

APPENDIX D

FAULT SLIP DATA AND SENSE OF SHEAR DETERMINED IN FOLIATED AND MYLONITIC ROCKS FROM THE WILD ROGUE WILDERNESS, SW OREGON

Table D1: Fault slip data from Rogue River fault zone

Outcrop Locality	Fault-#	Striated fault Strike	Dip		Striation Trend	Plunge	Hanging block
<u>Rogue River</u>							
	12*	90	22	S	140	17	down
	14*	234	22	N	340	70	down
				W			
	31*	14	60	E	137	48	down
	34*	200	7	N	300	6	down
				W			
	40*	105	85	SW	272	67	down
	54*	165	56	W	321	30	down
	56*	15	30	E	125	29	down
	57*	108	49	SW	116	8	down
	58*	84	45	S	150	42	down
<u>Mule Creek</u>							
	106	173	50	W	312	37	down
	107	177	49	W	310	40	down
	105	110	10	SW	225	8	down
	110	130	74	SW	275	63	down
	112	209	39	N	291	39	down
				W			
	114	20	85	SE	195	40	down
	117	56	55	SE	221	20	down
	121	26	20	SE	80	15	down
	122	24	68	SE	40	30	down
	123	240	40	N	347	38	down
				W			
	124	186	89	W	2	70	down
	126	144	59	SW	310	22	down
	127	150	75	SW	216	73	down
	131	128	46	SW	246	42	down

Table D2: Fault-slip data of amphibole shear bands in cumulate gabbro screens

Outcrop number	Sense of Slip*	Fault Strike	Fault Dip (rhr)	Striae Trend	Striae Plunge
O/C-356	down	290	74	107	12
O/C-360	up	284	85	286	23
O/C-360	down	296	72	112	13
O/C-360	up	117	70	128	28
O/C-361	up	104	58	114	16
O/C-361	up	312	82	316	28
O/C-361	up	86	70	100	33
O/C-362	down	130	70	180	65
O/C-362	down	143	80	158	55
O/C-362	up	66	67	87	40
O/C-363	up	80	70	97	38

* indicates movement of the hanging block

rhr right hand rule

Table D3a: Fault-slip data of cemented faults in the sheeted dike complex, domain A

Location	Sense of Slip*	Fault Strike	Fault Dip (rhr)	Striae Trend	Striae Plunge
O/C-355.1	up	128	50	300	9
O/C-355.2	up	123	27	185	24
O/C-355.3	down	342	75	351	30
O/C-355.4	up	350	50	74	50
O/C-355.5	down	315	83	318	26
O/C-355.6	down	355	55	24	35
O/C-356.1	up	90	63	130	52
O/C-356.2	up	305	78	85	72
O/C-357.1	up	178	25	301	21
O/C-357.2	up	253	20	330	20
O/C-357.3	up	304	75	80	69
O/C-357.4	up	295	32	300	3
O/C-357.5	up	0	50	154	28
O/C-357.6	up	337	33	155	1
O/C-357.7	up	20	65	179	37
O/C-358.1	up	358	65	55	61
O/C-358.2	up	12	38	88	37
O/C-358.3	up	57	66	105	59
O/C-359.1	up	85	43	105	18
O/C-359.2	up	303	54	104	24
O/C-359.3	up	294	64	101	25
O/C-359.4	down	294	29	325	16
O/C-359.5	up	56	66	105	59
O/C-359.6	down	140	52	180	39
O/C-359.7	up	60	64	85	41
O/C-359.8	up	320	82	123	64
O/C-359.9	up	105	61	109	8

* Sense of slip of the hangingwall block
rhr right hand rule

Table D3b: Fault-slip data of cemented faults in the sheeted dike complex, domain B

Location	Sense of Slip*	Fault Strike	Fault Dip (rhr)	Striae Trend	Striae Plunge
O/C-360.1	up	174	61	177	5
O/C-360.2	down	273	89	93	20
O/C-360.3	down	285	86	103	25
O/C-360.4	up	68	64	94	42
O/C-360.5	up	35	75	87	71
O/C-360.6	down	212	30	220	5
O/C-360.7	up	224	49	355	41
O/C-361.1	up	80	69	163	69
O/C-361.2	down	312	80	317	28
O/C-361.3	up	104	58	115	17
O/C-361.4	up	337	29	95	26
O/C-361.5	up	105	47	135	28
O/C-362.1	down	105	85	273	67
O/C-362.2	up	292	47	80	30
O/C-362.3	up	297	54	89	33
O/C-362.4	up	50	84	54	34
O/C-362.5	down	225	70	33	30
O/C-362.6	up	214	86	241	81
O/C-362.7	up	145	70	178	56
O/C-362.8	up	131	66	180	59
O/C-363.1	up	92	43	110	16
O/C-363.2	up	214	36	307	36
O/C-363.3	up	165	65	324	38
O/C-365.1	up	118	31	134	9
O/C-365.2	down	140	41	296	19
O/C-365.3	up	85	35	110	16
O/C-365.4	up	73	15	127	12

* Sense of slip of the hangingwall block

rhr right hand rule

Table D4: Fault-slip data for cemented faults in the sheeted dike complex, domain D

Outcrop number	Sense of Slip*	Fault Strike	Fault Dip (rhr)	Striae Trend	Striae Plunge
	up	18	76	26	30
	up	224	45	355	37
	up	158	30	248	30
	down	270	59	84	10
	down	165	89	166	37
	up	138	84	143	37
	down	145	45	156	11
	down	206	80	17	43
	down	234	58	45	14
	down	205	84	206	12
	up	241	48	18	37
	down	262	48	52	29
	up	312	41	60	40
	up	14	89	14	5
	up	164	54	187	28
	up	294	77	347	74
	up	322	63	347	40
	up	210	47	353	33
	up	302	89	302	4
	down	192	89	12	14
	up	340	74	351	34
	down	200	55	209	12
	up	132	62	184	56
	down	117	72	123	19

* indicates movement of the hanging wall

rhr right hand rule

Table D5: Microstructures and fabric elements of foliated and mylonitic samples from the Wild Rogue Wilderness

I. Mylonites essentially consisting of quartz, epidote, plagioclase (part. or compl. sauss.), $\pm$ clinozoisite, $\pm$ actinolite, $\pm$ chlorite, $\pm$ muscovite (type 1 in chapter...)

Sample-ID	Rock type	Foliation & SB		Microfaults in PC			PC		Other fabric elements			Crystal plasticity (qz)	Brittle def. (comments)	
		oblique GSF	C/S fabric	C'/S fabric	synth low $\angle$	antith high $\angle$	σ	δ	Tiling ?	Folds ?	Offset !			
Samples from the metatonalite unit														
MRH-73	ultramylonite	-	-	D	-	-	-	-	-	-	D	-	LPO, R#	
O/C-9-S12	mylonite	S	-	-	-	S	S	-	-	-	-	qz ^v →S	LPO, R#, SG, U	R'→S
O/C-14S21	mylonite	D	-	-	-	-	D	-	-	-	D	-	LPO, R#, SG	
O/C-65	mylonite	D	-	-	-	-	D	-	-	-	-	-	LPO, SG, R#, U	□ pl
O/C-366A	mylonite	S	-	-	S	-	-	S	-	-	-	qz ^v →S	LPO, R#, SG, U	cc F
O/C-366B	ultramylonite	S	-	-	-	-	S	S	-	-	-	-	LPO, R#	
O/C-366C	protomylonite	-	-	-	-	S	-	-	-	-	-	-	SG, U, R#	□ pl. (f.n.)
O/C-367	protomylonite	-	-	-	-	D	-	-	-	-	-	qz ^v →D	SG, R#, U	
O/C-368A	mylonite	-	-	D	-	-	D	-	-	-	-	-	R#, SG, U, LPO	
O/C-368c.1	mylonite	-	-	S	S	-	-	-	S	-	-	-	R#, SG, U, LPO	□ pl
O/C-368c.2	ultramylonite	S	-	S	-	S	-	-	-	-	-	qz ^v →S	LPO, R#	
O/C-368d.1	ultramylonite	-	-	-	S	-	-	-	-	-	S	-	LPO, R#	
O/C-370B	mylonite	D	-	-	-	-	D	-	-	-	-	-	LPO, R#, SG, U	
Samples from the contact zone between metatonalite and metagabbro units														
O/C-371A	mylonite	-	-	-	S	-	S	-	-	-	S	-	LPO, R#, SG, U	R'→S
O/C-13S26	mylonite	D	-	-	D	D	-	-	-	-	-	-	LPO, R#, SG, U	

Table D5 continued

Sample-ID	Rock type	Foliation & SB			Microfaults in PC		PC	Other fabric elements				Crystal plasticity (qz)	Brittle def. (comments)
		oblique GSF	C/S fabric	C'/S fabric	synth low $\angle$	antith high $\angle$		σ	δ	Tiling ?	Folds ?		
Samples from the Blossom Bar shear zone													
O/C-17S31	mylonite	D	-	D	-	-	-	D	-	-	-	LPO, R#, SG, U	R+R' $\rightarrow$ D
O/C-17S34	ultramylonite	-	-	D	-	-	-	-	-	-	-	LPO, R#	
O/C-17S35	ultramylonite	-	-	D	-	-	S	-	-	S	-	LPO, R#	
O/C230S61	mylonite	S	-	-	S	S	-	-	-	-	-	LPO, R#, SG, U	
O/C230S62	protomylonite	-	-	-	D	-	-	-	D	-	-	SG, R#, LPO	(f.n.)
O/C-233	mylonite	S	-	-	-	-	-	-	-	-	qz'v $\rightarrow$ D	LPO, R#, SG, U	

Table D5: Microstructures and fabric elements of foliated and mylonitic samples from the Wild Rogue Wilderness

II. Mylonites essentially consisting of chlorite, epidote, plagioclase (part. or compl. sauss.), quartz, $\pm$ hornblende, $\pm$ clinozoisite, $\pm$ actinolite

Sample-ID	Rock type	oblique GSF	C/S fabric	C'/S fabric	synth low $\angle$	antith high $\angle$	σ	δ	Tiling ?	Folds ?	Offset !	Crystal plasticity (qz)	Brittle def. (comments)
Samples from the metatonalite unit													
O/C11S16c	mylonite	-	-	S	S	-	S	-	-	-	-	LPO, R#, SG	
O/C-368E	ultramylonite	-	-	S	S	S	-	S	-	S	-	LPO, R#	
Samples from the Blossom Bar shear zone													
O/C-45S42	mylonite	-	-	S	-	-	-	-	-	-	-	LPO, R#	
O/C-48S44	Mylonite	-	-	-	S	S	-	S	S	-	-	LPO, R#, SG, U	
O/C-236	Mylonite	-	-	S	S	-	S	-	-	-	-	LPO, R#, SG	
O/C-238	Mylonite	-	-	S	-	-	-	-	-	-	-	R#	cc
O/C-418A	Mylonite	-	-	D	-	-	D	-	-	-	-	LPO, R#, SG	-

Table D5: Microstructures and fabric elements of foliated and mylonitic samples from the Wild Rogue Wilderness

III. Mylonites essentially consisting of hornblende, plagioclase (part. or compl. sauss.), quartz, epidote, clinozoisite, chlorite, actinolite.

Sample-ID	Rock type	Foliation & SB			Microfaults in PC			PC			Other fabric elements			Crystal plasticity (qz)	Brittle def. (comments)
		oblique GSF	C/S fabric	C'/S fabric	synth low $\angle$	antith high $\angle$		σ	δ	Tiling ?	Folds ?	Offset !			
Samples from the contact zone between metatonalite and metagabbro units															
O/C-13S28	protomylonite	D	D	-	-	-		d ^a	-	-	-	-	-	SG, R#, U	
O/C371B.1	protomylonite	S	-	-	-	-		s ^a	-	-	-	-	-	LPO, R#, SG	
O/C371B.2	protomylonite	-	-	-	-	-		s ^a	-	-	-	-	-	LPO, R#, SG	R ⁺ →S
Samples from the metagabbro unit															
GH-97-15a	protomylonite	-	-	-	-	-		-	-	-	-	-	-	R#, SG, U	
O/C-228	protomylonite	-	-	-	-	-		-	-	-	-	-	-	R#, SG, U	
O/C-229	mm-scale	-	-	-	-	-		-	-	-	-	-	-	SG, U	
sb's															
Samples from the Blossom Bar shear zone															
O/C-234	protomylonite	-	-	D	D	-		-	-	-	-	-	-	R#, SG, U	
O/C-237	protomylonite	-	-	-	-	-		-	-	-	-	-	-	R#, SG, U	

Table D5: Microstructures and fabric elements of foliated and mylonitic samples from the Wild Rogue Wilderness

IV. Mylonites essentially consisting of hornblende, plagioclase (part. or compl. sauss.), epidote, ±clinozoisite, ±actinolite, ±chlorite (no quartz present!)

Sample-ID	Rock type	Foliation & SB			Microfaults in PC			PC		Other fabric elements			Crystal plasticity (qz)	Brittle def. (comments)	
		oblique GSF	C/S fabric	C'/S fabric	synth low $\angle$	antith high $\angle$	σ	δ	Tiling ?	Folds ?	Offset !				
Samples from the contact zone between metatonalite and metagabbro units															
O/C-13S22	mylonite?	-	-	-	S	S	s ^a	-	S	-	-	-	no quartz	R+R'→S	
O/C-13S23	mylonite?	-	-	-	S	S	s ^a	-	S	-	-	-	no quartz	cc F	
O/C-324															
O/C-325															
Samples from the metagabbro unit															
O/C-216	mylonite?	-	-	S	S	S	s ^a	-	-	-	-	-	no quartz		
O/C-373C	mylonite?	-	S	-	-	S	s ^a	-	-	-	-	-	no quartz	R'→S	
O/C-374b.4	mylonite?	-	S	-	-	S	s ^a						no quartz	R'→S	
O/C-384	mylonite	-	-	D	-	-	d ^a	-	-	-	-	-	no quartz		
O/C-417b	mylonite	-	-	-	-	-	D	-	-	-	-	-	no quartz		
Samples from the Blossom Bar shear zone															
O/C45aS41	mylonite	-	S	-	-	-	s ^a	-	-	-	-	-	no quartz		

Table D5: Microstructures and fabric elements of foliated and mylonitic samples from the Wild Rogue Wilderness

V. Mylonites essentially consisting of plagioclase (part. or compl. sauss.), quartz and mica, $\pm$ epidote, $\pm$ clinozoisite, $\pm$ actinolite, $\pm$ chlorite

Sample-ID	Rock type	oblique GSF	C/S fabric	C'/S fabric	synth low $\angle$	antith high $\angle$	σ	δ	Tiling ?	Folds ?	Offset !	Crystal plasticity (qz)	Brittle def. (comments)
Samples from the metagabbro unit													
O/C-12S20	protomylonite	-	-	-	-	-	-	-	-	-	-	U, SG, R#	$\square$ pl.
O/C-372b	mylonite	S	S	-	-	-	S	-	-	S	-	LPO, R#, SG, U	
O/C-417A	mylonite	S	S	-	-	-	-	-	-	-	-	LPO, R#, U, SG	
GDH-97-6	protomylonite	-	S	-	-	-	S	-	-	-	-	U, SG, R#	
Samples from the Blossom Bar shear zone													
O/C-17S32	cataclastic o.p	-	-	-	-	-	-	-	-	-	-	U, SG, R#	$\square$ pl.
O/C-19S34	cataclastic o.p	-	-	-	-	-	-	-	-	-	-	U, SG, R#	$\square$ pl.

Explanation to table D5

The sense of shear indicators are described in detail in chapter.... The following abbreviations and symbols are used in the table:

GSF	grain shape fabric	The following quartz fabrics are listed according to their importance		
SB	shear band	in individual thin sections:		
PC	porphyroblast	LPO:	Lattice preferred orientation	
synth. low $\angle$:	synthetic offset along low-angle microfault in porphyroblast	R#:	Grain size reduction by recrystallization	
antith. high $\angle$:	antithetic offset along high-angle microfault in porphyroblast	SG	Subgrains	
σ	σ -type winged porphyroblast	U	Undulatory extinction	
δ	δ -type winged porphyroblast			
D	sense of shear indicators are consistent with dextral shear	R' or R $\rightarrow$:	R' or R-type Riedel shear indicate sense of shear	
S	sense of shear indicators are consistent with sinistral shear	$\square$ pl.	strongly fractured plagioclase (albite) in fine grained matrix	
s^a, d^a	asymmetry of augen-shaped amphibole indicates sense of shear	cc F	cataclasite zone parallel foliation	
qz'v $\rightarrow$:	offset of slightly recrystallized quartz vein			

Table D6: Shear foliation, stretching lineation and sense of shear in present day coordinates; Blossom Bar shear zone

Location (Sample)	Sense of Shear*	Sense of Shear**	Foliation Strike	Foliation Dip (rhr)	Lineation Trend	Lineation Plunge
O/C-17S31	D	down	220	73	261	66
O/C-17S34	D	down	212	74	12	51
O/C-17S35	D	down	222	76	273	72
O/C230S61	S	down	200	75	275	74
O/C230S62	S	down	200	89	212	85
O/C-233	S	down	210	88	300	88
O/C-45S42	S	down	204	85	231	78
O/C-48S44	S	down	230	61	278	52
O/C-236	S	down	351	82	140	70
O/C-238	S(?)	?	215	80	?	?
O/C-418A	D	down	186	82	298	82
O/C-234	D	up	18	89	28	84
O/C45aS41	S	down	225	68	292	66
O/C-17S32	?	?	383	52	306	52
Foliation and lineation measured in outcrops						
O/C-45	?	?	225	68	300	60
O/C-46	?	?	34	85	50	73
O/C-329	?	?	64	62	90	72
O/C-330	?	?	25	75	120	76
O/C-330	?	?	15	78	56	72
O/C-331	?	?	204	64	350	37

* indicates sense of shear determined in thin section (see table D5)

** indicates motion of the hangingwall block in present day coordinates

Table D6: Shear foliation, stretching lineation and sense of shear in present day coordinates; metagabbro unit

Location (Sample)	Sense of Shear*	Sense of Shear**	Foliation Strike	Foliation Dip (rhr)	Lineation Trend	Lineation Plunge
O/C-228	?	?	56	83	63	49
O/C-229	?	?	201	82	6	55
O/C-216	S	up	55	53	228	12
O/C-373C	S	up	61	75	74	43
O/C-374b.4	S	up	55	90	55	27
O/C-384	D	down	54	75	56	10
O/C-417b	D	up	57	77	56	4
O/C-372b	S	down	180	80	351	44
O/C-417A	S	up	32	55	35	5
GDH-97-6	S	up	353	85	356	37
Foliation and lineation measured in outcrops						
GH-97-14	?	?	175	74	343	38
GH-97-19a	?	?	16	88	15	19
O/C-372	?	?	205	78	30	27
O/C-372	?	?	37	72	35	42
O/C-373	?	?	45	89	47	20
O/C-374	?	?	40	59	63	35
O/C-374	?	?	60	70	69	26

* indicates sense of shear determined in thin section (see table D5)

** indicates motion of the hangingwall block in present day coordinates

Table D6: Shear foliation, stretching lineation and sense of shear in present day coordinates; metatonalite unit

Location (Sample)	Sense of Shear*	Sense of Shear**	Foliation Strike	Foliation Dip (rhr)	Lineation Trend	Lineation Plunge
Samples from the metatonalite unit						
MRH-73	D	up	23	70	43	46
O/C-9-S12	S	up	54	85	58	37
O/C-14S21	D	up	46	75	52	25
O/C-65	D	up	30	67	59	50
O/C-366A	S	up	53	85	63	63
O/C-366B	S	down	233	79	48	29
O/C-366C	S	up	61	81	71	48
O/C-367	D	up	352	66	22	50
O/C-368A	D	up	40	84	45	44
O/C-368c.1	S	up	11	78	23	47
O/C-368c.2	S	up	28	50	80	44
O/C-368d.1	S	up	7	68	19	30
O/C-370B	D	up	30	77	35	24
O/C11S16c	S	up	52	72	66	42
O/C-368E	S	down	183	63	325	52
Samples from the contact zone between metatonalite and metagabbro units						
O/C-371A	S	up	40	70	51	30
O/C-13S26	D	up	35	74	49	42
O/C-13S28	D	up	52	71	59	23
O/C371B.1	S	down	218	77	31	32
O/C371B.2	S	down	211	77	23	35
O/C-13S22	S	down	213	83	23	55
O/C-13S23	S	up	58	83	64	44
O/C-324	?	?	215	65	16	35
O/C-325	?	?	233	89	53	5
Foliation and lineation measured in outcrops						
MRH-10	?	?	42	82	46	32
MRH-73	?	?	35	77	23	33
O/C-9-S14	?	?	20	68	32	30
O/C-325	?	?	210	65	14	24
O/C-370	?	?	47	79	57	45
O/C-370	?	?	39	90	42	34
O/C-370	?	?	211	83	32	36
O/C-370	?	?	27	78	49	55
O/C-371	?	?	216	76	26	35
O/C-371	?	?	213	88	28	40

* indicates sense of shear determined in thin section (see table D5)

** indicates motion of the hangingwall block in present day coordinates

Table D7: Fault-slip data for cemented faults cutting mylonitic foliation in the metatonalite unit

Outcrop number	Sense of Slip*	Fault Strike	Fault Dip (rhr)	Striae Trend	Striae Plunge
	up	263	65	64	35
	up	44	73	55	36
	up	280	85	96	39
	up	12	50	70	45
	up	265	88	85	5
	up	358	49	65	45
	up	285	80	100	38
	up	1	46	70	45
	up	38	76	48	39
	down	210	24	275	22
	down	70	67	157	67
	down	86	68	160	68
	up	117	45	253	35
	up	70	42	240	10
	up	83	54	250	18
	up	15	49	60	38
	down	133	82	144	51
	up	26	77	43	50
	up	105	60	264	34
	up	265	68	69	35
	up	5	54	53	46
	up	11	80	16	32
	up	23	75	38	45
	up	49	89	49	22
	up	40	79	45	31
	down	217	70	30	21
	down	226	88	44	43
	down	190	65	3	19
	down	181	80	354	38

* indicates movement of hanging-wall block
rhr right hand rule