SUPPLEMENTAL FILE 1. PETROGRAPHIC SUMMARIES AND BULK-SAMPLE XRF CHEMICAL ANALYSES, PLATORO-DULCE DIKES, LAVAS, AND ASSOCIATED ROCKS

[Bold: least-altered minerals] Anomalous, or atypical for segment *Italics: excluded from average (anomalous, or ambiguous location)* Hi MgO, Ni, Cr (olivine-rich)

Segment, Mid-point distance*	Sample#	Rock type	Location	Latitude N Deg Min	Longitude W Deg Min	Phenocrysts [Pseudomorph]	Groundmass Mafics	Groundmass Plagioclase	SiO_2	TiO_2	Al_2O_3	FeO*	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	Sum	LOI %	SO_3	Cl	SUM/w volatiles	Total alkalis	Ni	Cr	Sc	V	Ba	Rb	Sr	Zr	Y	Nb	Ga	Cu	Zn	Pb	La	Ce	Th	Nd	U
	Platoro: proximal granitoid intrusions																																											
	SRM-23	Resurgent intrusion	Cornwall Mountain	37 21.03	106 30.16	Plag, bio phenocrysts		F.g. matrix	64.12	0.58	16.28	4.03	0.22	1.36	4.52	3.93	4.04	0.13	99.21	3.33	0.00		99.21	7.97	3	3	7	70	986	85	573	214	20	13	18	13	66	15	36	66	10	29	3
	SRM-22	Alamosa River pluton	Telluride Mountain	37 23.07	106 32.79	Med. grain plag, bio, cpx			62.10	0.70	15.19	6.30	0.28	2.93	5.04	3.29	4.38	0.16	100.38	0.80	0.04		100.42	7.67	21	35	15	151	770	109	566	192	25	12	18	198	97	16	31	69	10	33	4
	SRM-24	Alamosa River pluton	N of Stunner Pass	37 22.67	106 33.94	Med. grain plag, bio, cpx			60.24	0.94	15.85	6.45	0.31	3.50	5.38	3.40	3.75	0.12	99.92	1.51	0.00		99.92	7.15	33	67	15	146	783	103	601	243	26	14	19	58	82	13	39	84	12	36	3
	SRM-25	Granodiorite	Jasper	37 25.09	106 28.54	Med. grain plag, bio, cpx			62.20	0.86	15.42	5.95	0.27	2.62	4.11	3.70	4.28	0.11	99.53	0.70	0.02		99.55	7.98	22	40	14	125	747	131	563	296	27	16	19	33	87	17	43	89	17	39	4
	SRM-26	Granodiorite	Cat Creek	37 24.31	106 18.35	Fine- grain plag, bio, cpx			60.28	0.97	16.39	6.76	0.36	2.54	4.90	4.02	3.32	0.09	99.64	0.71	0.01		99.65	7.34	26	40	13	147	954	81	764	188	22	10	21	40	89	13	31	68	7	31	2
	SRM-33	F.g. granodiorite porphyry	Crater Creek	37 24.99	106 42.59	Plag, bio phenocrysts		F.g. matrix	62.56	0.75	16.32	5.48	0.11	2.27	4.34	4.01	3.67	0.31	99.82	2.06	0.06		99.88	7.68	8	10	10	103	1069	80	678	179	22	13	18	19	77	19	39	79	12	36	3
								AVERAGE:	***61.92***	***0.80***	***15.91***	***5.83***	***0.26***	***2.53***	***4.72***	***3.73***	***3.91***	***0.15***	***99.75***	***1.52***				***7.63***	***19***	***32***	***12***	***124***	***885***	***98***	***624***	***219***	***24***	***13***	***19***	***60***	***83***	***16***	***37***	***76***	***11***	***34***	***3***
PP	**Platoro: proximal dikes and lavas**																																											
5	**16L-36**	Andesite dike, NNE-trend (post-Platoro)	At Rito Gato	37 20.43	106 34.48	F.g. interlocking plag; altered mafics			57.50	1.04	16.98	8.00	0.14	3.49	5.00	3.65	3.37	0.36	99.53	4.86			99.53	7.02	13	4	17	166	739	76	1076	193	25	11	18	44	97	14	34	71	8	32	4
	16L-38	Andesite dike, N-trend (post-Platoro)	At lake shore	37 19.97	106 34.64	*Bladed plag (to 1 mm), alt. mafic phenos*			53.89	1.20	17.26	9.07	0.20	2.65	9.67	3.09	2.06	0.41	99.49	6.04			99.49	5.15	14	0	19	206	618	32	810	153	27	8	19	60	96	10	29	64	5	33	1
	16L-42	Andesite dike, N trend (post-Platoro)	N of Rito Gato	37 20.46	106 34.42	*No TX*			55.06	1.08	17.02	8.24	0.13	4.02	6.97	3.25	3.36	0.38	99.51	7.91			99.51	6.61	22	11	18	178	794	70	993	163	22	10	19	86	87	11	32	68	7	31	2
	16L-28	Andesite dike, NNW-trend	Cat Cr road junction	37 19.59	106 35.28	Plag (to 2 mm), [cpx?]		F.g. matrix	58.48	0.98	15.84	7.91	0.14	3.92	5.82	2.93	3.00	0.30	99.33	5.40	0.14		99.47	5.93	25	28	18	168	639	66	435	203	26	11	19	64	89	11	31	73	9	33	3
	16L-30	Andesite dike	S of Adams Fork	37 19.04	106 35.69	Microphenos of blocky plag		F.g. matrix	58.07	0.90	17.61	9.22	0.06	2.80	4.81	2.48	3.22	0.32	99.47	4.46			99.47	5.69	11	3	18	145	901	30	469	156	29	8	19	44	70	10	27	58	3	27	2
	16L-31	Andesite dike, smaller northern	Three Forks road	37 18.88	106 35.70	Microphenos & bladed gm plag; green hbl			57.52	0.83	17.63	7.46	0.19	2.49	7.74	2.75	2.35	0.34	99.32	2.78			99.32	5.10	5	2	18	119	657	34	611	152	33	7	19	13	115	8	25	57	4	29	2
	16L-33	Andesite dike, small	Below Three Forks road	37 18.73	106 35.63	Microphenos of altered plag (& mafics?)			51.82	1.18	18.16	9.72	0.22	2.43	10.72	3.22	1.65	0.35	99.47	7.90			99.47	4.87	19	9	26	242	613	21	671	124	31	6	18	91	104	6	26	52	2	30	0
	16L-34	Andesite dike, small	Below Three Forks road	37 18.76	106 35.65	Microphenos of partly altered plag & cpx			58.22	0.78	17.65	7.22	0.16	1.97	7.33	3.21	2.57	0.35	99.44	3.33			99.44	5.78	6	5	17	106	687	47	596	156	32	8	19	15	99	11	25	58	4	31	2
	16L-32	Hbl-andesite dike, NNE-trend (Conejos)	Below trail	37 17.96	106 36.37	Green hbl to 5 mm, small plag		F.g. matrix	61.17	0.65	16.72	6.16	0.13	2.00	5.19	3.03	3.97	0.28	99.29	2.98			99.29	7.01	3	1	11	86	854	64	463	158	25	8	17	11	91	11	29	61	5	28	1
	16L-35	Hbl andesite dike, NE-trend (Conejos)	Adams Fork, along trail	37 19.12	106 37.28	Sparse hbl (0.5-1 mm), small plag & alt cpx			58.38	0.73	17.94	7.00	0.23	3.11	5.52	3.15	3.24	0.35	99.65	3.94			99.65	6.39	4	0	13	96	763	54	572	151	29	8	18	7	98	10	26	55	6	30	1
		Lavas																																										
	16L-40	Andesite lava, Summitville Andesite	Hillman Park road	37 19.66	106 35.93	Small phenos of plag & cpx, f.g. matrix			57.82	1.05	16.89	7.27	0.09	3.21	5.57	3.56	3.47	0.37	99.30	1.36			99.30	7.04	25	9	16	169	758	86	719	222	25	14	20	62	87	14	30	77	10	36	3
	16L-41	Andesite lava, Summitville Andesite	Hillman Park road	37 19.51	106 35.66	Small phenos of plag & cpx, f.g. matrix			56.15	1.07	17.10	8.11	0.13	3.57	6.44	3.54	2.94	0.38	99.43	1.07			99.43	6.48	24	11	19	193	718	66	787	175	24	10	19	91	92	12	30	70	7	35	3
								AVERAGE:	***57.01***	***0.96***	***17.23***	***7.95***	***0.15***	***2.97***	***6.73***	***3.15***	***2.93***	***0.35***	***99.43***	***4.34***	***0.14***		***99.45***	***6.09***	***14***	***7***	***18***	***156***	***728***	***54***	***683***	***167***	***27***	***9***	***19***	***49***	***94***	***11***	***29***	***64***	***6***	***31***	***2***
PD	**Platoro: distal dikes**																																											
20	**15L-61**	Sanidine dacite dike	Rio Blanco trail	37 16.40	106 44.52	Bio, san (to 2 cm), plag			66.14	0.58	14.69	3.77	0.08	1.59	3.43	3.62	4.45	0.23	98.58	1.26			98.58	8.07	16	26	8	72	992	99	486	176	13	11	19	23	62	16	39	74	13	29	4
	17L-13	Sanidine dacite sill	Blanco Basin	37 14.81	106 44.89	Bio, san (to 3 cm), plag			67.18	0.59	15.34	3.89	0.07	1.50	2.74	3.83	3.87	0.23	99.26	0.74				7.70	16	27	6	75	884	96	540	170	14	11	19	20	59	17	40	71	14	31	4
	16L-1	Andesite, f.gr. NE-trend (Conejos)	Blanco Basin road	37 12.48	106 49.94	- -	Altered	F.gr. felty	58.45	1.07	16.82	7.41	0.13	2.60	6.36	3.57	2.68	0.43	99.52	4.72			99.52	6.25	5	1	17	149	721	47	573	217	29	11	20	53	89	12	34	73	8	35	3
	16L-22	Plag andesite dike, along road (Conejos)	Sparks Creek	37 16.18	106 51.44	Plag to 8 mm, cpx	no mica		55.93	1.12	16.97	8.40	0.10	3.57	6.52	3.48	2.80	0.38	99.27	2.55			99.27	6.28	26	19	18	188	667	70	682	219	28	13	19	98	91	11	33	75	9	35	3
	17L-6	Plag andesite dike (Conejos?)	Rito Blanco road	37 17.80	106 48.61	Plag, cpx [oliv?]	no mica	To 6 mm	56.39	1.09	17.56	8.08	0.15	2.88	6.44	3.37	3.00	0.38	99.35	3.71				6.37	21	15	16	174	862	70	693	207	24	11	19	93	92	11	34	67	9	34	3
	16KA-1	Fine-gr andesite, NE-trend (Conejos?)	Flattop Mtn, S ridge	37 12.01	106 43.82	Cpx [opx, oliv?]	no mica	To 2 mm	59.36	0.95	16.00	7.06	0.13	3.04	5.70	3.24	3.46	0.29	99.23	2.48			99.23	3.75	21	25	17	156	744	89	605	226	28	12	19	57	87	14	36	75	11	35	5
	16KA-2	Hbl andesite, NE-trend dike (Conejos)	Flattop Mtn, S ridge	37 11.67	106 43.74	Hbl, plag	no mica	F.gr. felty	60.43	0.74	17.99	5.58	0.09	1.84	5.32	3.83	3.03	0.38	99.24	1.49			99.24	3.42	8	10	12	97	831	57	695	178	24	9	19	33	87	12	29	66	5	32	1
								AVERAGE:	***58.03***	***0.98***	***17.13***	***7.28***	***0.12***	***2.83***	***6.00***	***3.48***	***3.08***	***0.36***	***99.27***	***2.56***			99.27	***4.96***	***19***	***17***	***16***	***153***	***776***	***72***	***669***	***207***	***26***	***12***	***19***	***70***	***90***	***12***	***33***	***71***	***8***	***34***	***3***
D1	**Dulce NE-trending (E of Pagosa Springs, CO): NW to SE**																																											
35	15L-37	Basalt, f.g. dike	Mill Creek	37 15.71	106 56.03	- -	Gr-br mic	F.gr. felty	49.77	1.43	16.47	11.58	0.10	4.29	10.64	2.95	1.70	0.42	99.34	8.97		0.32	99.34	4.65	61	120	27	265	1019	22	851	121	24	8	18	111	96	7	27	61	5	33	4
	16L-70	Basalt dike (same as 15L-37)	Willow Draw (Mill Creek)	37 16.37	106 55.24	- -	Green mic	F.gr. felty	48.76	1.43	17.01	10.80	0.10	3.72	12.37	3.13	1.53	0.45	99.30	9.98			99.30	4.66	59	114	29	260	806	17	836	126	25	7	18	110	98	8	32	64	5	32	1
	15L-36	Basalt, f.g. dike	Mill Creek	37 15.55	106 55.42	- [oliv?]	Green mic	F.gr. felty	51.06	1.43	16.73	11.36	0.14	5.57	8.14	3.91	0.32	0.42	99.07	10.08	0.16		99.23	4.23	67	155	32	264	546	4	482	118	24	8	17	93	148	5	26	57	3	32	2
	16L-21	Basalt dike, along rd (same as 15L-36)	Mill Creek	37 16.51	106 54.16	[cpx?] [oliv?]	Mica(f.g.)	Bladed	50.14	1.40	16.21	12.07	0.14	4.69	10.11	2.87	1.53	0.40	99.56	9.52			99.56	4.40	70	143	31	265	709	19	830	112	21	7	18	96	99	9	30	56	5	31	1
	16L-24	Basalt, f.g. dike	River Forest Drive	37 13.33	106 59.10	[cpx?] -	-	F.gr. bladed	50.17	1.40	16.34	11.66	0.17	4.76	10.37	3.80	0.26	0.41	99.33	11.24			99.33	4.06	57	117	29	260	352	4	738	112	23	7	18	92	97	7	25	53	4	29	1
	16L-23	Basalt, f.g. dike	Skyline Drive	37 13.55	106 58.59	*No TX*			50.46	1.42	16.70	10.04	0.09	5.45	10.76	3.32	0.66	0.42	99.32	10.09			99.32	3.98	60	123	30	264	546	9	814	116	24	8	19	99	91	8	26	59	4	32	3
	17L-1	Basalt, f.g. dike	Spruce Canyon	37 14.89	106 56.22	Resorbed qtz		F.gr. bladed	49.84	1.39	16.28	10.79	0.17	5.39	10.81	2.74	1.63	0.42	99.44	10.31			99.44	4.37	58	122	29	260	776	20	805	115	24	7	17	95	93	7	27	60	5	32	3
	16L-52	*Trachybasalt (NE end, 15L-39, in D3?)*	*S of Echo Ditch*	*37 13.66*	*106 54.54*	- -	*Br mica*	*Med. gr.*	*50.15*	*2.21*	*15.14*	*9.46*	*0.13*	*4.94*	*8.22*	*5.43*	*0.34*	*1.32*	*97.33*	*9.59*	*0.20*		*97.53*	*5.77*	*33*	*65*	*14*	*208*	*10970*	*8*	*999*	*158*	*18*	*14*	*20*	*59*	*135*	*11*	*63*	*138*	*4*	*74*	*1*
	15L-60	Trachybasalt, coarse (same as 15L-38?)	Blanco Basin road	37 12.57	106 52.72	Cpx [oliv]	Mic/amp	Bladed	51.30	1.91	14.36	9.60	0.12	6.42	9.36	3.08	2.01	0.40	98.57	4.44		0.51	98.57	5.09	155	300	24	214	917	34	1002	168	19	20	19	58	116	6	28	62	3	30	2
	15L-38	Trachybasalt, coarse (same as 15L-60?)	Blue Creek	36 11.21	106 53.80	Cpx [oliv]	Br mica	Bladed	50.45	1.87	14.55	10.09	0.16	7.70	7.99	3.82	2.03	0.66	99.34	7.26	0.23		99.57	5.86	116	201	21	206	1585	41	610	170	23	20	19	57	103	6	42	89	5	44	2
								AVERAGE:	***50.22***	***1.52***	***16.07***	***10.89***	***0.13***	***5.33***	***10.06***	***3.29***	***1.30***	***0.45***	***99.25***	***9.10***	***0.20***	***0.42***	***99.30***	***4.59***	***78***	***155***	***28***	***251***	***806***	***19***	***774***	***129***	***23***	***10***	***18***	***90***	***105***	***7***	***29***	***62***	***4***	***33***	***2***
D2A	**Dulce N-trending (WSW of Pagosa Springs, CO): W to E**																																											
45	**16L-60**	Trachybasalt dike	Hwy 160, W of Pagosa	37 14.32	107 9.57	- -	F.gr mica	F.gr. bladed	47.80	2.10	17.71	11.67	0.16	6.40	7.68	4.27	0.81	0.78	99.38	7.17	0.17			5.08	92	20	18	254	831	16	821	162	20	16	21	73	128	7	38	82	4	45	2
	16L-61	Basalt dike, float along ridge	E of Summit Trail	37 13.89	107 8.73	- -	Br mica	Bladed	49.46	2.01	17.60	10.42	0.11	4.57	9.11	4.19	0.48	0.69	98.62	7.94	0.15		*99.15*	4.67	73	7	16	230	900	9	791	180	20	18	21	65	87	6	41	89	3	47	1
	16L-62	Basalt dike (same dike as 16L-60?)	Hollow Drive, S of Hwy 160	37 14.14	107 9.40	- -	Br mica	Bladed	49.24	2.01	17.70	11.46	0.11	5.36	7.89	3.27	0.96	0.71	98.70	5.99	0.17		*99.10*	4.23	76	9	16	233	883	17	1155	185	20	18	21	67	118	10	46	93	4	43	3
	17L-5	Basalt, f.g. dike	CO 129 (near Dyke)	37 13.06	107 9.06	- -	F.gr mica	F.gr. bladed	49.61	1.97	17.40	11.04	0.12	6.23	8.14	3.75	0.48	0.70	99.45	7.07	0.18			4.23	77	8	15	231	595	9	833	176	20	17	22	68	113	5	40	86	2	43	2
	16L-64	Basaltic andesite dike	N of Burns Canyon	37 9.11	107 3.16	- -	F.gr mica	F.gr. bladed	53.59	1.64	15.43	10.36	0.11	4.77	9.41	3.03	0.92	0.29	99.55	6.50				3.95	88	169	18	175	482	10	768	108	19	8	19	59	104	4	19	43	3	22	0
	16L-65	Basaltic andesite dike (same as 16L-64?)	Columbia Court	37 12.30	107 3.20	- -	F.gr mica	F.gr. bladed	53.03	1.58	14.97	9.95	0.14	5.22	10.61	2.98	0.60	0.28	99.38	8.05	0.19			3.59	88	171	18	162	525	6	693	103	18	8	19	59	100	2	16	39	6	22	1
	17L-8	Basaltic andesite dike (same as 16L-65)	Columbia Ct, Buttress Ave	37 12.30	107 3.16	- -	F.gr mica	F.gr. bladed	52.88	1.71	15.28	10.60	0.12	4.35	9.92	3.68	0.40	0.29	99.22	8.20	0.20	0.11		4.08	83	160	19	171	363	4	690	108	19	7	18	57	110	4	20	44	4	23	1
	16L-66	trachyandesite dike	Taylor Canyon	37 11.41	107 3.22	- -	Br mica	Bladed	57.58	1.48	15.18	7.30	0.11	4.22	5.58	5.55	1.39	0.45	98.84	6.33	0.21		*99.10*	6.94	44	126	12	146	380	23	337	190	16	12	20	49	87	8	37	81	4	38	0
	16L-67	Trachybasalt dike	CO-119; Mouth, Mill Creek	37 14.64	107 0.49	- -	Br mica	Bladed	49.26	2.09	17.80	10.73	0.15	3.77	9.33	4.02	0.91	0.65	98.71	10.01	0.25		99.10	4.93	78	15	14	202	656	15	1192	157	19	18	19	63	89	8	32	69	4	35	1
								AVERAGE:	***51.38***	***1.84***	***16.57***	***10.39***	***0.13***	***4.99***	***8.63***	***3.86***	***0.77***	***0.54***	***99.10***	***7.47***	***0.19***		***99.18***	***4.60***	***78***	***76***	***16***	***200***	***624***	***12***	***809***	***152***	***19***	***14***	***20***	***62***	***104***	***6***	***32***	***70***	***4***	***35***	***1***
D2B	**Dulce NE-trending (farther SW, CO): NW to SE**																																											
45	16L-68	Trachybasalt, coarse	Baver Place	37 12.09	106 56.93	**Cpx** [oliv]	Br mica	F.gr. bladed	46.97	1.19	11.49	9.00	0.16	11.24	12.40	2.24	3.05	0.79	98.54	10.67	0.11		98.65	5.29	366	823	26	180	1035	62	719	224	29	10	12	72	78	4	65	146	13	78	4
	17L-2	Trachybasalt, f.g. dike (same as 16L-52?)	Catchpole Creek pass	37 12.22	106 56.13	- -	Mica, amph	F.gr. bladed	47.71	2.17	15.93	9.64	0.09	4.19	11.86	4.77	0.30	1.32	97.97	9.24	0.71		98.68	5.06	38	63	15	206	4790	6	1571	172	19	17	22	61	125	10	66	149	6	79	3
	15L-39	Trachybasalt (same as 16L-52?)	Hwy, 64, N of Turkey Mtn	37 11.38	106 57.06	[cpx?] [oliv]	-	F.gr.	44.93	2.07	15.56	10.81	0.15	5.97	12.35	3.58	2.65	0.89	98.96	13.38	0.43	0.41	99.39	6.23	102	168	19	205	1242	44	1163	216	22	32	20	50	104	7	46	98	4	54	2
	17L-7	Fine-grain trachyandesite dike	SW ridge, Serviceberry Mtn	37 9.16	107 56.21	[cpx?] -	Br mica	F.gr., bladed	57.42	1.61	14.04	9.15	0.09	4.33	8.27	3.32	0.48	0.55	99.26	7.42	0.18		99.44	3.80	162	284	19	182	607	8	749	161	18	14	18	59	96	6	38	74	5	36	2
	17L-3A	Coarse biotite, dike interior	Halfway Canyon	37 8.47	106 55.50	[cpx?] -	Br mica	Coarse blades	49.12	2.29	14.63	10.27	0.13	6.40	10.43	4.49	0.58	1.05	99.39	9.97	0.23		99.62	5.07	61	145	19	226	910	12	436	192	21	19	19	57	105	7	52	116	5	62	2
	17L-11	Fine-grain dike	Valle Seco	37 7.38	106 58.27	- -	Br mica	F.gr., bladed	48.19	1.81	13.96	10.29	0.16	7.88	11.17	2.63	2.19	0.71	99.00	12.09	0.23		99.23	4.82	152	367	22	208	1185	36	904	169	25	14	17	72	133	7	47	104	5	55	3
	16L-27	Trachybasalt, f.gr.	W of Halfway Canyon	37 7.64	106 57.38	[cpx?] -	Mica, amph	F.gr., bladed	51.48	2.05	14.13	10.24	0.14	5.42	9.19	3.64	1.65	0.92	98.86	8.03	0.22		99.08	*5.28*	43	229	16	202	4428	29	1409	197	19	18	19	35	109	8	53	113	3	60	2
	17L-9A	Coarse biotite, interior (same as 16L-27?)	Valle Seco	37 7.31	106 57.77		Br mica	Bladed	49.48	2.00	13.74	11.04	0.18	6.57	10.54	2.91	1.55	0.90	98.93	9.17	0.37		99.30	4.46	43	217	16	198	1348	25	1182	187	18	17	18	36	124	7	49	112	3	57	2
	17L-9B	Fine-grain margin of dike	Valle Seco	37 7.31	106 57.77	- -	Chloritic	Felty	48.76	2.13	15.44	9.97	0.10	6.35	9.76	4.26	0.84	0.95	98.57	8.60	0.49		99.06	5.11	44	221	18	204	2963	16	1414	212	19	20	21	34	110	8	59	123	3	63	3
	16L-26	Trachybasalt, f.gr.	W of Halfway Canyon	37 7.78	106 56.77	[cpx?] -	Altered	F.gr.	51.61	1.64	14.25	8.50	0.18	5.50	11.88	3.27	1.64	0.56	99.03	11.61	0.03		99.06	*4.91*	161	317	19	182	677	18	787	156	17	13	18	53	99	5	38	72	4	35	1
	17L-10	Fine-grain dike	Valle Seco	37 6.89	106 52.59	- -	Br mica	F.gr., bladed	47.96	2.23	14.50	9.62	0.15	5.91	11.54	3.06	3.03	0.91	98.91	8.21	0.23		99.14	6.09	78	121	20	222	1869	51	1331	207	22	29	19	47	104	6	42	97	5	51	2
	DU-16	*Same dike as 17L-10)?*	Valle Seco	37 6.87	106 57.63				47.51	2.25	15.02	10.50	0.13	5.55	10.07	3.42	2.92	0.99	98.36	9.00			*98.36*	*6.34*	70	130			1739	55	1305	260	22	35					52	112	3	58	
	16L-25	Trachybasalt, f.g.	W of Halfway Canyon	37 7.86	106 55.90	[cpx?] ?	-	F.gr.	49.59	2.06	14.65	10.51	0.17	6.66	9.43	3.25	1.88	0.91	99.11	8.44	0.18		99.29	5.13	73	156	19	217	1355	30	1309	198	21	22	18	54	136	9	47	105	5	59	1
	16L-2	Trachybasalt, f.g.	W of Spence Reservoir	37 6.64	106 52.30	- -	Br mica	Bladed	49.35	2.54	13.96	12.26	0.12	5.06	8.89	3.70	1.79	1.20	98.87	8.94			98.87	5.49	36	94	17	240	1740	25	1422	176	20	15	21	46	172	7	53	120	4	67	3
	17L-4	Fine-grain dike	W of lower Coyote Creek	37 5.42	106 52.76	[cpx?] -	Altered	F.gr.	50.73	2.53	14.55	12.03	0.11	4.16	7.60	3.82	2.

SUPPLEMENTAL FILE 1. PETROGRAPHIC SUMMARIES AND BULK-SAMPLE XRF CHEMICAL ANALYSES, PLATORO-DULCE DIKES, LAVAS, AND ASSOCIATED ROCKS

[Bold: least-altered minerals] Anomalous, or atypical for segment *Italics: excluded from average (anomalous, or ambiguous location)* Hi MgO, Ni, Cr (olivine-rich)

Segment, Mid-point distance*	Sample#	Rock type	Location	Latitude N Deg Min	Longitude W Deg Min	Phenocrysts [Pseudomorph]		Groundmass Mafics	Groundmass Plagioclase	SiO_2	TiO_2	Al_2O_3	FeO*	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	Sum	LOI %	SO_3	Cl	SUM/w volatiles	Total alkalis	Ni	Cr	Sc	V	Ba	Rb	Sr	Zr	Y	Nb	Ga	Cu	Zn	Pb	La	Ce	Th	Nd	U
	89SB129	Same dike as 15L-44, DU10?	Archuleta road							50.66	2.09	14.33	10.67	0.14	4.07	10.34	3.33	2.66	0.99	99.28	6.00			99.28	5.99	47	154		216	3135	32	1986	166	23	18			106							
	DU-6		Archuleta road	37 3.67	107 0.12					51.74	1.95	14.08	10.05	0.10	4.88	8.70	3.83	1.08	0.94	97.34	7.30			97.34	4.91	80	280			4727	19	1279	222	18	27						59	127	3	57	
	15L-43	Mica trachybasalt f.g.	Archuleta road	37 3.60	106 59.73	-	-	Br mica	F.gr. bladed	48.29	2.34	16.13	8.44	0.12	4.34	11.88	3.99	2.26	1.02	98.81	9.34	0.32		99.13	6.25	67	119	21	232	1184	40	891	228	22	31	19	49	108	7	43	92	4	50	2
	15L-42	Mica trachybasalt f.g. (Hail 38?)	Archuleta road	37 3.60	106 59.48	-	-	Altered	F.gr. felty	49.12	2.50	14.34	11.13	0.13	4.33	9.81	3.76	2.23	1.19	98.54	7.06	0.19		98.73	5.99	72	160	17	234	2068	31	1453	193	20	21	20	61	149	8	59	127	4	67	1
	DU-5	Same location as 15L-42?	Archuleta road	37 3.61	106 59.52					50.11	2.32	13.97	10.51	0.12	4.74	9.52	3.55	2.45	1.10	98.39	5.08			98.39	6.00	70	170			1625	33	1517	217	20	30						65	139	3	65	
	15L-41	Mica trachybasalt, coarse (Hail 2?)	Archuleta road	37 3.85	106 58.05	-	-	Amph, mica	Bladed	46.61	2.96	12.70	12.72	0.12	6.99	10.10	2.57	3.26	0.93	98.95	6.39			98.95	5.82	55	250	23	316	2052	43	1387	170	19	18	19	68	125	5	38	94	5	57	1
	17L-12	Fine-grain dike	Archuleta road	37 3.89	106 58.02	-	-	Br mica	F.gr. bladed	45.47	2.83	14.38	12.16	0.22	5.16	10.86	3.53	3.34	0.91	98.86	12.36	0.30		99.16	6.87	43	228	21	273	1697	40	1566	175	19	19	18	62	115	7	43	101	4	58	2
	15L-40A	Basaltic trachyandesitei **coarse** (Hail 37?)	Archuleta road	37 3.46	106 56.99	Cpx	[oliv]	Br mica	Bladed	53.16	1.80	12.94	8.50	0.13	9.09	6.50	2.96	3.73	0.52	99.31	1.19		0.12	99.31	6.69	98	571	19	173	677	226	705	220	20	9	17	47	107	4	31	73	5	43	4
	15L-40B	Mica trachybasalt f.g. (Hail 37?)	Archuleta road	37 3.46	106 56.99	**Cpx**	[oliv]	Br mica	F.gr. bladed	52.81	1.78	12.76	8.61	0.13	8.96	6.70	2.87	3.70	0.62	98.93	1.04		0.20	98.93	6.57	100	572	18	174	648	221	696	216	22	9	18	50	107	5	37	87	5	52	3
	DU-3	Same location as 15L-40?	Archuleta road	37 3.46	106 57..03					52.51	1.75	12.67	8.81	0.10	8.78	7.28	2.52	3.41	0.58	98.41	3.78			98.41	5.93	100	580			479	205	602	226	22	15						40	92	4	48	
	89SB122	[location uncertain]	Archuleta road							47.25	2.23	15.80	8.83	0.13	3.87	12.88	3.77	2.30	1.00	98.06	9.65			98.06	6.07	67	163	20	231	1101	46	910	214	23	32			95			47	118	3	71	1
	89SB123	[location uncertain]	Archuleta road							52.60	2.00	14.55	10.71	0.10	5.14	7.12	4.93	0.54	1.01	98.70	6.50			98.70	5.47	11	211	16	202	1106	11	880	201	19	20			127			58	135	3	62	1
	89SB124	[location uncertain]	Archuleta road							50.52	2.33	14.56	13.19	0.12	5.77	7.97	2.70	1.58	0.60	99.34	5.65			99.34	4.28	27	189	21	257	887	27	935	152	22	12			100			41	98	2	54	0
	15L-39x	Fine-grain trachbyasalt	Archuleta road	37 1.70	106 56.50	-	-	**Acic. amph**	Med. gr.	50.62	2.44	14.66	9.83	0.21	6.26	6.95	4.08	2.49	1.13	98.66	3.29		0.40	98.66	6.57	71	147	16	212	1557	37	1625	247	21	29	20	43	132	9	64	140	5	74	3
					AVERAGE:					***50.17***	***2.22***	***14.44***	***10.47***	***0.16***	***5.73***	***8.70***	***3.87***	***2.01***	***0.90***	***98.66***	***5.96***	***0.24***	***0.22***	***98.78***	***5.88***	***71***	***228***	***19***	***228***	***1639***	***54***	***1154***	***202***	***21***	***21***	***19***	***57***	***116***	***7***	***50***	***111***	***4***	***58***	***2***
D4	**Dulce N-trending: N NM (W to E)**																																												
70	**15L-55**	Fine-grain dike, westernmost	Head of Dike Canyon	36 55.62	107 12.80	-	-	Br mica	F.gr. bladed	49.82	2.03	17.49	11.21	0.36	5.80	6.29	4.43	0.47	0.71	98.59	6.41			98.59	4.90	76	10	15	237	661	7	823	176	19	17	21	70	130	8	37	90	2	42	3
	15L-54	Fine-grain dike	Carracas Canyon	36 55.735	107 11.47	Cpx	-	Br mica	F.gr. bladed	53.19	2.04	15.15	10.84	0.32	7.66	4.00	5.32	0.18	0.66	99.37	6.32			99.37	5.50	86	207	19	211	260	5	258	168	22	15	19	66	111	6	35	80	4	39	1
	15L-56	***Coarse** mica dike*	La Chamissosa Canyon	*36 55.69*	*107 9.06*	***Cpx***	*[oliv]*	***Br mica***	*Interstitial*	*46.34*	*1.05*	*11.08*	*9.42*	*0.20*	*14.63*	*10.03*	*2.35*	*2.64*	*1.09*	*98.83*	*5.66*			*98.83*	*4.99*	*375*	*897*	*30*	*200*	*308*	*65*	*623*	*261*	*43*	*7*	*9*	*99*	*96*	*3*	*87*	*196*	*10*	*120*	*3*
	15L-53	Fine-grain dike	La Juita divide	36 55.21	107 7.58	**Cpx**	-	**Acic. amph**	F.gr. bladed	49.88	2.48	14.07	11.25	0.32	7.64	7.06	3.10	1.78	0.98	98.57	4.55	0.18		98.75	4.88	64	162	19	252	1874	26	1337	190	21	22	21	55	128	8	55	118	4	62	3
	16L-19	Trachybasalt dike, western	Armago Canyon	36 56.83	107 3.45	-	-	-	Very f.gr.	43.89	2.55	14.31	11.66	0.35	4.52	14.93	3.27	2.28	0.99	98.75	10.93	0.22		98.97	5.56	84	295	23	257	1233	29	1451	180	20	17	21	63	144	10	48	113	4	64	3
	16L-20	Trachybasalt, E of two dikes (L65-113?)	Navajo River	36 57.64	107 2.81		*No TX*			51.02	1.84	14.28	9.93	0.12	6.89	8.18	3.03	3.08	0.68	99.07	4.09				6.12	147	288	20	216	1312	59	1000	185	20	14	18	68	95	8	49	103	6	50	1
	16L-18	Trachybasalt dike, **coarse mica**	Armago Canyon	36 57.02	107 1.61	-	-	**Br mica**	Med. gr.	48.50	2.44	14.78	11.13	0.13	7.03	7.27	3.55	2.81	1.17	98.81	6.99			98.81	6.37	54	126	17	230	1703	44	1253	217	20	29	20	52	109	12	57	120	4	62	2
	16L-8	Trachybasalt, Dulce dike north	Along N side valley	36 57.86	106 59.07	[cpx?]	?	**Br mica**	Bladed	49.53	1.69	13.65	9.68	0.14	5.95	12.28	2.62	3.12	0.77	99.43	9.93	0.17		99.60	5.74	131	390	21	188	1095	97	996	201	22	13	15	49	98	5	43	87	4	46	2
	15L-52	Fine-grain dike (L65-111)	Dulce	36 56.62	106 59.14	**Cpx**	[oliv]	Br mica	F.gr. bladed	49.54	1.69	13.30	9.33	0.14	6.45	11.32	2.78	3.37	0.75	98.67	6.96			98.67	6.15	122	378	20	194	1089	112	962	203	21	13	17	54	97	6	35	93	4	49	3
	16L-7	Trachybasalt, lower thin sill (L65-112)	Archuleta Mesa road	36 57.74	106 58.44	[cpx?]	?	Sparse mica	Med. gr.	47.52	1.74	15.13	9.43	0.19	6.00	12.95	3.32	1.79	0.83	98.89	9.93	0.29		99.18	5.11	107	234	18	184	961	27	1128	186	19	20	18	52	96	8	43	99	4	50	2
	16L-12	Trachybasalt, Lumberton dike S	Stone Lake road	36 54.20	106 57.34	-	-	Sparse mica	F.gr. bladed	45.10	1.70	14.95	9.35	0.15	8.12	13.09	3.54	2.42	0.60	99.03	14.00	0.27		99.30	5.96	137	403	16	152	506	71	779	215	19	12	16	59	85	6	35	76	4	44	4
	15L-51	Fine-grain dike (L65-108)	W of Lumberton	36 56.01	106 52.54		No TX			53.03	1.67	13.59	8.92	0.15	7.81	7.31	2.94	2.93	0.55	98.91	4.85			98.91	5.88	144	424	17	167	640	125	801	208	21	10	18	69	101	4	32	80	5	46	3
	8LT189	Same dike as 15L-51?	W of Lumberton							53.52	1.58	14.34	8.22	0.13	6.92	8.25	2.93	3.27	0.56	99.72	4.94			99.72	6.20	130	409	16	166	632	140	760	222	26	10			89			46	103		45	2
	15L-50	Mica lamprophyre, coarser	Lumberton	36 55.90	106 56.70	[cpx?]	-	**Acic. amph**	Bladed	49.22	1.93	14.60	9.17	0.14	6.67	9.95	3.61	2.19	0.93	98.43	8.05	0.22	0.13	98.65	5.81	97	206	21	203	***4878***	39	1325	222	22	29	19	50	91	7	46	99	5	53	2
	8LT188	Same dike as 15L-50?	Lumberton							48.25	2.05	14.92	10.13	0.13	6.16	10.09	3.43	2.47	0.94	98.57	7.32			98.57	5.90	99	219	20	232	5622	48	1366	228	26	30			74			75	132	6	57	1
	15L-49	Fine-grain, tan (oxid)	Lumberton	36 55.94	106 56.67					47.49	1.87	15.01	9.66	0.15	6.02	11.06	3.55	2.56	0.90	98.25	7.46	0.25		98.49	6.11	99	189	19	202	***6130***	42	1366	229	22	29	18	51	107	8	48	109	4	56	2
									AVERAGE:	***49.30***	***1.95***	***14.64***	***9.99***	***0.19***	***6.64***	***9.60***	***3.43***	***2.32***	***0.80***	***98.87***	***7.52***		***98.97***	***5.74***	***105***	***263***	***19***	***206***	***1906***	***58***	***1040***	***202***	***21***	***19***	***19***	***58***	***104***	***7***	***46***	***100***	***4***	***51***	***2***
D5	**Dulce N-trending: farther S in NM (W to E):**																																												
95	16L-13	Trachybasalt, westernmost dike	Near Burns Cany, Hwy 64	36 46.87	107 9.47	-	[oliv?]	F.gr. mica	F.gr. bladed	49.22	1.88	15.27	9.85	0.30	6.12	9.87	5.39	0.52	0.97	99.38	8.43			99.38	5.91	107	194	19	192	932	10	823	250	22	26	21	48	102	8	51	108	3	54	1
	15L-58	Fine-grain dike, dark fresh	Hwy 64, Burns Canyon	36 48.87	107 6.20	-	-	Interst. ampl	F.g.r felty	48.48	2.66	14.72	10.89	0.24	4.34	10.42	4.20	1.45	1.00	98.40	7.17			98.40	5.65	56	128	19	246	1390	18	1313	193	23	17	21	51	138	8	44	106	3	62	2
	16L-14	Trachybasalt, large western dike	Hwy 64, Burns Canyon	36 46.97	107 5.86	-	-	F.gr. mica	F.gr. felty	52.36	2.36	14.20	10.49	0.24	3.34	9.17	6.12	0.15	1.03	99.47	8.56			99.47	6.27	64	129	17	214	251	2	316	189	21	17	17	44	125	6	44	100	1	56	1
	16L-15	Trachybasalt dike, crumbly center	Hwy 64, W end of lake	36 46.83	107 4.89	-	-	F.gr. mica	F.gr.	49.54	1.80	15.42	11.17	0.29	5.37	10.58	4.22	0.42	0.57	99.36	8.83	0.27			4.64	146	232	22	193	479	6	472	163	28	17	19	70	110	5	32	73	5	37	4
	16L-16	Trachybasalt, next dike E	Hwy 64, Burns Canyon	36 46.84	107 4.68		*No TX*			47.56	3.07	15.86	12.33	0.16	4.49	7.06	6.76	0.55	1.39	99.23	6.07			99.23	7.31	33	128	21	266	837	8	556	217	23	26	19	59	154	6	51	125	3	68	1
	16L-17	Trachybasalt, eastern dike (L65-110)	Hwy 64, Burns Canyon	36 47.39	107 2.98	[cpx?]	?	Chloritic	Bladed	46.67	2.00	13.31	10.58	0.28	5.48	13.08	2.12	4.66	0.73	98.90	10.86			98.90	6.78	43	330	22	220	580	177	714	268	21	14	16	61	98	5	30	70	3	42	2
	16L-9A	*Trachybasalt, f.gr. margin [excluded]*	*Hwy 64, S of Dulce*	*36 49.91*	*107 1.52*	***Cpx***	*[oliv]*	-	*Very f.gr.*	*37.26*	*1.81*	*14.44*	*12.90*	*0.25*	*11.00*	*15.95*	*0.40*	*4.17*	*0.71*	*98.89*	*13.95*	*0.18*		*99.07*	*4.58*	*354*	*807*	*26*	*228*	*1038*	*99*	*778*	*211*	*27*	*14*	*21*	*97*	*97*	*9*	*45*	*96*	*6*	*55*	*3*
	16L-9B	Trachybasalt, **coarser** mica (L65-109)	Hwy 64, S of Dulce	36 49.91	107 1.52	Cpx	[oliv]	**Br mica**	F.gr.	46.70	1.41	11.86	9.96	0.19	12.98	11.10	1.19	3.15	0.59	99.12	5.52			99.12	4.35	329	908	28	215	838	69	900	215	30	12	13	96	90	5	44	89	5	53	2
	8LT-190	Same dike as 16L-9	Hwy 64, S of Dulce							46.63	1.54	12.24	10.95	0.22	12.12	11.29	1.24	3.05	0.65	99.93	3.43			*99.93*	*4.29*	317	801	26	227	1042	59	924	230	35	13			71		43			68	
									AVERAGE:	***48.40***	***2.09***	***14.11***	***10.78***	***0.24***	***6.78***	***10.32***	***3.91***	***1.74***	***0.87***	***99.22***	***7.36***	***0.27***	***99.21***	***5.65***	***137***	***356***	***22***	***221***	***793***	***44***	***752***	***216***	***26***	***18***	***18***	***62***	***111***	***6***	***43***	***96***	***3***	***55***	***2***
D6	**Dulce N-trending: southernmost in NM:**																																												
	15L-57	Southern dike	Hwy 537	36 33.47	107 4.40	-	-	Acic. amph	F.gr. bladed	50.33	2.48	14.75	9.62	0.22	5.98	7.33	4.08	2.77	1.15	98.72	3.12			98.72	6.86	68	151	16	219	1581	40	1639	254	21	30	21	43	133	11	63	140	5	71	2
	16L-10	Trachybasalt, southern dike	S of Hwy 537	36 32.56	107 4.48	Sm cpx	[oliv?]	Acic. amph	F.gr. bladed	49.89	2.58	14.27	10.41	0.19	7.08	6.82	3.84	2.32	1.21	98.60	3.60			98.60	6.16	79	189	19	226	1499	31	1731	235	21	27	21	55	255	7	62	142	5	76	1
	16L-11	Trachybasalt, southern dike	farther S of Hwy 537	36 30.44	107 4.84	-	-	F.g. amph	F.gr.	49.27	2.45	14.65	10.25	0.20	5.98	8.64	3.67	2.95	1.20	99.25	4.49			99.25	6.61	77	175	17	214	1781	40	1784	240	22	28	21	43	135	9	66	137	5	73	3
120									***AVERAGE:***	***49.83***	***2.50***	***14.55***	***10.09***	***0.20***	***6.35***	***7.60***	***3.86***	***2.68***	***1.19***	***98.85***	***3.74***		***98.85***	***6.54***	***75***	***172***	***17***	***220***	***1620***	***37***	***1718***	***243***	***21***	***28***	***21***	***47***	***174***	***9***	***64***	***140***	***5***	***73***	***2***
	Distal granitoid intrusions																																												
	15L-62	Granodiorite (f.gr.), Blanco Basin	Oil Creek	37 15.81	106 45.62	Plag (to 2 mm)		Plag, cpx, altered opx(?)		61.29	0.65	16.69	5.72	0.14	2.24	5.20	3.94	2.61	0.29	98.77	1.41			98.77	6.55	13	24	13	81	800	52	649	179	25	9	17	20	87	11	31	62	4	30	2
	15L-35	Granodiorite (f.gr.), Jackson Mountain	Jackson Mountain road	37 21.44	106 57.47	K-feld, qtz xeno.		F.gr. plag, cpx(alt), bio		58.40	1.46	15.50	6.82	0.09	3.65	5.37	3.93	3.31	0.75	99.29	4.74			99.29	7.24	26	45	11	138	1554	72	1120	193	17	16	20	46	101	12	57	109	9	53	5
	15L-59	Granodiorite (f.gr.), Jackson Mountain	Roadcut, Hwy 160	37 20.33	106 56.43	K-feld, qtz xeno.		F.gr. plag, cpx(alt), bio		57.88	1.42	15.54	7.02	0.11	3.08	6.33	4.14	3.00	0.72	99.24	4.86			99.24	7.14	23	38	12	144	1537	63	1174	191	16	16	20	45	101	11	51	107	9	52	2
	16L-5	Porphyritic granodiorite, V Mountain	V Mountain trail	37 7.95	106 47.55	Plag, cpx to 4mm		F.gr. same crystals		57.34	0.94	15.38	8.14	0.13	4.56	6.52	3.12	2.78	0.32	99.23	1.67			99.23	5.90	51	100	21	176	708	70	583	221	27	11	18	83	89	11	40	75	9	34	3
	16L-6	Andesite porphyry, base Archuleta Mesa	S Archuleta Mesa road	36 58.83	106 58.31	Plag, cpx to 4mm		F.gr. biotite	F.gr. interstit	57.34	0.95	17.80	6.95	0.12	2.59	6.26	3.71	3.17	0.38	99.29	1.83			99.29	6.88	14	12	15	143	712	80	741	219	26	12	19	63	82	13	36	72	9	36	3
									AVERAGE:	***58.45***	***1.08***	***16.18***	***6.93***	***0.12***	***3.23***	***5.93***	***3.77***	***2.98***	***0.49***	***99.16***	***2.90***		99.16	***6.74***	***25***	***44***	***15***	***136***	***1062***	***68***	***854***	***201***	***22***	***13***	***19***	***51***	***92***	***12***	***43***	***85***	***8***	***41***	***3***
	Conejos Formation-Wolf Cr Pass																																												
	15L-31	Cobble, upper conglomerate	Hwy 160	37 28.08	106 52.51					60.43	0.62	14.95	4.66	0.09	2.56	4.63	2.52	4.19	0.27	94.93	3.34			94.93	7	28	45	10	104	1066	67	973	160	18	9	17	27	67	23	37	74	7	32	2
	15L-32	Basal dacitic breccia	Hwy 161	37 28.63	106 52.66					67.34	0.45	15.02	3.28	0.05	1.12	2.57	3.25	4.34	0.19	97.60	1.70			97.60	8	4	4	6	53	855	124	414	185	18	16	17	8	62	18	41	79	15	30	6

Analyses made at Washington State Geoanalytical Lab, 2015-2017, by Scott Boroughs. for methods and precision: https://environment.wsu.edu/facilities/geoanalytical-lab/technical-notes/xrf-method. Major oxides normalized, volatile free, to reported sums

From Gonzales and Lake (2016). From Gibson et al. (1993)

Abbreviations: acic, acicular; alt, altered; amph, amphibole; bio, biotite; br, brown; cpx, clinopyroxene; f.gr., fine grain; hbl, hornblende; k-feld, k-feldspar; med, medium; oliv, olivine; opx, orthopyroxene; plag, plagioclase; qtz, quartz; etc

* Distance from west margin, Platoro caldera

Bold, Ar/Ar age samples. Sample numbers in brackets (e.g., Hail 41, L65-113) reference analyses in Supplemental File 3