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COMPILATION OF GEOLOGIC DATA FROM THE SLEETMUTE B-6
QUADRANGLE, ALASKA

By

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THIS REPORT HAS NOT BEEN REVIEWED FOR
TECHNICAL CONTENT (EXCEPT AS NOTED IN
TEXT) OR FOR CONFORMITY TO THE
EDITORIAL STANDARDS OF DGGS.

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INTRODUCTION

This map is one in a series of *1:63,360* geologic data bases (scale 1:63,360) from southwest Alaska. The series is scheduled for release by DGGs during 1984 and 1985. Each map is a summary of geologic field data, analytical data, fossil reports, resource information, and land status available for that quadrangle. Geologic data were obtained primarily from U.S. Geological Survey field notes collected from 1941 to 1975. Field locations were replotted on modern topographic base maps from the original trimetrogon air photos and reconnaissance topographic maps. The map numbering sequence, which follows a normal written-page progression using the township and range mile-square blocks, starts in the northwest corner of the quadrangle and ends in the southeast corner. Where necessary, station numbers (table 1) were modified to fit the format: year, geologist, and field number. Initial station numbers commonly consisted of the date followed by a number for each observation point, starting each day with number 1, for example, 6/11-1. The modified number preserves the original number but adds the year and geologist to eliminate confusion and ambiguity. For example, 47Hr6/11-1 was the first station occupied by Joseph M. Hoare on June 11, 1947. Rock descriptions (table 2) and structural data (table 3) were compiled from field notes exactly as written; no attempt was made to modify or interpret the original data. We appreciate the review of Mark Robinson.

Table 1. Correspondence of map numbers from field station numbers.

Map no.	Field station number*	Map no.	Field station number*	Map no.	Field station number*	Map no.	Field station number*
1	44Wb8/17-6	18	45Hr6/15-5a	35	45Ca6/16-2	46	45Ca6/16-7
2	44Wc8/17-1	19	45Hr6/15-4		45Hr6/16-2		45Hr6/16-8
3	44Wb8/17-7	20	45Hr6/17-2	36	45Hr6/16-3	47	45Ca6/16-2
4	44Wb8/17-5	21	45Ca6/17-3	37	45Ca6/16-3		45Hr6/18-2
5	44Wb8/17-1	22	45Ca6/17-4		45Hr6/16-4	48	45Ca6/18-4
6	44Wb8/17-2	23	45Ca6/17-5	38	45Hr6/16-5	49	45Hr6/18-3
7	44Wb8/17-3	24	45Hr6/17-3	39	45Ca6/16-4	50	45Ca6/18-3
8	44Wb8/17-4	25	45Hr6/17-4	40	45Ca6/15-3	51	45Ca6/6-3
9	44Wb8/17-8	26	45Hr6/17-5	41	45Ca6/15-4		45Hr6/6-3
10	71Sg15-25	27	45Hr6/17-6	42	45Ca6/16-11	52	45Ca6/16-10b
	71Sg27	28	45Hr6/17-7		45Hr6/16-13		45Hr6/16-11
11	45Ca6/17-8	29	45Ca6/18-1	43	45Ca6/16-5	53	45Ca6/16-10a
12	45Ca6/17-7	30	45Hr6/18-1		45Hr6/16-6		45Hr6/16-12
13	45Ca6/17-6	31	45Ca6/15-2	44	45Ca6/16-6	54	45Ca6/18-6
14	45Ca6/17-9	32	45Hr6/15-7		45Hr6/16-7		45Hr6/18-5
15	45Hr6/17-8	33	45Hr6/17-1	45	45Ca6/16-8	55	45Ca6/18-5
16	45Hr6/17-9	34	45Ca6/18-1		45Ca6/16-9		45Hr6/18-4
17	45Hr6/15-5		45Hr6/16-1				

*Year-geologist-month/day-field number; Wb = E.J. Webber, Sg = D.H. Sorg, Ca = W.M. Cady, Hr = J.M. Hoare, Wc = R.E. Wallace

Table 2. Rock descriptions from field notes.

Map no.	Rock description	Map no.	Rock description
1	Rhyolite porphyry; these rolling hills are probably surface of basalt flows	31	Sandy limestone, locally dolomitic; cut by basic dike
2	Basalt flows with columnar jointing	32	(Float) Basalt, granite, rhyolite, diorite, and metasedimentary rocks
3	Basalt	33	Monzonite or latite
4	Rhyolite porphyry	34	Monzonite and basalt dike (80 ft wide)
5	Unaltered fissile black shale	35	Contact: purple weathering basalt dike (locally with olivine) and monzonite
6	Basalt cutting granite porphyry	36	Tuffs and agglomerate with prominent flow lines in olivine basalt
7	Boulder and gravel deposits	37	Tuffs and agglomerate underlying red, medium-gray and black slates
8	Shale	38	Volcanic sequence with minor shale
9	Nearly flat-lying aphanitic to porphyritic black basalt with columnar jointing (above rhyolite)	39	Interbedded tuff, agglomerate and red and medium-gray slates
10	Basalt and igneous rock with buddingtonite	40	(Float) Monzonite and siliceous shale
11	Massive, locally vesicular basalt flows	41	Silty slate and limestone in slate
12	Basalt flows and breccia	42	Agglomerate and tuff
13	Basalt with graywacke and shale float	43	Grayish-green agglomerate and tuff with shale and chert pebbles
14	Stream gravel: diorite, aplite, shale, and graywacke	44	Tuff and agglomerate with abundant hematite-red amygdaloidal thin-bedded tuff; monzonite
15	Very thin bedded slate interbedded with minor graywacke; igneous bodies to east and west	45	Grayish-green tuff and agglomerate; west of contact with quartz diorite
16	Basalt with breccia of banded chert fragments	46	Contact: quartz diorite to northeast and volcanic sequence to southwest
17	(Float) Diorite weathered yellow	47	White weathering rhyolite flows with columnar jointing
18	Basalt	48	Interbedded graywacke and shale with abundant plant stems
19	Metamorphosed conglomerate and graywacke	49	Contact: rhyolite adjacent to interbedded graywacke and shale with plant fossils
20	Siliceous, baked, thin-bedded shale and massive argillite; cross-cut by monzonite dikes (25 ft thick)	50	Rhyolite flows with columnar jointing
21	Monzonite	51	Contact: diorite on northwest and siliceous rocks to southeast. Sheared very fine-grained, recrystallized graywacke
22	Interbedded graywacke and shale with vesicular basalt float	52	Basalt
23	Monzonite and basalt with shale and graywacke float		Monzonite and basalt
24	Metamorphosed very thin-bedded, dark-gray slate and graywacke (with secondary biotite) and monzonite dike	53	Monzonite; part of volcanic sequence?
25	Well bedded white chert, locally with lavender spots or breccia		Basalt and tuffs
26	Thin-bedded tuffs and agglomerates with 3 in. shale fragments	54	Metamorphic graywacke and shale; very siliceous
27	Contorted massive argillites with large shale fragments	55	Interbedded graywacke and shale; lightly metamorphosed
28	Very thin-bedded slate interbedded with metamorphosed graywacke; monzonite or diorite bodies to E and W		Metamorphosed interbedded graywacke and shale
29	(Float) Lateral moraine with siliceous graywacke, shale, and chert		
30	(Float) Metamorphosed, siliceous slate and graywacke with <i>Inoceramus</i> sp.		

Table 3. Structural data.

Map no.	Attitude of bedding flow volcanic flow planes	Other structural data	Map no.	Attitude of bedding flow volcanic flow planes	Other structural data
2	N30W, 15NE		37	N68E, 38NW	
5	N85E, 50NW			N59E, 12SE	
12	N82E, 55NW		38	N07E, 11NW	
15	N60E, 60SE		39	N07E, 11NW	
16	N45W, 50NE		42	E-W, 35S	
17		strike of diorite body N66E		E-W, 33S	
			43	N46W, 08SW	
19	N07E, 75SE			N46W, 08SW	
20	N38E, 33NW N10E, 12NW	dike N25E, 80?	44	N35E, 03NW N25E, 06NW	
21		sheeting structure N67W, 75NE	45	N58E, 08NW N58E, 08NW	
22	N55E, 39NW		47	N62E, 10SE	
24	N30E, 75NW		48	N12W, 50SW	
25	N07E, 56SE		49	N12W, 50SW	
26	N12E, 50NW		50	N10E, 27NW	
27	N55E, 50SE		51	N21W, 77SW	
28	N62E, 45SE	dike N50E,??		N25W, 80NE	
31	N30E, 65NW	dike N30W,??	52	N56W, 16NE	
34		dike N15E,90	53	N65W, 16NE	
35		contact N50E,90	54	N81W, 23SW	
		dike N50E,??	55	N66E, 14NW	
36	N67E, 38NW			N66E, 10NW	

Table 4. Mines and prospects (modified from Eberlein and others, 1977).

Map letter	Name	Map coordinates	Development category	Resources	Form	Type	Brief description	Principal reference(s)
A	Mountain Top	61°23'47"N, 157°58'23"W	M	Sb, Hg	Fracture filling	Lode	Open space filling; veinlets contain quartz and cinnabar. Hosted in a highly altered, silicified siltstone of the Cretaceous Kuskokwim Group and altered basalt breccia. Olivine basalt dikes cut sediments locally. Stibnite in float occurs as fragments and as crystal aggregates in quartz veinlets. Reserves in sight estimated at 200 flasks of mercury.	Cobb, 1976, p. 42. Alaska Division of Geological and Geophysical Surveys unpublished information.

Key: Mine is defined as a mineral deposit with recorded production:
M - mine with known or probable activity since 1960;
m - mine with no activity since 1960.
Prospect is defined as a deposit that has been staked with subsequent exploratory or development work, but has no known production:
p - prospect work, but has no known activity since 1960.
*Minor constituent(s) or potential byproducts in parenthesis.

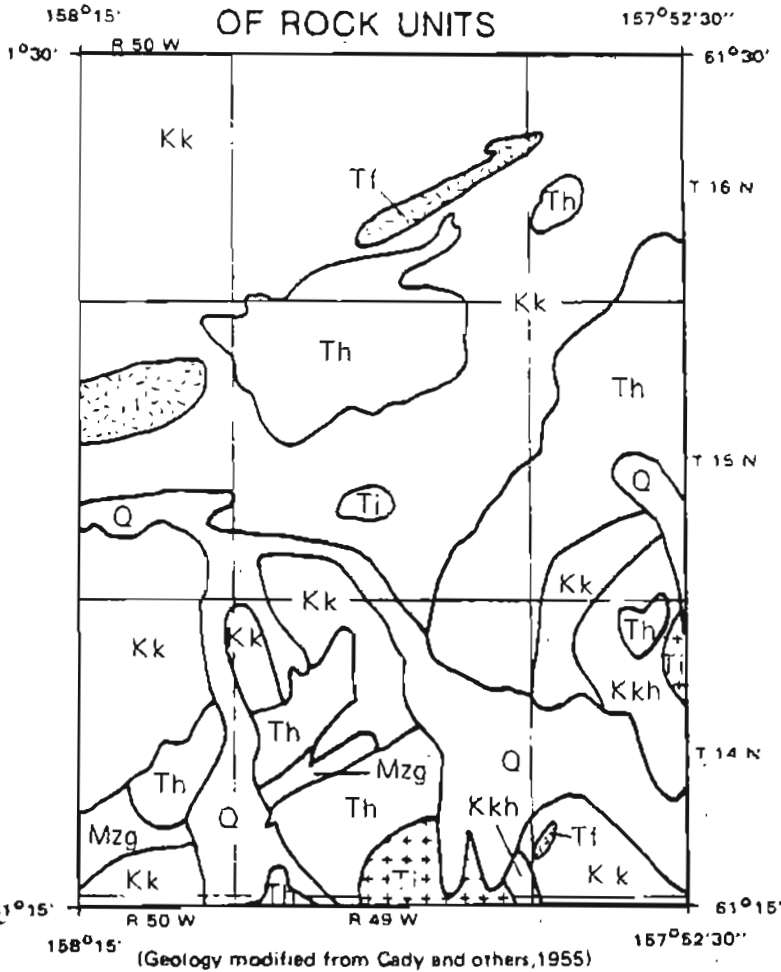
Table 5. Fossil occurrence data.

<u>Map no.</u>	<u>Specimen no.</u>	<u>Fossils</u>	<u>Age</u>	<u>Identified by</u>	<u>References</u>	<u>Remarks</u>
29	45ACa30	<i>Inoceramus</i> sp.	?	W.M. Cady	Cady, 1945, unpublished field notes	Found in shaly graywacke fragments from a moraine.
30	(none)	<i>Inoceramus</i> sp.	?	J.M. Hoare	Hoare, 1945, unpublished field notes	Found in metamorphosed slate and graywacke float.

REFERENCES CITED

- Cady, W.M., Wallace, R.E., Hoare, J.M., and Webber, E.J., 1955, The central Kuskokwim region, Alaska: U.S. Geological Survey Professional Paper 288, 132 p.
- Cobb, E.H., 1976, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dillingham, Sleetmute, and Taylor Mountains Quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-606, 92 p.
- Eberlein, G.D., Chapman, R.M., Foster, H.L., Gassaway, J.S., 1977, Table describing known metalliferous and selected nonmetalliferous mineral deposits in central Alaska (to accompany Open-file Map 77-188D): U.S. Geological Survey, 132 p.

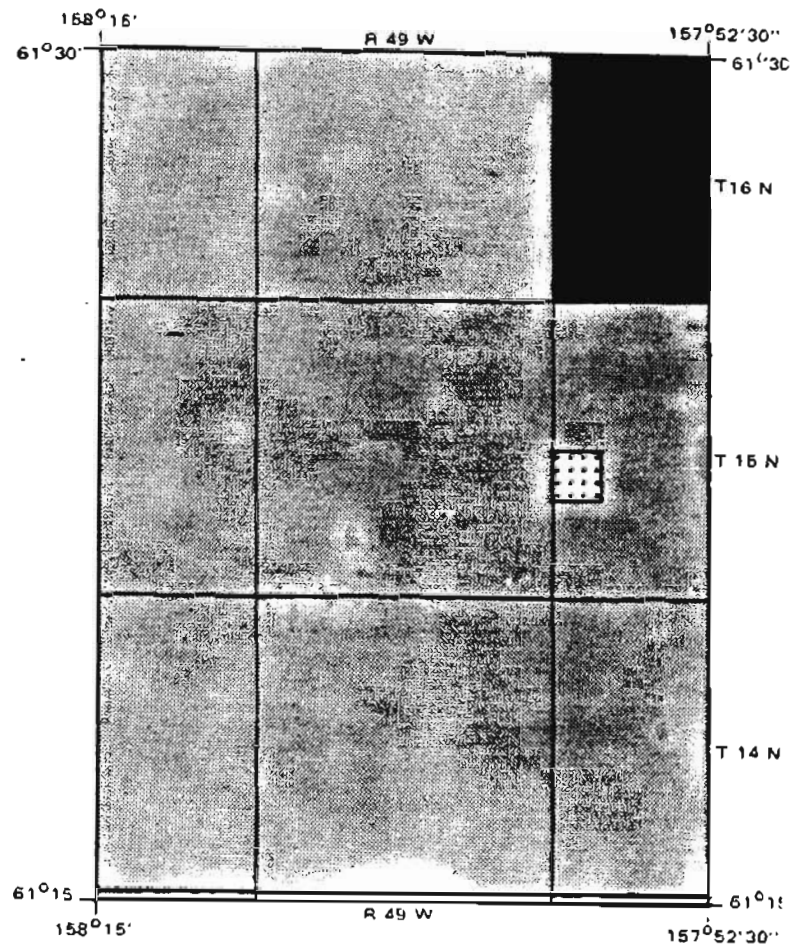
GENERALIZED DISTRIBUTION OF ROCK UNITS



EXPLANATION

- Q - Quaternary deposits
- Ti - Intrusive rocks
- Th - Holokuk basalt
- Tf - Felsic volcanic rocks
- Kk - Kuskokwim Group
- Kkh- Hornfelsed Kuskokwim Group
- Mzg - Gemuk Group

LAND STATUS






-  State selected
-  State tentatively approved
-  Native selected

Table 6

Pending Data

No - Table 7