DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN FILE MAP
77-501
SHEET 3 OF 4

TABLE 2

	NYAC	LATE CRETACEOUS-EARLY TERTIARY PLUTONS					PROBABLE EARLY TERTIARY PLUTONS				
MAP NUMBER	1	4	5	6	8	10	14	15	16	17	18
OXIDES											
SiO_2	63.37	76.32	75.71	64.72	61.71	64.10	72.00	68.30	69.45	68.30	63.00
Al_2O_3	17.36	12.27	12.72	15.51	17.38	16.20	15.10	15.30	15.36	16.30	16.00
Fe_2O_3	2.30	0.54	0.14	1.57	0.61	1.90	0.60	2.10	0.68	0.20	1.90
FeO	2.06	1.38	1.50	2.67	4.24	2.80	1.10	1.40	2.03	1.60	2.80
MgO	1.38	0.25	0.08	2.53	2.36	2.40	0.17	1.10	0.63	1.20	2.20
CaO	3.54	0.81	0.90	4.22	5.01	3.80	1.10	2.80	1.78	3.00	4.10
Na_2O	4.16	3.54	4.15	3.38	4.14	3.60	4.50	4.20	4.33	3.90	3.50
K_2O	3.38	4.50	4.52	3.27	2.55	3.60	4.70	4.00	4.84	4.40	3.80
H_2O+	0.15	0.08	0.10	0.08	0.01	0.93	0.46		0.02	0.40	1.00
H_2O-	0.42	0.39	0.43	0.66	0.72				0.20		
TiO_2	0.53	0.18	0.15	0.67	0.79	0.64	0.07	0.44	0.45	0.42	0.61
P_2O_5	0.21	0.04		0.29	0.24	0.32	0.04	0.12	0.04	0.11	0.31
MnO	0.09	0.05	0.03	0.10	0.10	0.08	0.04	0.04	0.05	0.02	0.11
CO_2	0.76			0.05	0.02	0.05	0.21		0.01	0.05	0.60
BaO	0.27								0.07		
Total	99.98	100.35	100.43	99.72	99.88	100.40	100.09	99.80	99.94	99.90	99.93
ANALYST	2	1	1	4	4	6	6	5	3	6	6
CIPW NORM											
Quartz	18.55	35.56	31.38	19.80	11.96	17.42	25.22	21.66	20.04	20.06	17.30
Corundum	2.51	0.20				0.35	1.19			0.05	0.81
Orthoclase	20.01	26.52	26.62	19.39	15.09	21.18	27.75	23.68	28.62	26.03	22.47
Albite	35.26	29.87	35.00	28.70	35.08	30.35	38.04	35.61	36.67	33.03	29.64
Anorthite	11.90	3.75	2.72	17.55	21.34	16.38	3.87	11.10	8.19	13.86	14.53
Diopside			1.52	1.00	1.54			1.59	0.38		
Hypersthene	4.62	2.50	1.84	8.54	11.29	8.61	1.91	2.19	3.90	5.11	8.29
Olivine											
Magnetite	3.34	0.78	0.20	2.29	0.89	2.74	0.87	3.05	0.99	0.29	2.76
Ilmenite	1.01	0.34	0.28	1.28	1.50	1.21	0.13	0.84	0.86	0.80	1.16
Apatite	0.50	0.94		0.69	0.57	0.76	0.10	0.29	0.10	0.26	0.74
Calcite	1.73			0.11	0.05	0.11	0.48		0.02	0.11	1.37
Rutile											
Nepheline											

	PYROXENE-BEARING PLUTONS						MAFIC PLUTONS					
MAP NUMBER	19	20	21	22	23	24	25	26	27	28a	28b	29
OXIDES												
SiO_2	68.20	60.60	57.40	66.67	62.30	64.70	71.30	54.40	56.09	42.30	40.40	51.67
Al_2O_3	16.80	17.60	16.90	14.95	15.20	14.70	14.90	16.70	17.28	22.00	20.80	19.42
Fe_2O_3	1.50	3.20	3.60	0.71	1.40	0.80	0.40	2.30	1.85	7.70	6.80	0.84
FeO	1.00	1.90	3.30	3.80	3.50	5.10	1.60	6.00	4.32	4.40	6.10	5.83
MgO	0.17	1.60	3.00	1.38	3.80	1.70	1.30	5.10	4.24	3.90	5.60	4.52
CaO	0.76	3.60	4.60	3.03	4.30	3.50	3.00	8.10	7.48	16.00	14.80	9.60
Na_2O	5.50	5.00	5.00	3.55	3.50	3.20	4.20	3.40	3.74	1.20	1.20	3.04
K_2O	5.70	6.00	4.50	4.07	3.60	3.10	1.40	1.90	1.49	0.26	0.58	0.75
H_2O+	0.42	0.34	0.93	0.11	0.74	1.10	1.90	0.72	0.56	1.80	1.90	0.15
H_2O-				0.78	0.29		0.01		0.50	0.22	1.20	1.52
TiO_2	0.22	0.54	0.66	0.75	0.81	1.00	0.30	1.00	1.09	0.78	1.40	1.48
P_2O_5	0.03	0.20	0.42	0.16	0.27	0.28	0.10	0.35	0.41		0.32	0.37
MnO	0.07	0.12	0.14	0.07	0.08	0.12		0.16	0.09	0.18	0.08	0.14
CO_2	0.05	0.05	0.18		0.02	0.50	0.01	0.05	0.79	0.04	0.02	0.81
BaO									0.04			
Total	100.40	100.70	100.60	100.03	99.80	99.80	100.40	100.10	99.97	100.80	101.20	100.14
ANALYST	6	6	6	1	8	6	7	6	3	7	7	4
CIPW NORM												
Quartz	12.51	0.88		20.21	13.24	23.08	32.36	2.76	8.21			4.14
Corundum	0.39					1.55	1.28					
Orthoclase	33.54	35.19	26.43	24.07	21.38	18.36	8.24	11.21	8.86	1.53	3.43	4.43
Albite	46.35	42.00	42.04	30.06	29.76	27.13	35.39	28.72	31.85	9.65	5.39	25.73
Anorthite	3.25	7.80	10.31	12.85	15.21	12.40	14.11	24.65	26.12	53.57	49.66	37.13
Diopside		6.50	6.80	0.97	3.49			10.48	2.88	19.71	17.16	2.42
Hypersthene	0.78	1.10	3.83	8.24	11.93	11.53	5.33	15.32	14.03			17.90
Olivine			1.85							0.85	6.58	
Magnetite	2.17	4.61	5.19	1.03	2.04	1.16	0.58	3.33	2.70	11.10	9.86	1.22
Ilmenite	0.42	1.02	1.25	1.43	1.55	1.90	0.57	1.90	2.08	1.47	2.66	2.81
Apatite	0.07	0.47	0.99	0.38	0.64	0.67	0.24	0.83	0.98		0.76	0.88
Calcite	0.11	0.11	0.41		0.05	1.14	0.02	0.11	1.81	0.09	0.05	1.84
Rutile												
Nepheline										0.24	2.58	

	MAFIC PLUTONS (cont.)			MISCELLANEOUS PLUTONS					
MAP NUMBER	30	31	32	34	35	36	37	38	39
OXIDES									
SiO_2	45.40	42.60	41.20	75.43	66.40	71.40	64.40	60.29	47.70
Al_2O_3	15.90	15.60	18.70	14.25	15.60	15.40	14.40	16.68	16.40
Fe_2O_3	3.40	6.30	6.70	0.50	1.70	0.90	2.60	1.37	1.30
FeO	5.60	6.10	6.20		1.20	1.00	1.90	3.83	4.10
MgO	9.20	8.60	6.70	0.07	1.30	0.93	1.90	3.00	11.40
CaO	13.70	16.20	15.30	0.40	1.40	1.80	3.20	3.57	14.20
Na_2O	1.50	1.20	1.40	4.84	5.60	4.80	5.10	5.00	1.40
K_2O	0.86	0.41	0.45	3.85	4.20	2.60	5.00	1.90	0.06
H_2O+				0.05	0.95	1.00	0.54	0.50	3.20
H_2O-				0.25	0.24	0.24		1.88	
TiO_2	0.96	1.30	1.20	0.08	0.38	0.30	0.40	0.67	0.32
P_2O_5	0.12	0.06	0.09	0.06	0.21	0.12	0.26	0.23	0.02
MnO	0.15	0.16	0.21	0.03	0.07	0.04	0.12	0.11	1.20
CO_2				0.02	0.30	0.18	0.05	0.61	0.05
BaO				0.11				0.27	
Total	96.80	98.50	98.20	99.94	99.60	100.50	99.90	99.91	99.90
ANALYST	5	5	5	3	8	6	6	2	6
CIPW NORM									
Quartz				31.76	14.19	28.68	9.02	11.71	
Corundum				1.51	0.50	2.11		1.70	
Orthoclase	5.25	2.46	2.71	22.78	24.99	15.29	29.59	11.29	0.35
Albite	12.38	3.45	3.81	41.00	47.72	40.43	43.21	42.56	11.82
Anorthite	35.24	36.51	44.23	1.67	3.70	6.98	1.64	12.92	38.18
Diopside	27.25	35.42	25.90				9.71		25.13
Hypersthene				0.18	3.56	2.97	1.05	12.55	9.12
Olivine	12.21	6.54	6.45						9.57
Magnetite	5.09	9.27	9.90		2.48	1.30	3.78	2.00	1.88
Ilmenite	1.88	2.51	2.32	0.06	0.73	0.57	0.76	1.28	0.61
Apatite	0.29	0.14	0.22	0.14	0.50	0.28	0.62	0.55	0.05
Calcite				0.05	0.69	0.41	0.11	1.40	0.11
Rutile				0.05					
Nepheline	0.40	3.71	4.47						

ANALYSTS

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CHEMICAL DATA

SOME PLUTONIC ROCKS OF SOUTHWESTERN ALASKA

by

Frederic H. Wilson

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This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey standards and nomenclature.