

Table 1.--Petrographic data on Cretaceous granitic rocks of the Big Delta Quadrangle, Alaska.

[The following abbreviations have been used: pheno(s) = phenocryst(s), chem = major element chemical analysis, spec = semiquantitative spectrographic analysis, alter = alteration. Mineral abbreviations are: all = allanite, ap = apatite, bio = biotite, carb = carbonate, chl = chlorite, cpx = clinopyroxene, czs = clinzoisite, feld = feldspar, ep = epidote, hbl = hornblende, k-spar = potassium feldspar, musc = muscovite, op = opaque, plag = plagioclase, ser = sericite, sph = sphene, tour = tourmaline, zir = zircon. * Modal analyses determined from point count on stained slab, generally 1,000 points; Δ modal analyses determined from point count on stained thin section (1,000 points); () modal analyses estimated from thin section.]

Field no.	Quad.	Pluton No.	Rock name	Texture	Grain size (fine - <1 mm; medium - 1 to 5 mm; coarse - 5 mm to 3 cm)	Alteration (degree: mineral)	Mineralogy						Type of chem analyses available	Remarks
							Biotite	Hornblende	K-spar	Plagioclase	Quartz	Accessory		
75ASJ539	D-1	1	Granite	Slightly porphyritic	Poikilitic K-spar phenos 7-10 mm across, medium groundmass	Minor: czs, 30% of bio to chl	(10)	(0)	(30)	(40)	(20)	All, ap, zir, op		K/Ar age 90.4 ± 3 m.y. on biotite (Foster and others, 1979)
75AFr2177	D-1	1	--Do--	Hypidiomorphic granular	Medium	Minor: ser, approx 30% of bio to chl	* 6	0	26	35	29	Zir, ep, ap, musc, rutile	Spec	
75AWr350B	D-1	1	Granodiorite	Hypidiomorphic inequi-granular	Medium to coarse	Minor: ser, bio to chl; clays	Δ 10	2	17	45	26	Ep, all, zir, ap		
75AWr351	D-1	1	Granite	Slightly porphyritic	Qtz phenos to 1 cm across; medium groundmass	Moderate: ser, 40% of bio to chl	(5)	(0)	(20)	(35)	(40)	Ep, ap, all, zir		
72AWr31	C-2	2	Granodiorite	Hypidiomorphic inequi-granular; cataclastic	Fine to medium	Moderate: ser, 15% to 35% of bio to chl, ep	(5)	(<5)	(20)	(40)	(30)	All, ap, zir, carb, myrmekite		Locally mylonitic with fluxion structure
75AFr2175	C-2	2	---Do---	-----do-----	-----do-----	Minor: chl, ser	Δ 13	3	14	47	24	All, ap, ep, op, sph, zir	Chem, spec	K/Ar age 98.9 ± 3 m.y. on biotite, 101.4 ± 3 m.y. on hbl (Foster and others, 1979)
77AFr445	C-2	2	---Do---	-----do-----	Fine to medium-grained recrystallized groundmass enclosing deformed primary feld and bio phenos up to 3 mm long	Moderate: ser, chl	(10)	(0)	(15)	(45)	(30)	Ap, op, zir		Locally mylonitic with considerable recrystallization; weak biotite lineation
77AFr48A	C-2	2	---Do---	-----do-----	-----do-----	Minor: ser, 30% to 35% of bio to chl	(<5)	(0)	(15)	(45)	(35)	Ap, zir, myrmekite		-----do-----
77AFr452	C-2	2	Granite	-----do-----	Fine to medium; poikilitic feld grains	Minor: ser, chl	Δ 12	2	23	40	22	All, ap, sph, zir, myrmekite		Locally mylonitic with considerable recrystallization
77AFr454	C-2	2	--Do--	-----do-----	Fine to medium	-----do-----	(10)	(<5)	(20)	(30)	(35)	All, ap, sph, zir, ep, myrmekite		-----do-----
77AWr332	C-2	2	Granodiorite	Slightly porphyritic	Poikilitic K-spar phenos to 1 cm across in medium groundmass	Moderate to strong: chl, op, ser	(5)	(<5)	(15)	(45)	(30)	All, ap, sph, zir		
77AWr335	C-3	2	Granite	-----do-----	-----do-----	Moderate: chl, ser, ep	Δ 12	1	20	39	27	All, ap, op, sph, zir		
74AFr803	B-1	3	Granodiorite	Hypidiomorphic granular	Medium	Very minor: 5% to 10% of bio to chl	Δ 12	<1	4	48	35	All, hbl, zir	Spec	Slightly cataclastic
74AFr805	B-1	3	---Do---	Hypidiomorphic granular ubiquitous perthite development in poikilitic K-spar	Medium to coarse	Very minor: ser, <5% of bio to chl	(8)	(0)	(21)	(42)	(28)	Zir		K/Ar age 96.0 ± 2.9 m.y. on hbl from this pluton (DT75-13) collected 1.2 km east of locality (Foster and others, 1979)
75AFr179B	B-2	3	---Do---	Hypidiomorphic inequi-granular	Poikilitic K-spar phenos to 8 mm across	Strong: ser, chl	Δ 13	0	9	44	30	All, ap, hbl, zir		Chl-filled fractures throughout sample
75AFr3074	B-2	3	---Do---	-----do-----	Fine to medium	Very minor: ser, chl	(10)	(0)	(15)	(55)	(20)	All, zir, op		Large euhedral biotite grains to 4 mm across
75AFr3078	B-2	3	---Do---	Slightly porphyritic	Poikilitic K-spar phenos to 8 mm across in medium groundmass	Moderate: bio to chl, ser	(10)	(<5)	(15)	(50)	(20)	All, ep		-----do-----
75AFr3096	B-2	3	---Do---	Hypidiomorphic inequi-granular	Fine to medium	Strong: bio to chl, ep, ser	Δ 10	2	15	45	27	All, ap, zir, ep		Deformed bio and chl crystals
75AWr260A	C-2	3	---Do---	Hypidiomorphic granular	Medium	Moderate to strong: bio to chl, ser	Δ 13	2	10	47	27	-----do-----		
74AFr816	B-1	4	Granite	-----do-----	--do--	Minor: ser, 40% of bio to chl	* 7	0	30	36	28	Zir	Spec	
74AFr3052	B-1	4	--Do--	-----do-----	--do--	Minor: bio to chl, ser	* 8	0	22	32	38	Ap, zir, tour	Spec	
74AFr3054	B-1	4	Granodiorite	-----do-----	Fine to medium	Minor: chl, white mica	Δ 8	0	12	43	34	Ap, ep, op		
74AWr178A	B-1	4	Granite	-----do-----	Medium to coarse	Minor: ser, chl	Δ 8	0	21	37	33	All, ap, ep	See remarks	K/Ar age 107.6 ± 3.2 m.y. on bio and chem analysis from samples of this pluton (74AFr813) collected 2.2 km WNW of locality 74AWr178A (Foster and others, 1979)
74AWr185	B-1	4	Granodiorite	-----do-----	-----do-----	Moderate: ser, 40% to 50% of bio to chl	(7)	(2)	(7)	(60)	(23)	All, carb, op, sp	Spec	
74AWr355A	B-1	4	---Do---	-----do-----	Fine to medium	Very minor: ser, chl	(10)	(<1)	(15)	(45)	(30)	Ap, op, topaz, myrmekite		
66AWr41	B-6	5	Granite	Slightly porphyritic	Poikilitic K-spar phenos up to 1 cm long in medium to coarse groundmass	Very minor: ser	(10)	(5)	(25)	(35)	(30)	All, ap, cpx, op, zir, tour		Cpx core in hbl grain
66AWr44A	B-6	5	--Do--	Porphyritic	-----do-----	Moderate: musc, 30% to 40% of bio to chl	(5)	(0)	(20)	(25)	(50)	Carb, op, zir		Some K-spar perthitic
66AWr72	B-6	5	--Do--	-----do-----	-----do-----	Minor: ser, 5% to 10% of bio to chl	(5)	(<5)	(25)	(35)	(30)	All, ap, zir		Crystals considerably fractured
66AWr76B	B-6	5	--Do--	-----do-----	-----do-----	Very minor: ser	(<5)	(5)	(25)	(30)	(35)	All, sph, zir		About 3% pyroxene
75AFr2184	B-6	5	Granodiorite	-----do-----	-----do-----	Minor: 5% to 10% of bio to chl	Δ 8	3	16	42	32	All, ap, carb, zir	Chem	K/Ar age 89.3 ± 2.7 m.y. on bio, 87.8 ± 2.7 m.y. on hbl (Foster and others, 1979); weathers to coarse grus
75ASJ538	D-1	6	---Do---	Hypidiomorphic-granular	Medium	Very minor: ser, ep, chl	(<5)	(5)	(15)	(40)	(35)	All, carb, sp, zir	Chem	Hbl shows crude alignment: K/Ar age 90.0 ± 2 m.y. on bio, 92.9 ± 2 m.y. on hbl (F. H. Wilson, oral commun., 1980)
75AFr670	D-1	6	---Do---	Hypidiomorphic-inequi-granular; cataclastic	--do--	Moderate: ser, chl	(10)	(0)	(15)	(40)	(25)	All, ap, zir, myrmekite		
75AFr776	D-1	6	---Do---	Hypidiomorphic-inequi-granular	Medium to coarse	-----do-----	(<5)	(5)	(20)	(40)	(30)	All, ap, carb, sp, zir, myrmekite		Weak bio lineation; significant recrystallization; poikilitic K-spar
75AFr3290	D-1	6	---Do---	-----do-----	-----do-----	-----do-----	(5)	(10)	(20)	(40)	(25)	Ap, zir	Spec	Inclusions of plag, op, bio, and zir in hbl; poikilitic K-spar
75AFr3306	D-1	6	Granite	Hypidiomorphic-granular	Medium	-----do-----	Δ 8	0	22	41	29	All, ap, ep, sp, myrmekite		
75AWr624	D-1	6	Granodiorite	-----do-----	--do--	-----do-----	(5)	(<5)	(15)	(40)	(35)	All, ap, ep, zir, myrmekite		
75AWr625	D-1	6	Granite	-----do-----	--do--	Very minor: ser, chl, ep	Δ 9	4	22	36	28	All, ap, sp, zir		Poikilitic K-spar
77AWr293	D-1	6	Granodiorite	-----do-----	--do--	Minor: ser, 20% to 25% of bio to chl	(5)	(0)	(20)	(50)	(25)	Sp, zir		
75AFr221A	C-2	7	---Do---	Hypidiomorphic-inequi-granular	Medium to coarse	Strong: chl, musc, ser Minor: ep	(<1)	(0)	(20)	(55)	(25)	Op, sp, zir, myrmekite	Spec	Poikilitic K-spar; quartz veinlets