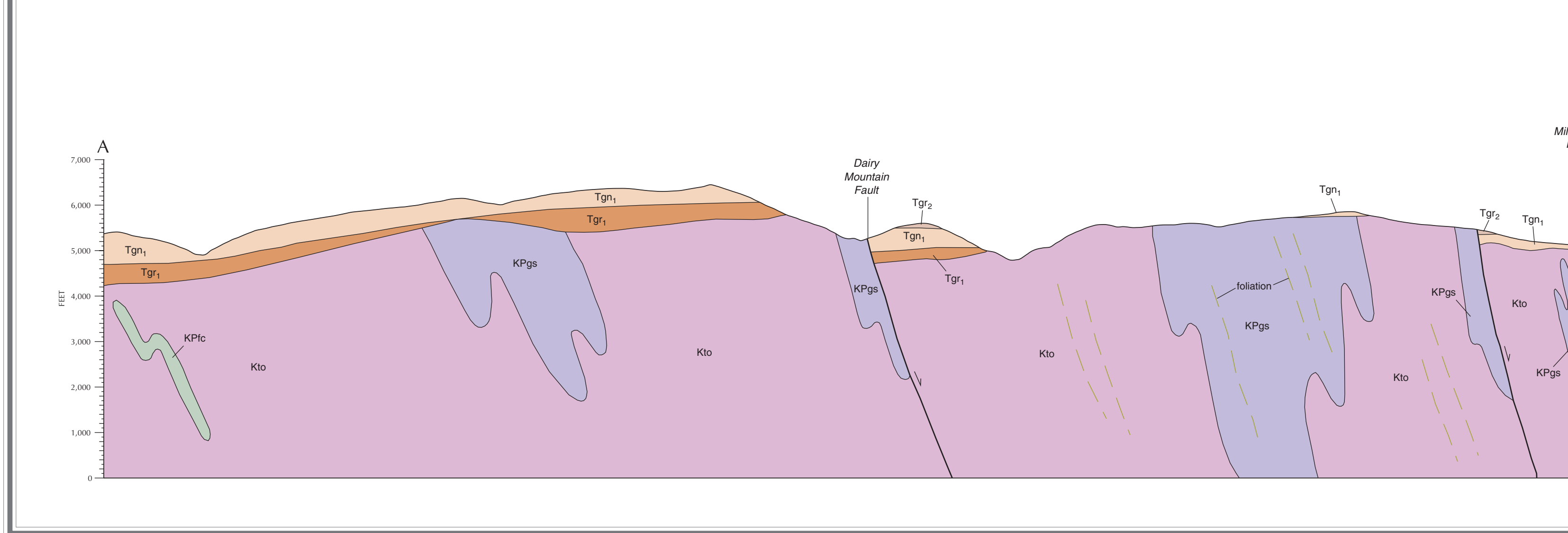
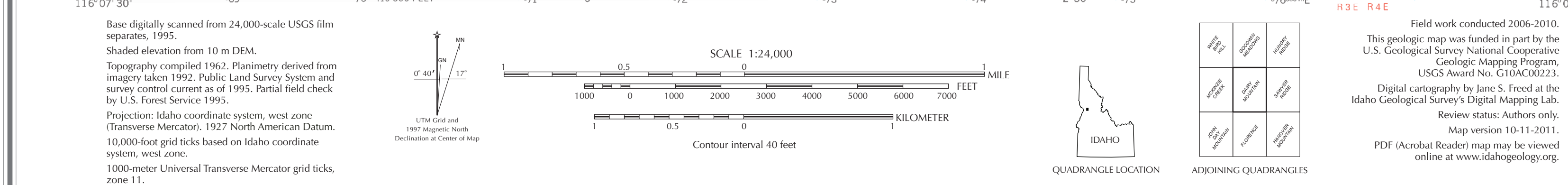
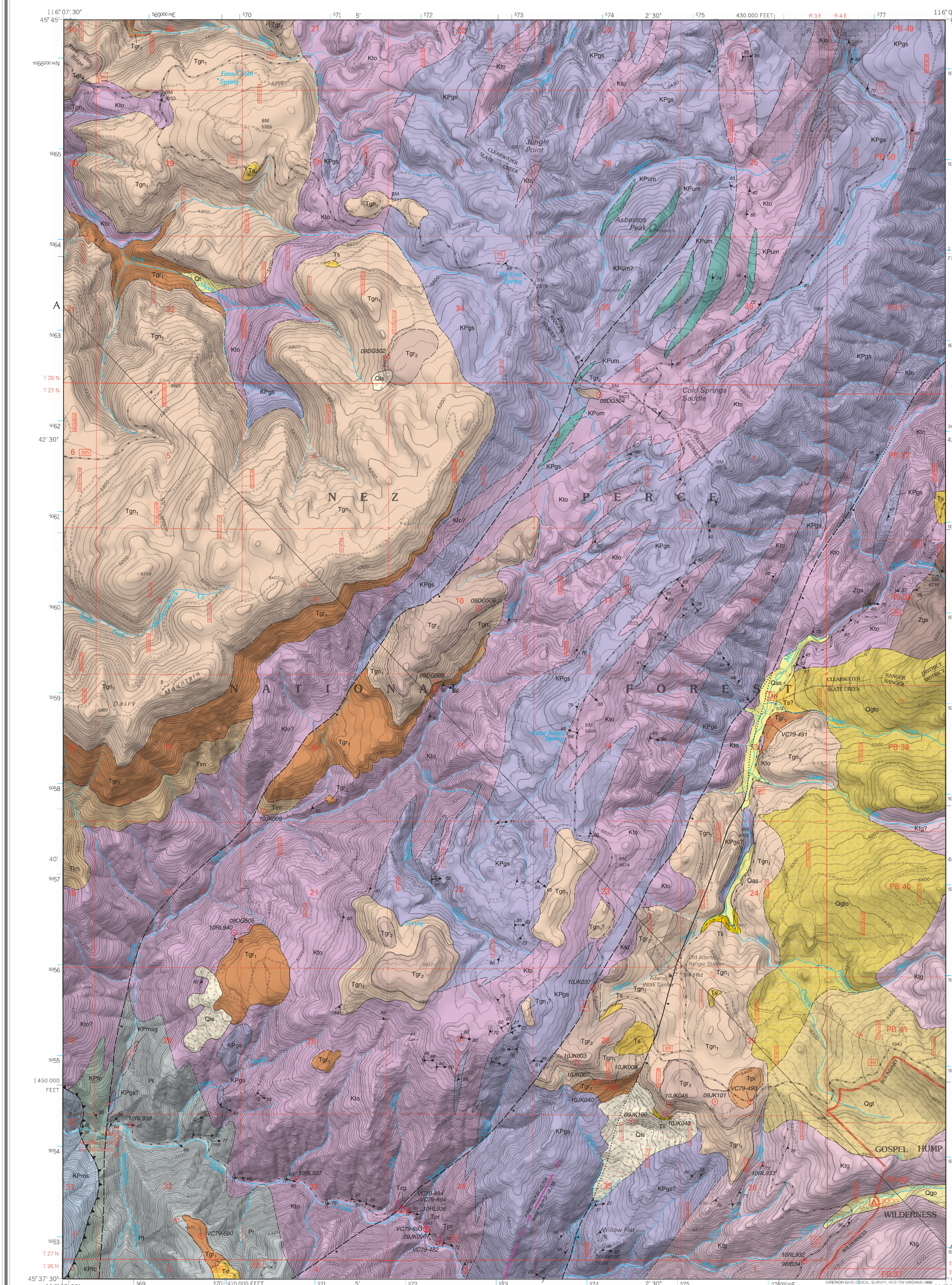
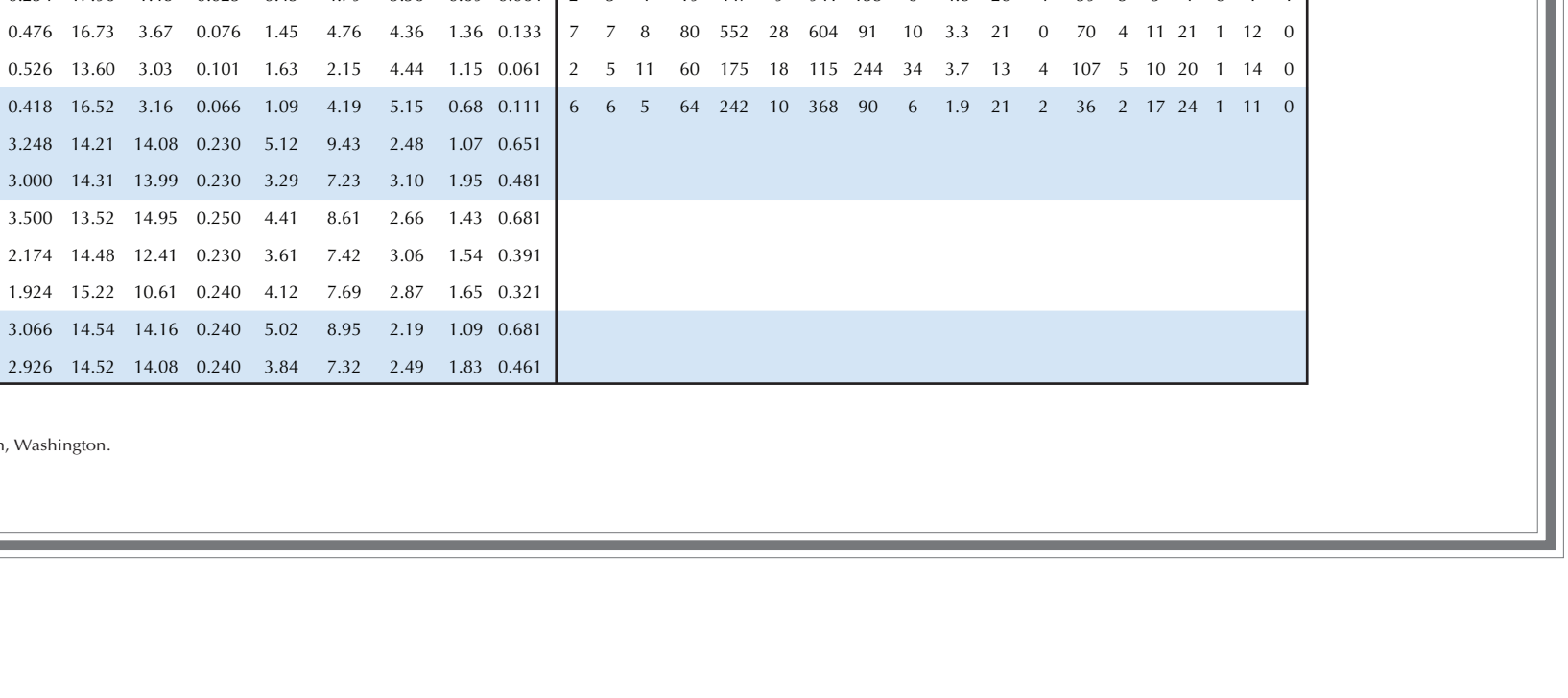
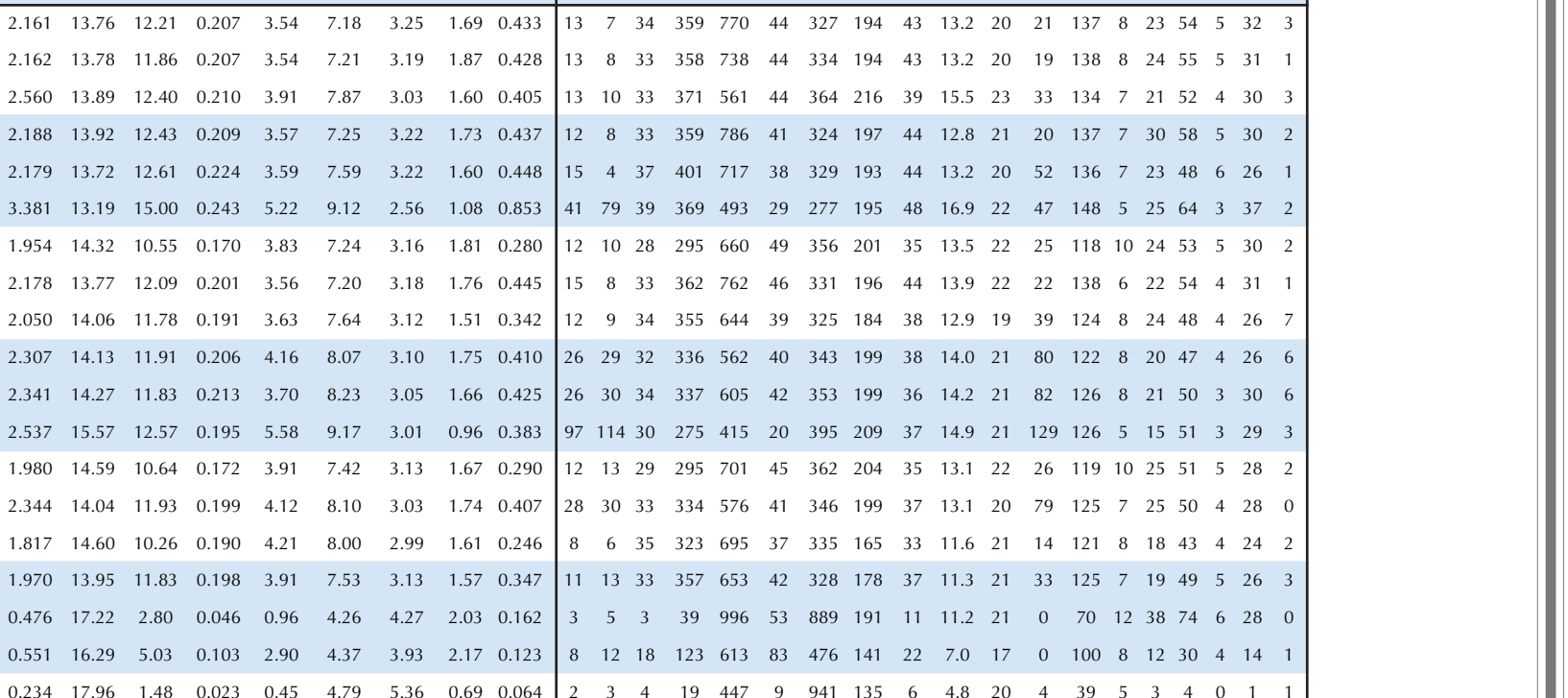
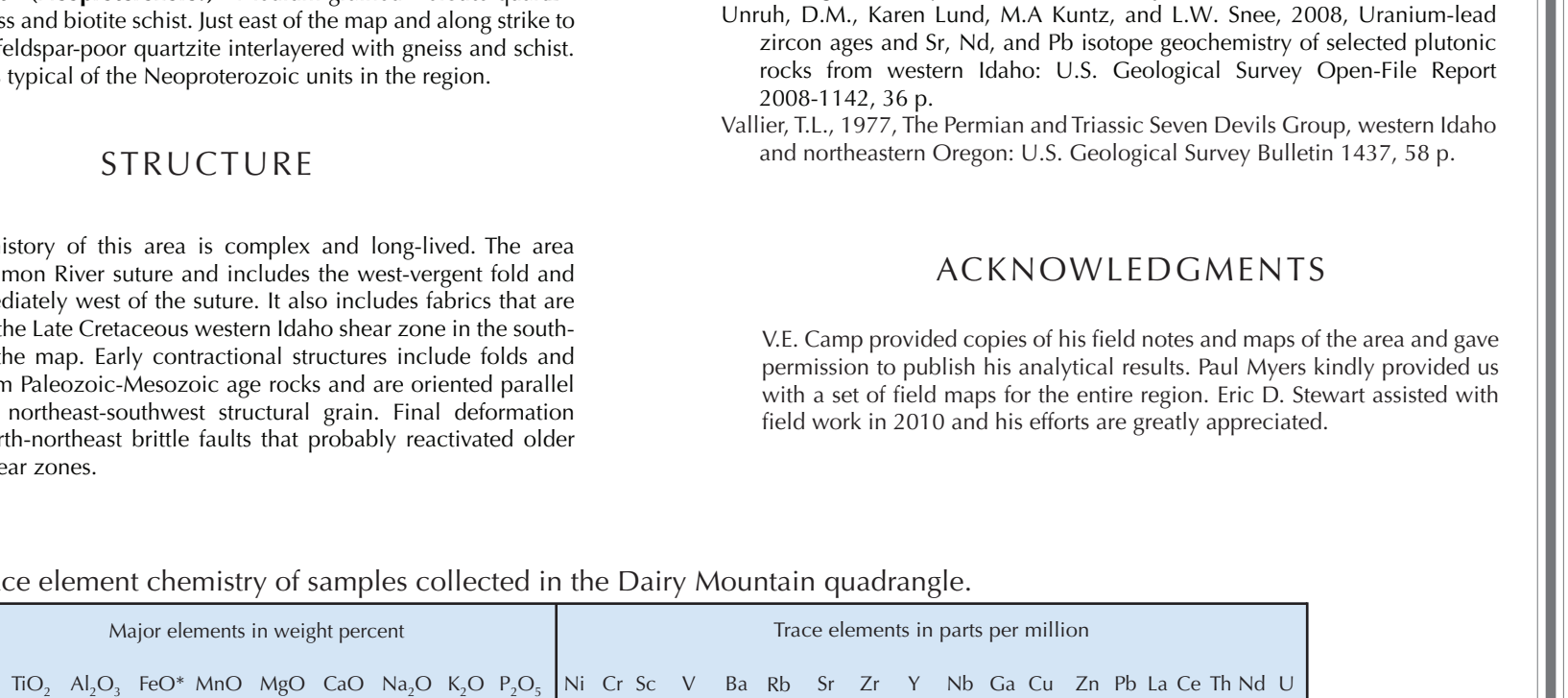
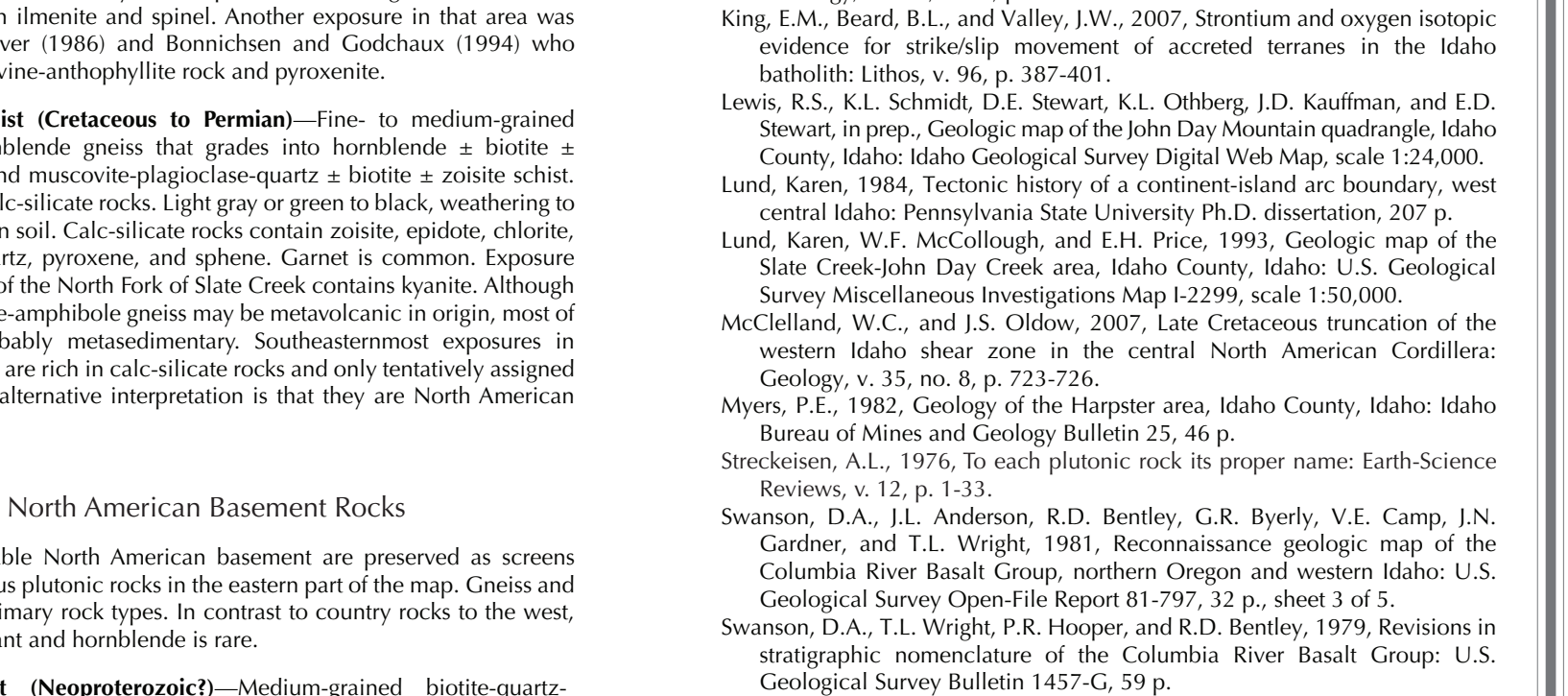
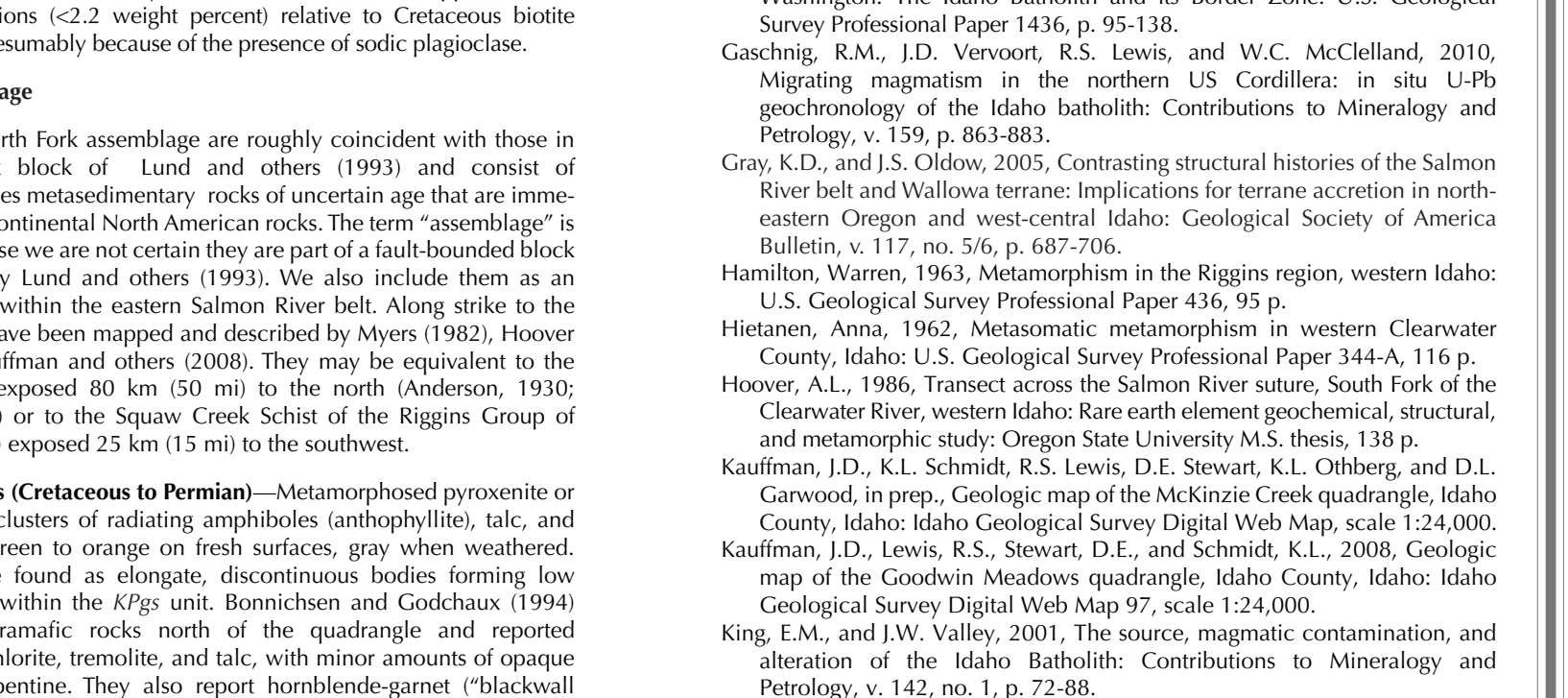
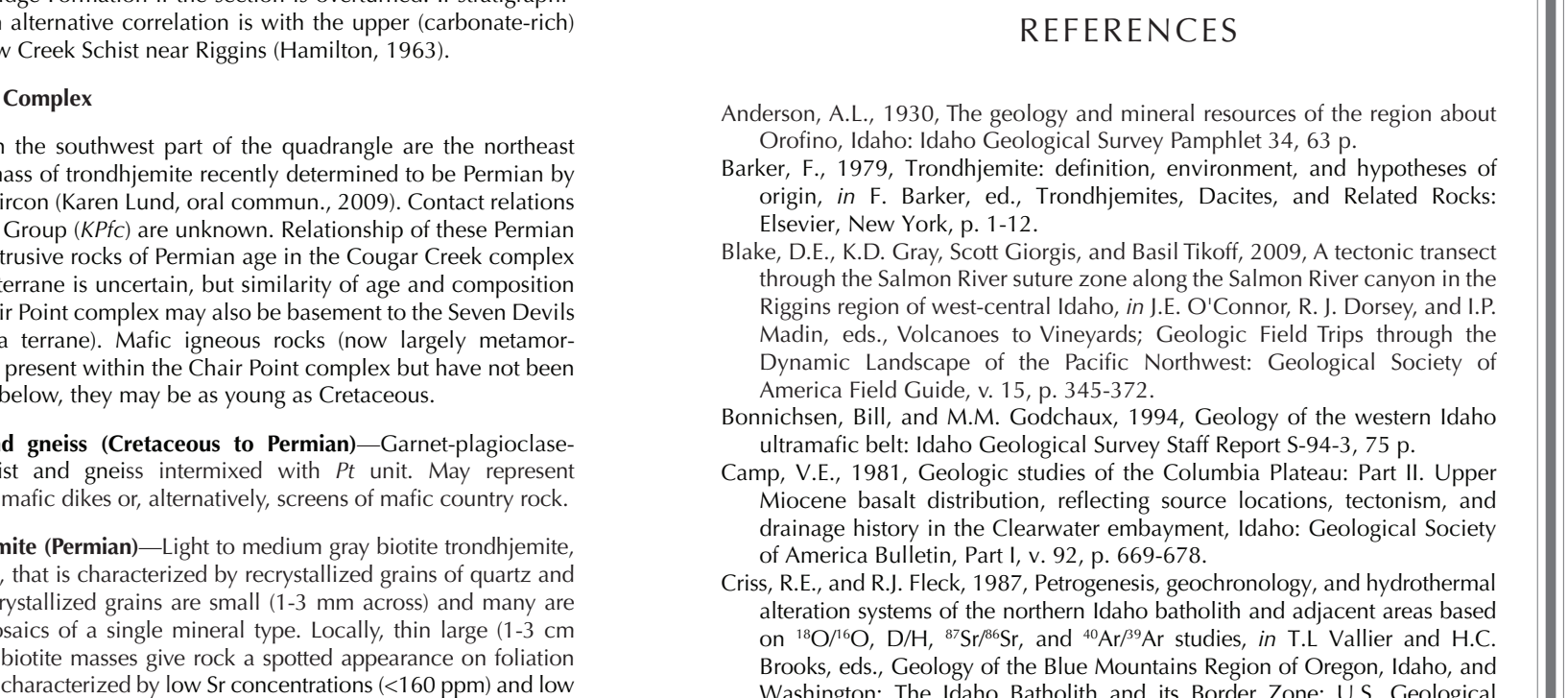
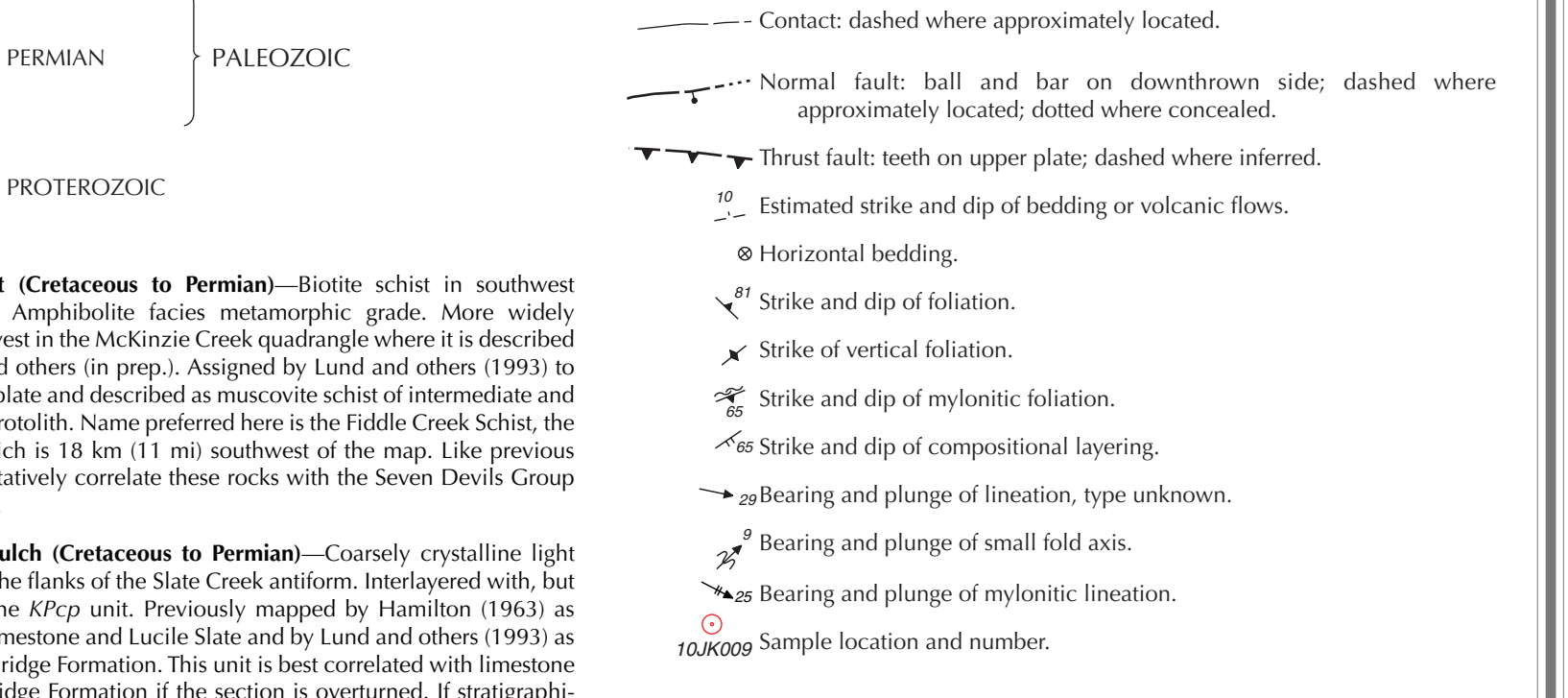
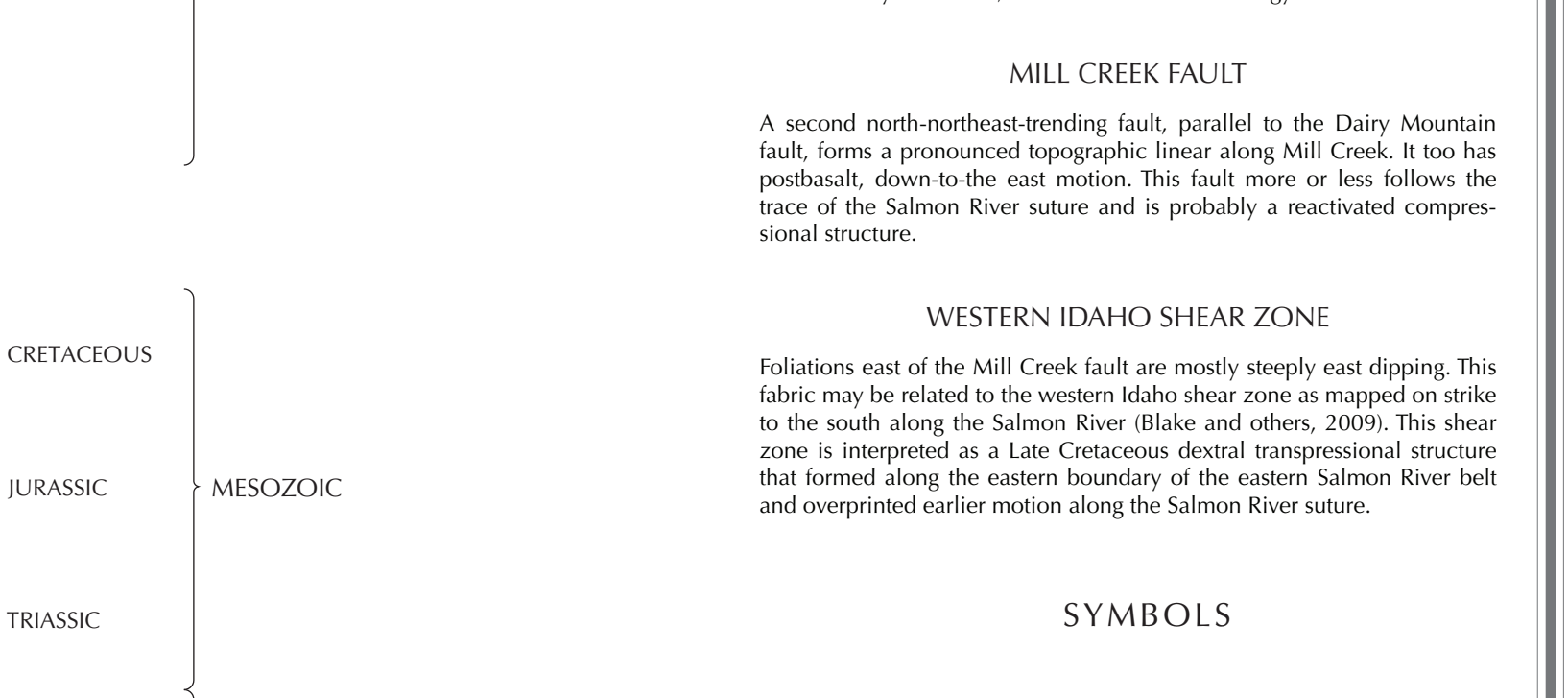
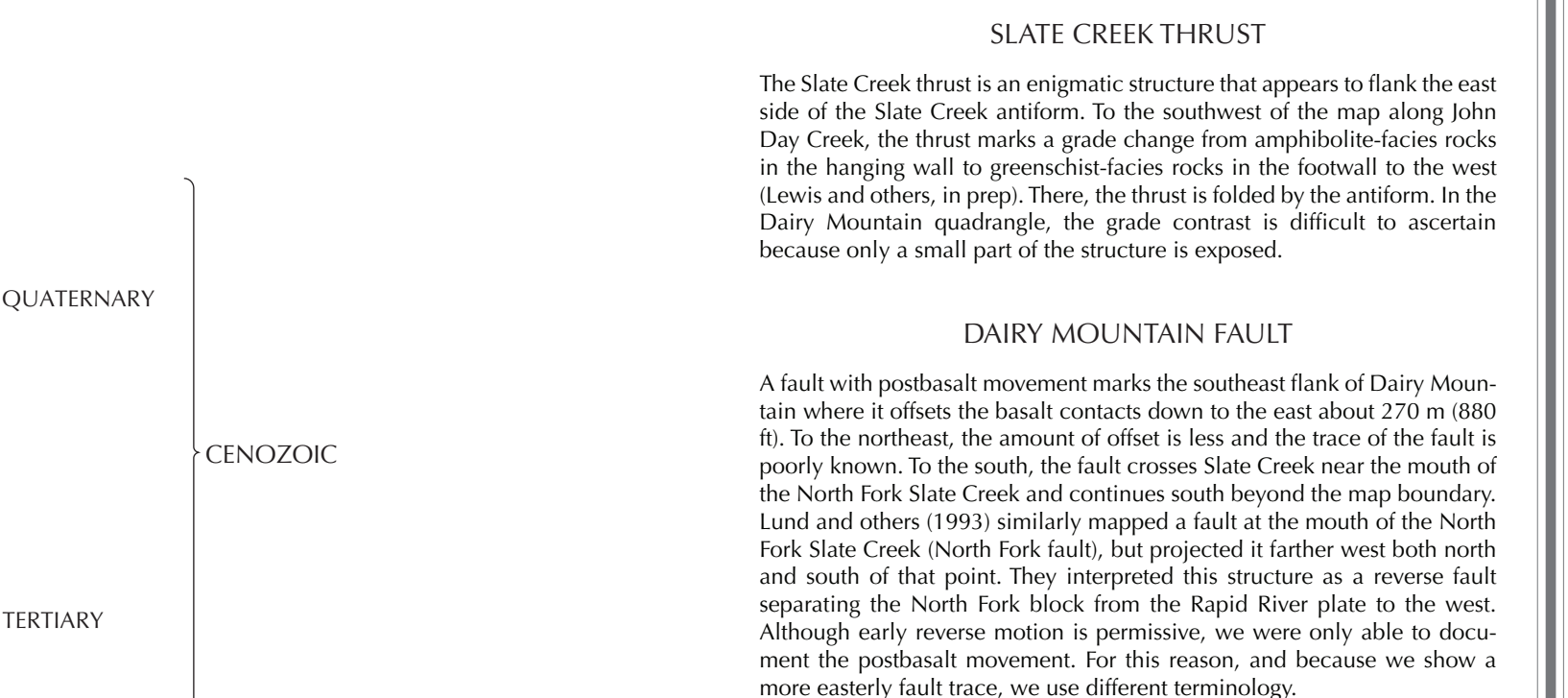
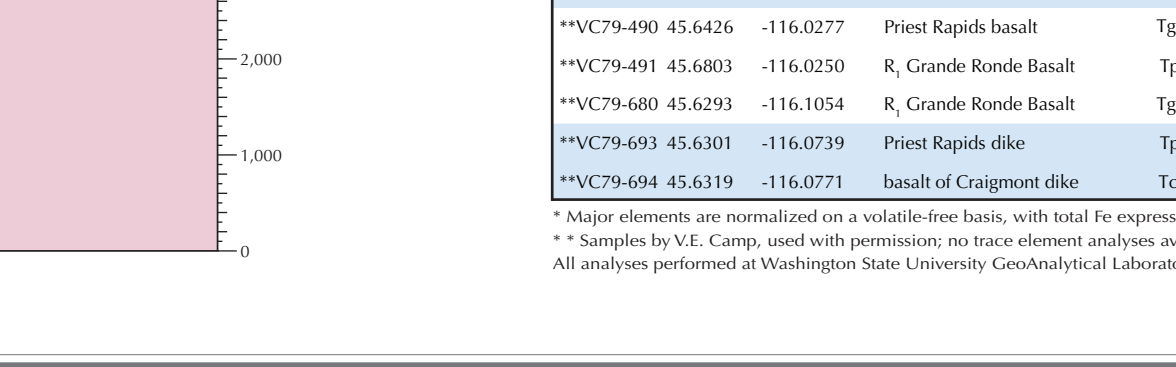
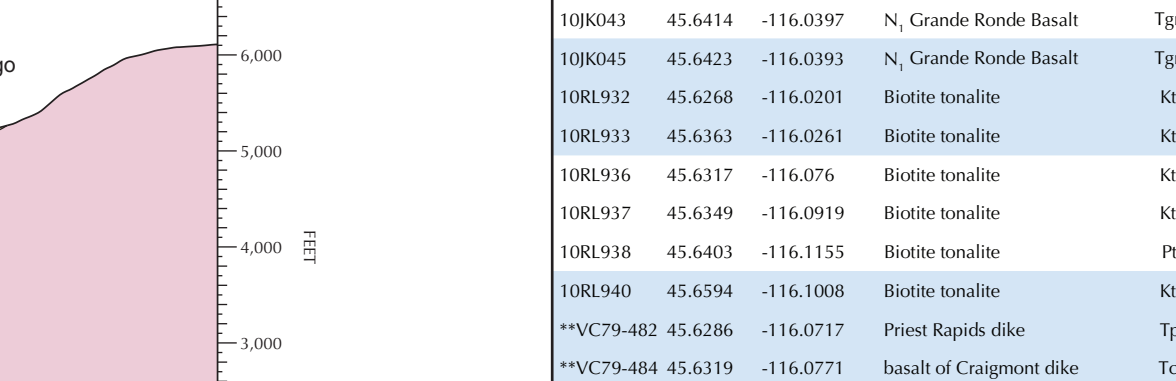
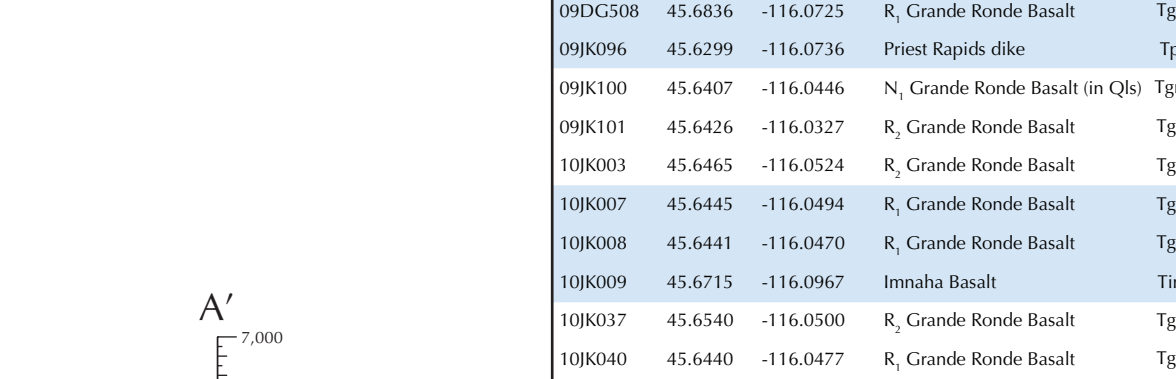
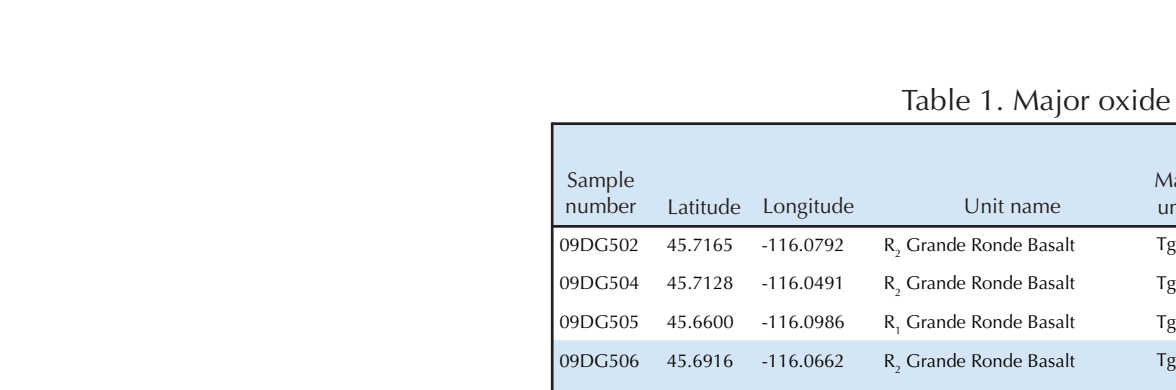
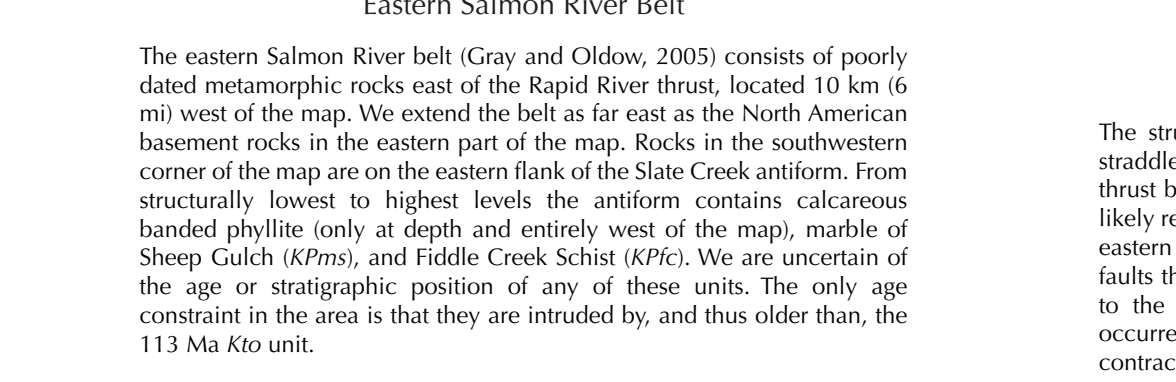
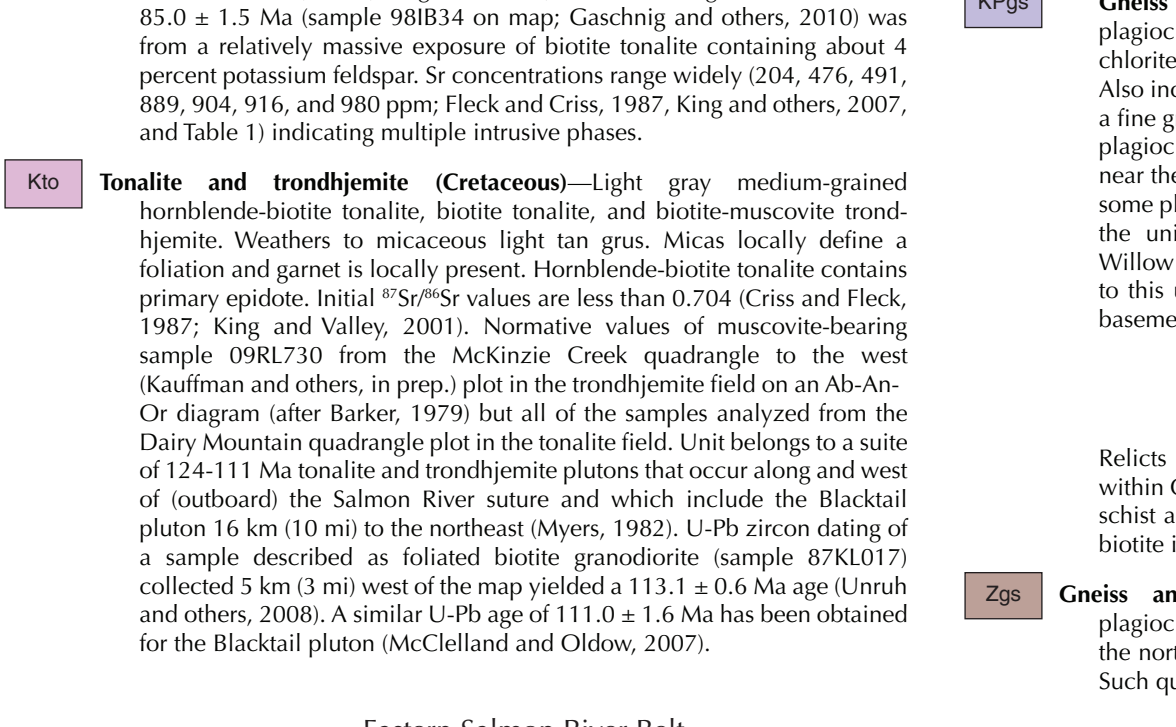
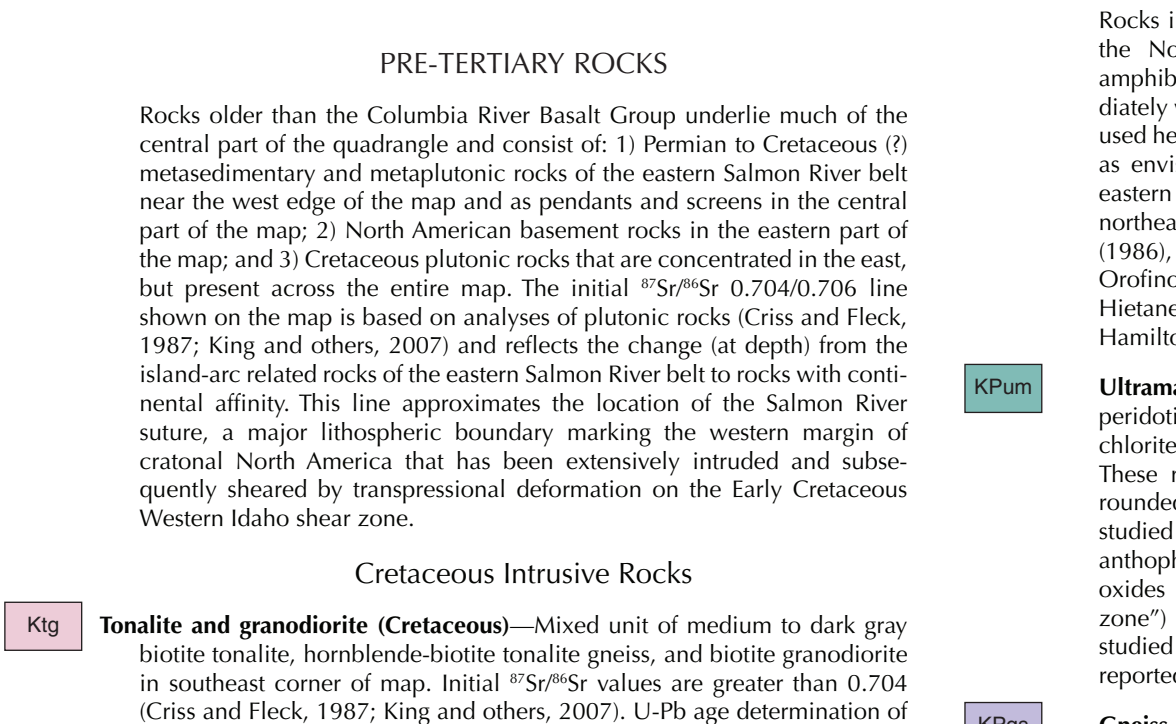
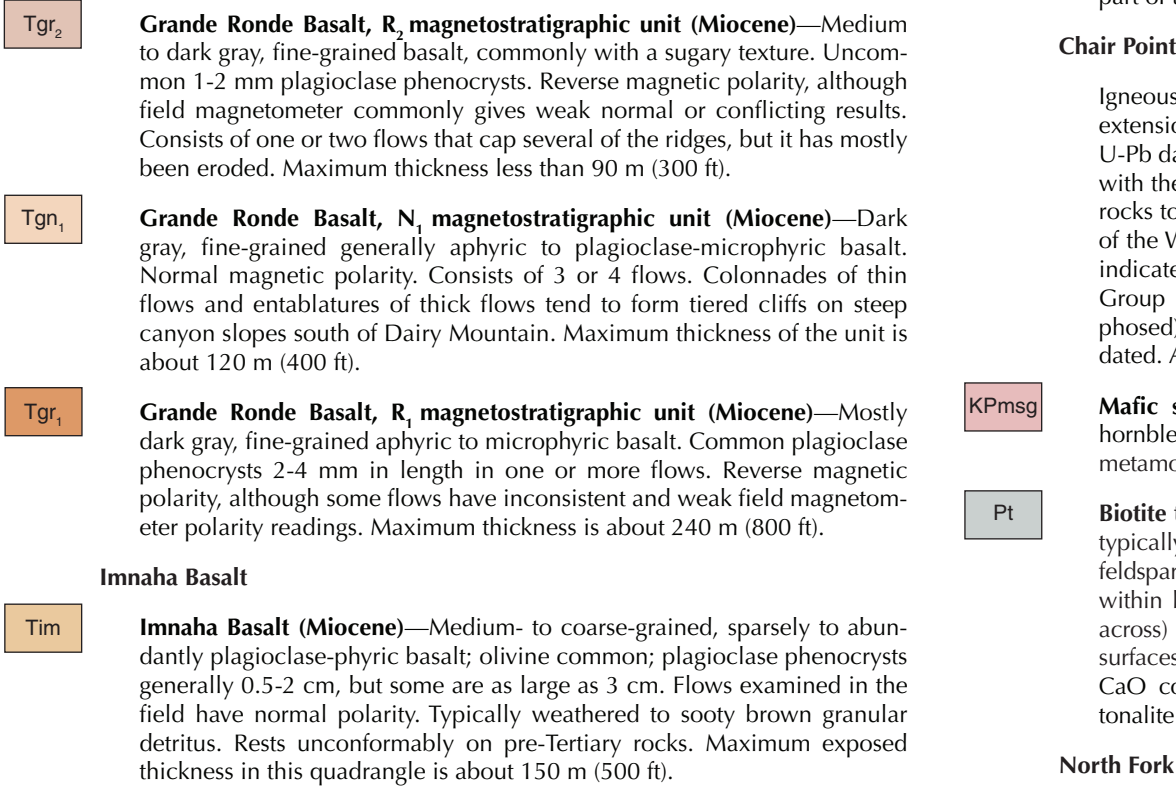
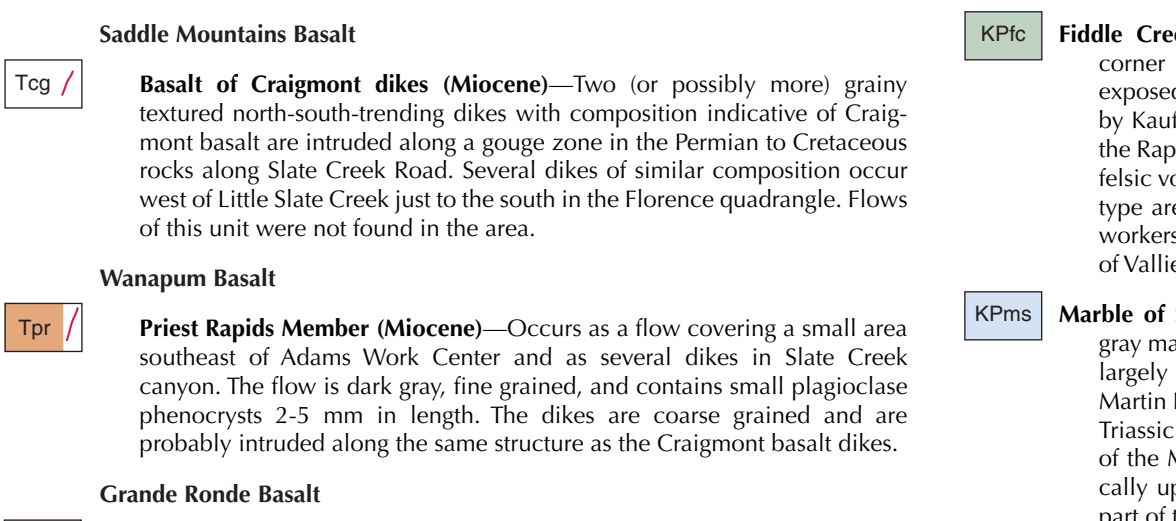
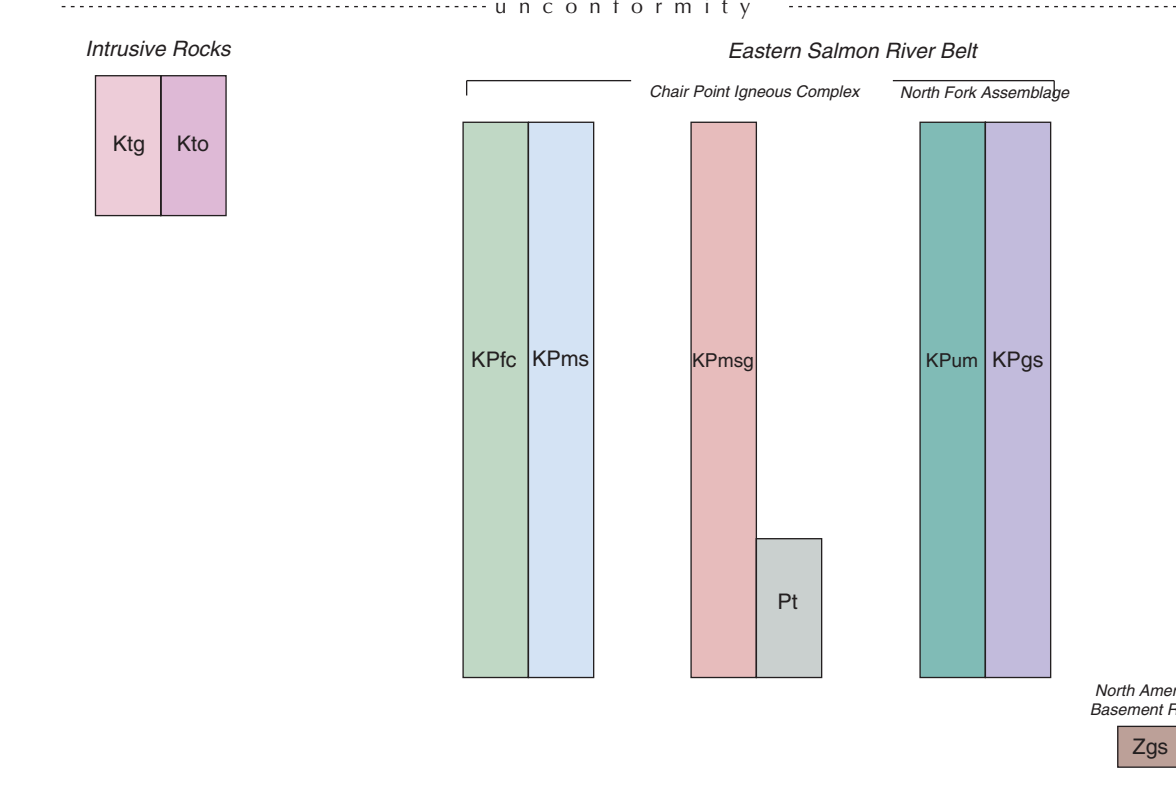
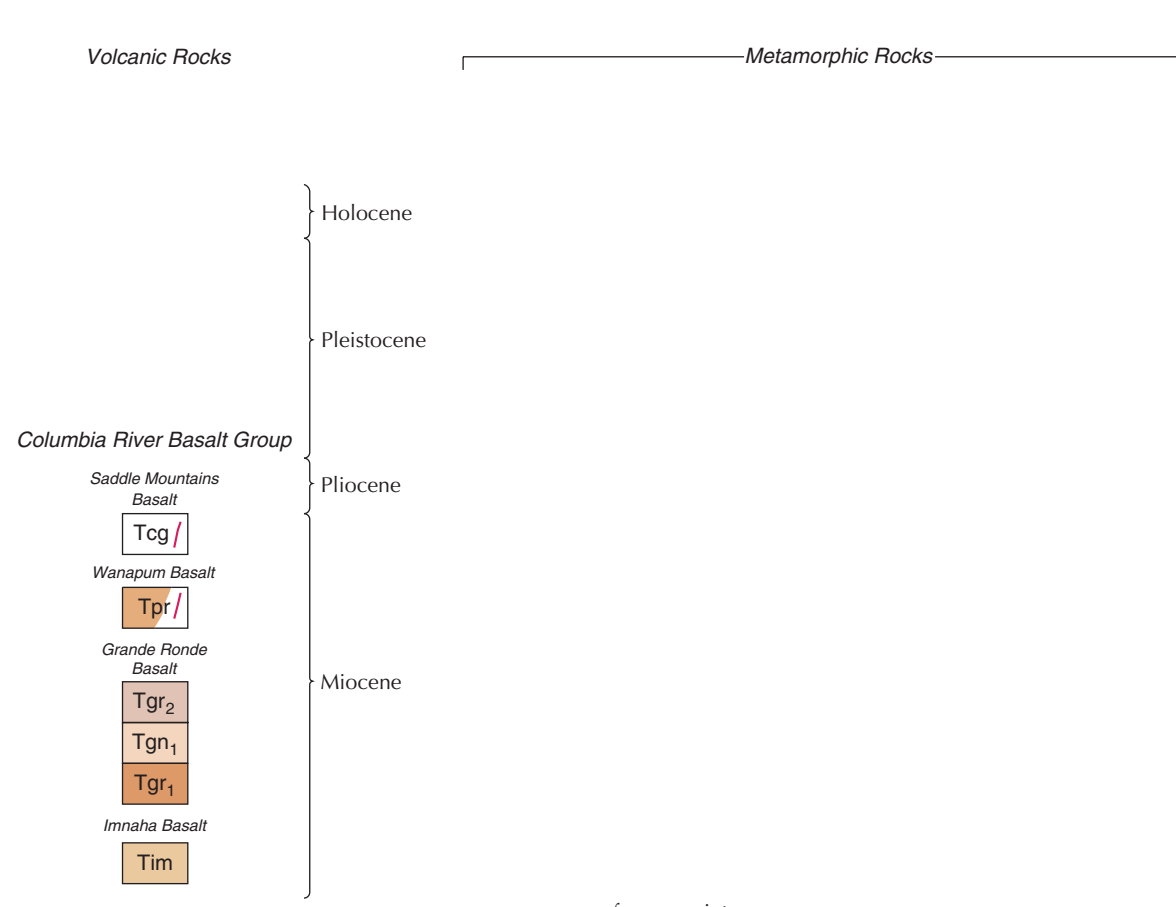


GEOLOGIC MAP OF THE DAIRY MOUNTAIN QUADRANGLE, IDAHO COUNTY, IDAHO

John D. Kauffman, Reed S. Lewis, Keegan L. Schmidt,
David E. Stewart, Dean L. Garwood, and Kurt L. Othberg
2011

CORRELATION OF MAP UNITS



SLATE CREEK THRUST

The Slate Creek thrust is an enigmatic structure that appears to flank the east side of the Slate Creek antiform. To the southwest of the map along John Day Creek, the thrust marks a grade change from amphibolite-facies rocks in the hanging wall to greenschist-facies rocks in the footwall to the west (Lewis and others, in prep). There, the thrust is followed by the antiform. In the Dairy Mountain quadrangle, the grade contrast is difficult to ascertain because only a small part of the structure is exposed.

DAIRY MOUNTAIN FAULT

A fault with postbasalt movement marks the southeast flank of Dairy Mountain where it effects the basalt contacts down to the east about 270 m (880 ft). To the northeast, the amount of offset is less and the trace of the fault is poorly known. To the south, the fault crosses Slate Creek near the mouth of the North Fork Slate Creek and continues south beyond the map boundary. Lund and others (1993) similarly mapped a fault at the mouth of the North Fork Slate Creek (North Fork fault), but projected it farther west both north and south of that point. They interpreted this structure as a reverse fault separating the North Fork block from the Rapid River plate to the west. Although early reverse motion is persuasive, we were only able to document the postbasalt movement. For this reason, and because we show a more easterly fault trace, we use different terminology.

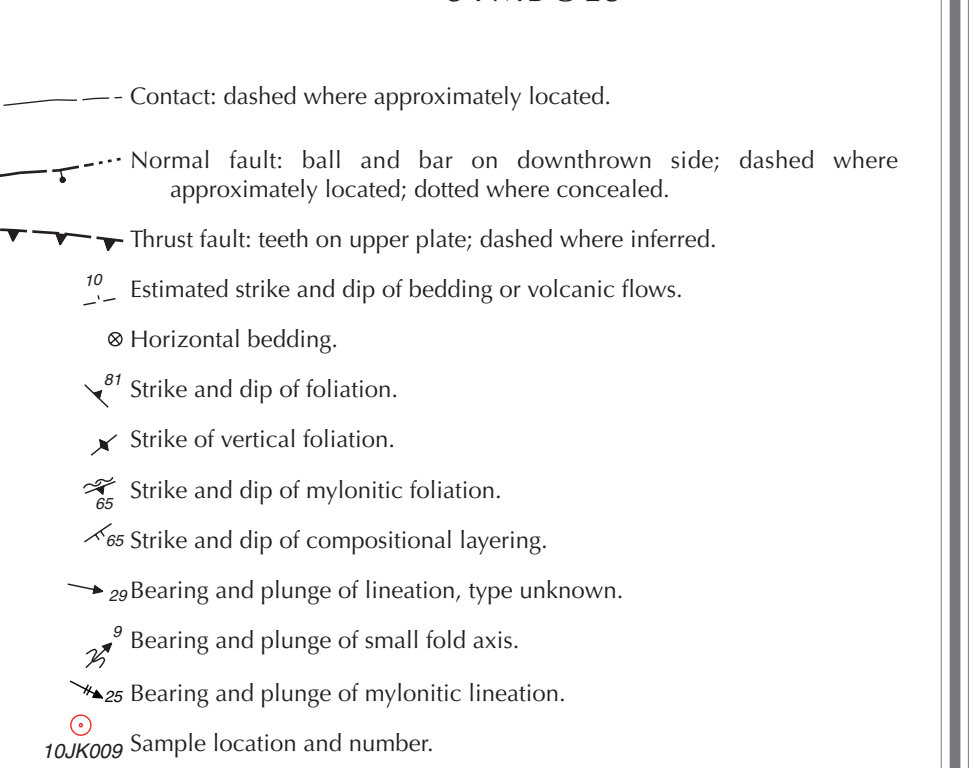
MILL CREEK FAULT

A second north-northeast-trending fault, parallel to the Dairy Mountain fault, forms a pronounced topographic linear along Mill Creek. It too has postbasalt, down-to-the-east motion. This fault more or less follows the trace of the Salmon River suture and is probably a reactivated compressional structure.

WESTERN IDAHO SHEAR ZONE

Foliations east of the Mill Creek fault are mostly steeply east dipping. This fabric may be related to the western Idaho shear zone as mapped on strike to the south along the Salmon River, Blaine and others, 2009. This shear zone is interpreted as a Late Cretaceous dextral transpressional structure that followed the eastern boundary of the eastern Salmon River belt and exhumed earlier motion along the Salmon River suture.

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V.E. Camp provided copies of his field notes and maps of the area and gave permission to publish his analytical results. Paul Myers kindly provided us with a set of field maps for the entire region. Eric D. Stewart assisted with field work in 2010 and his efforts are greatly appreciated.

Table 1. Major oxide and trace element chemistry of samples collected in the Dairy Mountain quadrangle.

Sample	Latitude	Longitude	Unit name	Map	Major elements in weight percent										Trace elements in parts per million																	
					SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	Cr	Sc	V	Ba	Rb	Sr	Zr	Y	Nb	Ce	Th	U	La	Co	Ni	As		
080002	45.7165	-116.0792	R. Grande Ronde Basalt	Tp ₁	55.57	2.14	13.76	0.22	0.207	3.54	7.18	1.25	1.69	0.431	13	7	34	359	770	44	327	194	43	132	20	117	8	23	55	32		
080003	45.7165	-116.0791	R. Grande Ronde Basalt	Tp ₁	55.74	2.162	13.78	0.186	0.207	3.54	7.21	1.29	1.67	0.428	13	8	33	358	778	44	324	194	43	132	20	118	8	24	55	31		
080004	45.6600	-116.0686	R. Grande Ronde Basalt	Tp ₁	54.12	2.500	13.82	0.260	0.210	3.91	7.87	1.30	1.60	0.405	13	10	33	371	561	44	346	216	39	155	23	71	14	52	40	30		
080005	45.6916	-116.0662	R. Grande Ronde Basalt	Tp ₁	55.95	2.186	13.82	0.241	0.209	3.57	7.25	1.32	1.67	0.427	12	8	33	359	786	44	324	197	44	128	21	119	8	24	55	31		
080006	45.6836	-116.0725	R. Grande Ronde Basalt	Tp ₁	54.82	2.179	13.72	0.261	0.224	3.59	7.59	1.22	1.68	0.448	15	4	37	401	717	38	329	195	44	132	20	126	7	23	56	32		
080007	45.6299	-116.0736	Priest Rapids dike	Tp ₁	49.36	3.381	13.19	0.500	0.243	5.22	9.12	2.56	1.08	0.853	48	79	39	369	429	27	148	5	25	64	3	37	2	48	6	26		
080008	45.6407	-116.0496	R. Grande Ronde Basalt (in Qz)	Tp ₁	56.68	1.954	14.32	0.155	0.170	3.81	7.24	1.36	1.81	0.280	12	10	28	295	660	49	356	201	35	135	22	55	118	10	24	55	30	
080010	45.6426	-116.0337	R. Grande Ronde Basalt	Tp ₁	55.81	2.178	13.77	0.260	0.201	3.56	7.50	1.18	1.76	0.442	16	8	36	378	762	46	331	196	44	135	22	128	8	25	56	32		
080011	45.6465	-116.0524	R. Grande Ronde Basalt	Tp ₁	55.68	2.090	14.06	0.178	0.191	3.63	7.64	1.32	1.51	0.342	10	9	34	355	748	45	325	196	43	135	22	128	8	24	56	32		
080012	45.6445	-116.0494	R. Grande Ronde Basalt	Tp ₁	55.97	2.207	14.33	0.191	0.206	3.16	8.07	1.30	1.75	0.450	28	29	32	336	562	40	343	199	38	140	21	80	122	8	26	4	26	
080013	45.6441	-116.0470	R. Grande Ronde Basalt	Tp ₁	54.28	2.341	14.27	0.183	0.213	3.70	8.23	1.05	1.66	0.425	38	30	34	337	565	40	343	199	38	142	21	82	126	8	21	50	3	30
080014	45.6215	-116.0692	Imnaha Basalt	Tm	50.02	2.537	15.57	0.257	0.195	5.58	9.17	1.01	0.96	0.381	97	114	30	275	415	20	395	209	129	126	15	5	151	51	3	29	3	
080015	45.6440	-116.0500	R. Grande Ronde Basalt	Tp ₁	56.20	1.968	14.59	0.164	0.172	3.91	7.42	1.33	1.67	0.290	12	10	29	295	701	45	362	204	35	133	22	56	119	10	25	55	30	
080016	45.6440	-116.0277	R. Grande Ronde Basalt	Tp ₁	54.99	2.244	14.58	0.192	0.210	4.12	8.10	1.10	1.74	0.467	28	29	32	336	562	40	343	199	38	142	21	80	122	8	26	4	26	
080017	45.6414	-116.0397	N. Grande Ronde Basalt	Tp ₁	56.08	1.817	14.60	0.226	0.190	4.21	8.00	2.99	1.41	0.246	8	6	35	325	605	37	335	165	33	116	21	14	121	8	18	43	24	3
080018	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080019	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080020	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080021	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1																				
080022	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080023	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080024	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080025	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080026	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080027	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080028	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080029	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080030	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080031	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
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080034	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080035	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080036	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080037	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080038	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080039	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080040	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080041	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080042	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080043	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080044	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35	327	613	37	335	165	33	116	21	14	121	8	18	43	24	3
080045	45.6423	-116.0393	N. Grande Ronde Basalt	Tp ₁	55.57	1.970	13.95	0.181	0.198	3.91	7.33	1.33	1.67	0.347	11	13	35															