc	Coarse-grained colluvium	Qaf	Alluvial fan deposits
Qcd	Debris-flow deposits	Qgm	Morainal deposits
Qdl	Disturbed land	Qpl	Lahar deposits
Qobb	Organic deposits mantling bouldery beach deposits	Qptg	Tephra deposits mantling morainal deposits
Qbr	Beach ridges and beach ridge complexes	Qptl	Tephra deposits mantling lacustrine deposits
Qlg	Lagoonal deposits	Qcf	Fine-grained colluvial deposits
Qpta	Tephra deposits mantling alluvium	Qc	Colluvium, undifferentiated
Qcl	Landslide deposits	Qptbbo	Tephra deposits mantling older boulder beach deposits
Qlk	Lacustrine deposits	Bx	Bedrock, undifferentiated
▲	Location where lahar deposits exhibit evidence for deposition when hot	——	Contact, dashed where approximately located, queried where uncertain
		⚲	Hot spring

Base from Defense Mapping Agency Topographic Center, Adak C-2, Adak C-3, Alaska, 1:50,000, 1978

1000 500 0 1000 2000 3000 4000 5000 METERS

1000 500 0 1000 2000 3000 4000 5000 YARDS

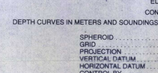
Geology mapped in 1993-94

Waythomas, C.F., 1995, Surficial Geologic Map of Northern Adak Island, Alaska, U.S. Geological Survey Open-File Report 95-128

ELEVATIONS IN METERS
CONTOUR INTERVAL 20 METERS
DEPTH CURVES IN METERS AND SOUNDINGS IN METERS AND DECIMETERS - DATUM IS MEAN LOWER LOW WATER

SPHEROID	CLARKE 1866
GRID	1,000 METER UTM ZONE 1
PROJECTION	TRANSVERSE MERCATOR
VERTICAL DATUM	NATIONAL GEODETIC VERTICAL DATUM OF 1929
HORIZONTAL DATUM	1927 NORTH AMERICAN DATUM
CONTROL BY	DMATC, NOS/NOAA

SAMPLE 1,000 METER GRID SQUARE



100,000 M. SQUARE IDENTIFICATION

EH

GRID ZONE DESIGNATION

1U

100 METER REFERENCE

1. Read large numbers labeling the VERTICAL grid line left of point and estimate tenths (100 meters) from grid line to point. 12 3
2. Read large numbers labeling the HORIZONTAL grid line below point and estimate tenths (100 meters) from grid line to point. 45 6

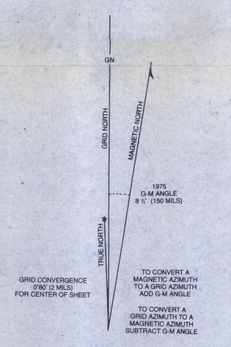
Example: 123456

WHEN REPORTING OUTSIDE THE 100,000 METER SQUARE AREA IN WHICH THE POINT LIES, PREFIX THE 100,000 METER SQUARE IDENTIFICATION.

Example: EH123456

WHEN REPORTING OUTSIDE THE GRID ZONE DESIGNATION AREA IN WHICH THE POINT LIES, PREFIX THE GRID ZONE DESIGNATION.

Example: 1UEH123456



TO CONVERT A MAGNETIC AZIMUTH TO A GRID AZIMUTH ADD G-M ANGLE

TO CONVERT A GRID AZIMUTH TO A MAGNETIC AZIMUTH SUBTRACT G-M ANGLE

SURFICIAL GEOLOGIC MAP OF NORTHERN ADAK ISLAND, ALASKA

By
Christopher F. Waythomas

1995