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COMPILATION OF GEOLOGIC DATA FROM THE SLEETMUTE B-5 QUADRANGLE, SOUTHWESTERN ALASKA

By

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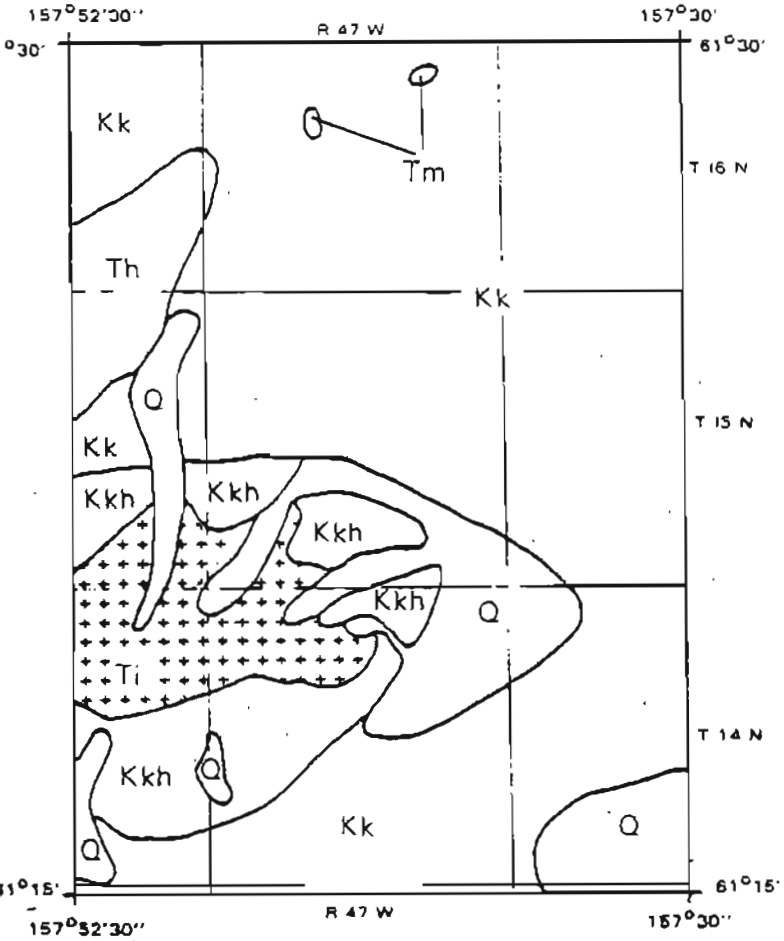
INTRODUCTION

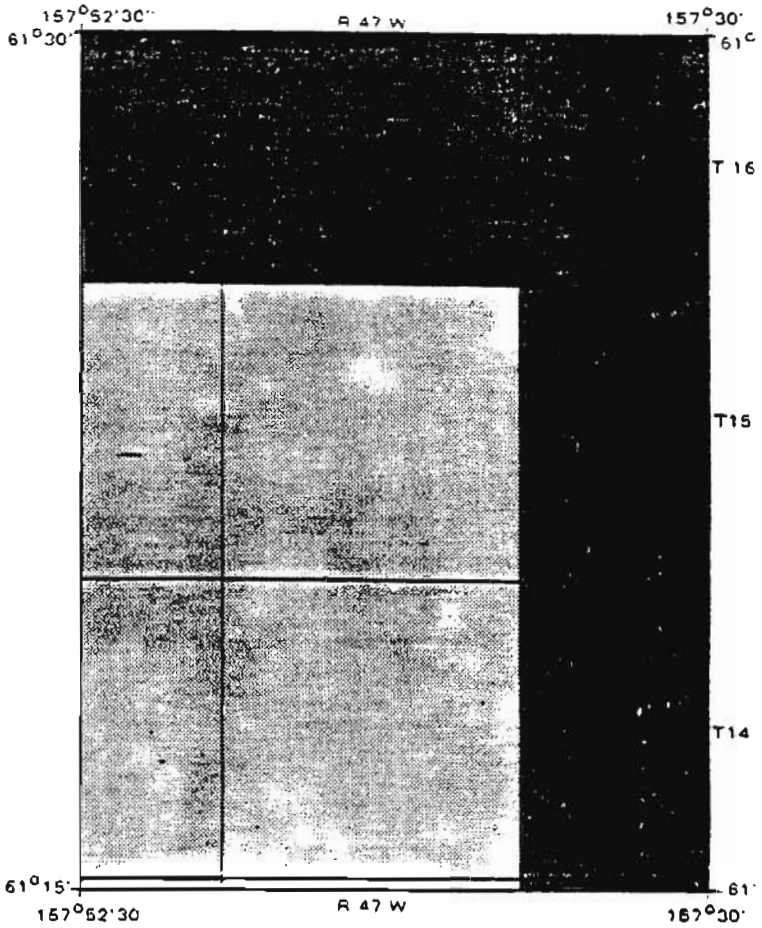
This map is one in a series of geologic data bases (scale 1:63,360) from southwest Alaska. The series is scheduled for release by DGGS during 1984 and 1985. Each map is a summary of geologic field data, analytical data, fossil reports, resource information, and land status available for that quadrangle. 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.

GENERALIZED DISTRIBUTION OF ROCK UNITS



(Geology modified from Cady and others, 1955)

LAND STATUS



(Source - Bureau of Land Management, March, 1983)

EXPLANATION

Q - Quaternary deposits

Ti - Intrusive rocks

Tm - Mafic dikes

Th - Holokuk basalt

Kkh- Hornfelsed Kuskokwim Group

Kk Kuskokwim Group

State selected

State tentatively approved

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

Map no.	Field station number*	Map no.	Field station number*	Map no.	Field station number*	Map no.	Field station number*
1	44Ca8/16-14	29	44Hr8/14-9	57	44Hr8/15-13	82	44Hr8/15-6
2	44Hr8/16-13	30	44Hr8/14-10	58	44Ca8/15-11	83	43Ca6/19-3
3	44Hr8/16-12	31	44Ca8/16-6	59	44Hr8/15-12	84	43Ca6/19-1
4	44Ca8/15-8	32	44Hr8/16-4	60	44Ca8/15-10	85	43Ca6/16-6
5	44Ca8/13-9	33	44Hr8/16-5	61	44Hr8/15-8	86	43Ca6/19-2
6	44Ca8/13-10	34	44Hr8/14-12	62	44Ca8/15-7	87	43Ca6/17-1
7	44Hr8/14-4	35	44Hr8/14-15	63	44Hr8/15-7	88	43Ca6/17-2
8	44Ca8/13-7	36	44Hr8/14-16	64	44Ca8/15-6	89	43Ca6/17-3
9	44Hr8/14-3	37	44Ca8/16-4	65	44Ca8/15-4	90	43Ca6/16-5
10	44Ca8/14-9	38	44Ca8/16-3		44Hr8/15-4	91	43Ca6/16-4
11	44Ca8/16-10	39	44Ca8/16-5	66	44Hr8/15-3A	92	43Ca6/16-3
12	44Ca8/16-11	40	44Ca8/16-2	67	44Ca8/15-3	93	43Ca6/15-1
13	44Ca8/16-12	41	44Ca8/16-1	68	44Hr8/15-3	94	43Ca6/16-2
14	44Ca8/16-13	42	44Hr8/16-1	69	44Ca8/15-2	95	43Ca6/16-1
15	44Hr8/16-10	43	44Hr8/16-2	70	44Hr8/15-2	96	43Ca6/13-5
16	44Hr8/16-9	44	44Hr8/16-3	71	44Hr8/15-1	97	43Ca6/13-4
17	44Hr8/16-8	45	44Hr8/14-13		44Ca8/15-1	98	43Ca6/13-3
18	44Hr8/16-11	46	44Hr8/14-14	72	44Hr8/14-24	99	43Ca6/13-2
19	44Hr8/14-5	47	44Hr8/14-17	73	43Ca6/20-1	100	43Ca6/13-1
20	44Hr8/14-6	48	44Hr8/14-18	74	43Ca6/20-2	101	43Ca6/14-1
21	44Hr8/14-7	49	44Hr8/14-19	75	44Hr8/15-11	102	43Ca6/18-1
22	44Ca8/16-9	50	44Hr8/14-20	76	44Ca8/15-9	103	82Mr311
23	44Ca8/16-8	51	44Hr8/14-21	77	44Hr8/15-10	104	43Ca6/22-1
24	44Ca8/16-7	52	44Hr8/14-22	78	44Hr8/15-9	105	43Ca6/22-2
25	44Hr8/16-6	53	44Hr8/14-23	79	44Ca8/15-8	106	43Ca6/23-1
26	44Hr8/16-7	54	43Ca6/19-4	80	44Ca8/15-5	107	43Ca6/23-2
27	44Hr8/14-8	55	44Ca8/15-12	81	44Hr8/15-6	108	43Ca6/23-3
28	44Hr8/14-11	56	44Hr8/15-14				

*Year-geologist-month/day-field number; Ca = W.M. Cady, Hr = J.M. Hoare, Mr = M.S. Robinson.

Table 2. Rock descriptions from field notes.

Map no.	Rock description
1	(Float) Basalt flanked by shale to north and south
2	Interbedded graywacke and shale
3	Contact: diorite and hornfels
4	Contact: diorite to west and hornfels to east
5	Contact: shale to west and basalt to east
6	Interbedded graywacke and shale
7	Thin-bedded graywacke and shale
8	Basaltic rocks
9	Thin-bedded graywacke and shale
10	Interbedded graywacke and shale; rhyolite float to west
11	Graywacke - poorly exposed
12	Graywacke - well exposed
13	(Float) Basalt
14	Graywacke hogback flanked by shale float
15	Graywacke with lesser baked shale, and mafic igneous rocks
16	Rhyolite dike or sill (fine-grained) with basalt float with large amphibole crystals
17	Shale with minor graywacke
18	Interbedded basalt (with large feldspar phenocrysts) graywacke and shale
19	Fractured, thin-bedded graywacke and shale
20	Thin-bedded graywacke and shale - much distorted
21	Thin-bedded graywacke and shale (axis of syncline just to the west)
22	(Float) Monzonitic body 400 ft wide
23	(Float) Basalt, 20 ft wide
24	Graywacke hogback ridge flanked by shale
25	Interbedded graywacke and shale with minor vein quartz float
26	Sill or sheet of columnar basalt
27	Graywacke and shale - poorly exposed
28	Graywacke - part of anticlinal structure
29	Graywacke
30	Graywacke and shale
31	(Float) Basalt with shale and graywacke
32	Interbedded shale with lesser graywacke and vein quartz float
33	(Float) Weathered basalt flow
34	Thin-bedded graywacke
35	Graywacke and shale
36	Graywacke - on flank of anticline
37	(Float) Shale
38	Massive basalt and basalt breccia (20 ft x 100 ft)
39	(Float) Amygdaloidal basalt
40	Basaltic rock in tabular units with polygonal jointing
41	Basaltic rock in tabular units with polygonal jointing with resistant mineral in joints
42	Weathered igneous rocks (basalt flow?)
43	Interbedded shale and graywacke
44	Interbedded graywacke and shale with much vein quartz float
45	Thin-bedded graywacke
46	Sedimentary rocks(?)
47	Graywacke and shale, on flank of syncline
48	Extremely distorted graywacke and shale with some calcite vein breccia
49	Graywacke and shale
50	Graywacke and shale
51	Graywacke and shale
52	Graywacke and shale
53	Graywacke and shale
54	Andesite to basalt dikes (2); from southeast looks like volcanic neck and radiating dikes
55	Interbedded graywacke and shale
56	Massive, coarse-grained graywacke
57	Coarse-grained graywacke
58	Interbedded graywacke and shale
59	Sedimentary rocks(?)
60	Interbedded graywacke and shale
61	Graywacke and shale
62	Interbedded graywacke and shale
63	Sedimentary rocks(?)
64	Interbedded graywacke and shale
65	Interbedded graywacke and shale
66	Sedimentary rocks(?)
67	Interbedded graywacke and shale
68	Sedimentary rocks, on flank of small anticline
69	Interbedded graywacke and shale
70	Graywacke and shale with fracture cleavage perpendicular to bedding
71	Thin-bedded graywacke and shale
72	Massive graywacke
73	Stream washed boulders and pebbles of granite, chert, and slate
74	Arkosic graywacke - like rock at Two Genevieves Claims
75	Graywacke with minor shale
76	Interbedded graywacke and shale
77	Graywacke
78	Graywacke and shale
79	Interbedded graywacke and shale
80	Interbedded graywacke and shale
81	Sedimentary rocks(?)
82	Interbedded graywacke and shale in minor syncline
83	Interbedded shale and graywacke
84	Basalt or shale; north of slate chert sequence
85	Slate
86	Chert-sandstone-shale sequence; strikes into graywacke-shale sequence
87	Interbedded slate, sandstone, and chert
88	Contact: granite to west and slate and chert to east
89	Granite, south of slate and chert
90	Granitic rock with hot springs (100°-110°F)
91	Slate and chert sequence
92	Slate and chert sequence
93	(Float) Sandstone, shale, and chert
94	Intrusive body (150 ft wide)
95	Interbedded slate and chert; possibly low-angle thrust fault separates these from graywacke and shale in valley bottom
96	Contact: interbedded slate, sandstone, and chert to northeast and granitic rocks to southeast
97	Interbedded slate and chert
98	Interbedded chert and siliceous slate and graywacke
99	Siliceous graywacke (contact metamorphosed?)
100	Contact: granitic rocks to east and siliceous sandstone and shale to west
101	Interbedded sandstone, shale, and chert
102	Biotite granite (extensive)
103	Coarse-grained, porphyritic, biotite granite with K-spar megacrysts
104	Quartzite, probably part of chert-slate sequence
105	Aplite dike cutting granitic rocks
106	(Float) Micaceous graywacke and shale ("Hollina series"); a fault probably separates this from the west dipping cherty sequence along the southeast front of the Chuilnuks
107	Micaceous slaty shale with pencil cleavage
108	Tightly folded, thin-bedded, blocky-weathering micaceous shale with abundant slickensides

Table 3. Structural data.

Map no.	Attitude of bedding and volcanic flow planes	Other structural data	Map no.	Attitude of bedding and volcanic flow planes	Other structural data
2	N03E, 63NW		58	N27E, 48SE	
3		contact - diorite and hornfels	59	N51W, 54NE	
4		contact - diorite to west	60	N14W, 70NE	
		hornfels to east	61	N75E, 41NW	
5	N65E, 67SE	contact - shale to west	62	N75E, 41NW	
		basalt to east	63	N19E, 57NW	
6	N30E, 70SE		64	N03E, 40NW	
7	N32E, 30SE		65	N20W, 60SW	
9	N34W, 39NE			N22W, 68SW	
10	N50E, 77NW		66	N03W, 31SW	
11	N07E, 49NW		67	N08W, 62SW	
12	E-W, 57S	basaltic dike	68	N15W, 36SW	crossed axis of small
		rubblecrop N08W?			anticline to east 200 ft
14	N11E, 80NW		69	N15W, 36SW	
15	N50E, 38NW		70	N08E, 64SE	
16		rhyolitic dike or sill	71	N48E, 28NW	
17	N03E, 25SE			N47E, 32NW	
18	N38E, SE(?)		72	N05E, 47NW	
19	N16E, 17SE		75	N-S, 63W	
20	N23E, 71SE		76	N20E, 76NW	
21	N44E, 65NW	crossed axis of syncline	77	N20E, 76NW	
22		monzonite dike	78	N13E, 40NW	
		rubblecrop N05W?	79	N25E, 54NW	
23		basalt dike	80	N07E, 77NW	
		rubblecrop N25W?	81	N07E, 77NW	
24	N35W, 43NE		82	N35W, 38NE	minor syncline
25	N28E, 33NW		83	N56W, 34NE	
27	N60E, 50NW		85	N60E, 74NW	
28	N11W, 64SW	anticlinal structure at	86	N18W, 45NE	
29	N08E, 43SE	stations 28, 29, 30	87	N40E, 29NW	
30	N24W, 64NE		88	N13E, 36SE	contact: granite to west,
31		basaltic dike			slate-chert to east
		rubblecrop	89		contact: granite to south
32	N23E, 76NW				slate-chert to north
34	N22E, 21SE		90		hot springs
35	N65E, 68NW	anticlinal axis between	91	N50W, 45NE	tops to northeast
36	N03W, 37NE	stations 35 and 36	92	N40W, 47NE	tops to northeast
38	N25W, 85NE		94		intrusive body N-S, 150 ft thick
40	N63E, 70SE(?)		95	N10W, 43NE	tops to east
41	N55W, 68NE(?)		96	N06W, 25NE	granite sheeting N18E, 71NW
43	N22E, 31NW				contact: N06W, 25NE slate,
44	N32E, 72NW				sandstone, and chert to NE,
45	N29E, 79SE				granite to SE(?)
46	N21W, 25SW		97	N-S, 68E	
47	N80E, 65NW	small syncline between	98	N25W, 25NE	
		stations 36 and 37	99	N41W, 20NE	contact(?): metamorphic rocks
48	N30W, 32NE				and graywacke
49	N17W, 40SW		100		contact: N17W(?)
50	N38W, 80NE				granite to east, sandstone
51	N18E, 21NW				and shale to west
52	N36E, 19NW		101	N15E, 85NW	tops to west
53	N42E, 48SE		102		biotite granite
55	N43W, 77SW		104	N34W, 61SW	tops to west(?)
56	N51W, 69SW		105		aplitic dike N75W, 66SW
57	N21E, 54SE		107	N50W, 48SW	cleavage N50W, 85NE

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 268, 132 p.