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	m-rahgoshay@sbu.ac.t (	r: * //: )
		( )
	. (Melt	Mush)
MgO# Cr		
	•	
Davoudzadeh)		2
Knipper $at$		
Killppel et j	(al. 1986, Stocklin 1974, Gansser 195	) 55 (
)		.( )
(Cpx	-bearing harzburgite	
Nicolas 1989, Hoj	pkinson & Roberts )	
(1	996, Roberts et al. 1993, Mascle et al. 199	1 .(Davoudzadeh 1972)
Lagabbrielle )		
(&	Cotton 1984, Laggabrielle & Cannat 199	0.
Cannat et al. 1995	, Gaherty )	
	. ( <i>et al.</i> 2004, Alt & Shanks 200	







:**A** 

:**C** .

:**B** .

:**D**.









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Cusp	.( Nicolas 1989; Jin a .( D)	et al. 1994)			
			.( C)	(Subgrain Rotatio	on Recrystallization)
Oblate )			(	)	
Oblong )		(Porphyroclastic			
	(Boudier	1978) (Porphyroclastic		(R R)	
.( t	)	( F)		. (	)
			(Finite Strain El	lipsoid	)
	.( C)		.( A) (	. x )	
				(Grain Shaj	pe Foliation) GSF
	(D	.(Skrotzki 2001)			
	(Passchier & Trouw 1996)	.( B)		).	Е)
		;	- ( E)	(Boundary Migratic	on Recrystallization)
			.(Fluidal Ultramyloni	te)	.( F)
			δ		
		.( B)	(Pressure Fringers)	.( F)	)
		U			
				( λ=550nm )	â
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(Shear)		.( E)			
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![](_page_11_Figure_1.jpeg)

![](_page_12_Figure_0.jpeg)

( )

![](_page_13_Figure_1.jpeg)

![](_page_14_Figure_0.jpeg)

No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Name	Basalt	Gabbro	Gab. Imp.	Basalt	Harz.	Basalt	Gabbro	Gabbro	G.D.	Diabase	Basalt	Serp.	Lherz
SiO <sub>2</sub>	44.8	46	45.9	47.5	35.28	48.51	48.7	48.7	48.2	49.7	47.93	35.3	41.4
TiO <sub>2</sub>	0.72	0.115	0.09	0.83	0.05	0.53	0.2	0.18	1.03	0.93	1.7	0.05	0.12
Al <sub>2</sub> O <sub>3</sub>	15.1	16.4	10.6	14.1	1.55	14.94	5.83	2.89	14.9	14.26	10.86	1.55	4.7
Fe <sub>2</sub> O <sub>3</sub>	2.16	1.01	3.4	3.32	6.1	2.98	2.63	2.52	2.93	4.89	4.4	6.1	2.5
FeO	5.04	2.31	2.55	4.98	1.1	6.05	6.13	5.62	5.43	6.72	8.94	1.1	4.74
MnO	0.14	0.093	0.13	0.15	0.07	0.13	0.15	0.16	0.15	0.32	0.18	0.07	0.08
MgO	7.9	9.4	20	8.2	37.6	7.59	24.9	33.7	9	5.53	9.41	37.6	37.2
CaO	13.6	19.4	13.2	11	0.56	13.25	10	5.58	11.9	5.17	13.33	0.56	2.65
Na <sub>2</sub> O	3.62	0.35	0.33	4.25	-	2.42	0.07	0.03	2.42	4.11	1.49	-	-
$K_2O$	0.048	0.013	0.0089	0.23	0.031	0.21	0.01	0.02	0.16	1.08	0.24	0.03	0.06
$P_2O_5$	0.069	0.0017	0.0026	0.071	0.03	-	-	-	-	-	-	0.03	0.02
Cr	398.86	957.95	2463.3	444.76	-	518	336	419	304	24	191	-	-
Ni	85.65	67.57	502.89	94.29	-	143	852	153	152	148	161	-	-
L.O.I	6.11	3.95	2.89	4.6	15.21	3.29	0.38	0.5	4.07	7.48	3.25	17.05	7.3

Harz

MA)								
	.SEM	(P)	Y)			i -		
	Rock	GA	GA	MA	MA	PY	PY	
	Mineral	garnet	amphibole	amphibole	amphibole	chlorite	Срх	
	0	67.44	42.28	46.11	55.95	46.89	48.28	
	Na	0.81	2.33	2.37	3.22	0.6	0.24	
	Mg	1.21	3.57	1.9	8.12	16.26	9.87	
	Al	4.82	8.67	10.99	4.57	1.86	1.88	
	Si	12.5	15.05	22.56	22.14	24.38	23.6	
	Ca	1.66	5.36	16.09	6	2.55	12.77	
	Ti	2.18						
	V	0.04						
	Cr	0.15						
	Fe	8.88	23.89			7.47	3.37	
	Со	0.62						
	Cu	0.07	1.06					
	K		0.02					
	Total	100.38	102.23	100.02	100	100.01	100.01	

![](_page_15_Figure_2.jpeg)

![](_page_15_Figure_3.jpeg)

![](_page_15_Figure_4.jpeg)

![](_page_15_Figure_5.jpeg)

.( ) (Sole) (Intrusive dikes) ) ) (Indigenous dikes ( .(Nicolas 1989) ) ( Nicolas 1989; Nicolas & ) (Subgrains) .(Prinzhofer 1983; Jin et al. 1994 (Melt Mush) Prinzhofer & Nicolas Cannat 1985) ) Cannat & Cannat et al. 1990 Karson & Dick 1983 1980 ( (Seyler 1995 ( ) ( .(Meurer & Gee 2002) .( ) а ) **Detachment Faults** ( ) ) ] (

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Westphal et al. Soffel et al. 1996 Davoudzadeh 1981). (1986).

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Babaei et al. (2001)

(Berberian 1983)

Stress or Shear )

Jaroslow *et al*. 1996; Dikjstra *et* )

(& Poirier 1976

(Localization

.(Shafaii 2003

(Cannat 1996)

,[(Thomas et al. 2000)

(al. 2002

)

(Simple Shear)

( Cannat *et al*. 1991a, )

.(b

TiO<sub>2</sub> MgO# / ) TiO2 ( % / ) MgO# ( % / MgO# Cr . CaO

## .(Berberian & King 1981)

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![](_page_18_Figure_0.jpeg)

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