

TABLE 2. Comparison of Chemical Compositions and Mineralogy of Rocks Approaching the Pyrolite Composition

	'Pyrolite' Composition	Olivine + Amphibole		Olivine + Pyroxenes + Plagioclase				Olivine + Aluminous Pyroxenes ± Spinel					Olivine + Pyroxenes + Garnet			
		Lizard	California (Johannsen)	Lizard	Lizard	Cyprus In- trusive (Gass)	Rhum (Brown)	St. Paul's Rocks (Tilley)	Lizard	Nodule (Hess)	Nodule (Stan- ley)	Nodule (Wil- shire, Binns)	Nodule (Wil- shire, Binns)	Kimber- lite Xenolith (Dawson)	Kimber- lite Xenolith (Holmes)	Lens in Gneiss (Johann- sen)
SiO ₂	43.06	44.89	43.98	45.12	44.72	45.60	41.32	44.22	44.60	44.29	45.16	44.32	44.10	45.58	47.17	44.01
MgO	39.32	38.62	42.00	37.97	40.48	32.51	36.37	41.42	40.45	40.74	40.84	40.11	41.63	42.60	39.84	40.04
FeO	6.66	*8.49	7.54	*7.87	*8.23	5.82	9.54	6.94	*8.30	7.57	7.16	7.72	7.33	6.41	5.20	4.53
(Total Fe as FeO)	(8.15)	(8.49)	(8.56)	(7.87)	(8.23)	(9.34)	(11.41)	(7.89)	(8.30)	(8.17)	(7.35)	(8.76)	(8.26)	(6.65)	(6.96)	(8.56)
Fe ₂ O ₃	1.66	0.00	1.13	0.00	0.00	3.92	2.08	1.05	0.00	0.67	0.20	1.16	1.03	0.27	1.96	4.48
Al ₂ O ₃	3.99	3.99	2.35	4.96	3.52	7.13	4.85	2.92	4.18	2.96	2.99	2.96	2.78	2.41	2.85	3.01
CaO	2.65	2.82	2.00	3.10	2.03	3.66	4.30	2.37	1.72	2.55	1.93	2.66	2.15	2.10	1.93	3.34
Na ₂ O	0.61	0.35	n.d.	0.24	0.18	0.27	0.65	0.07	0.11	0.20	0.55	0.16	0.25	0.24	0.20	n.d.
K ₂ O	0.22	0.05	n.d.	0.06	0.07	0.18	0.06	nil	0.02	0.01	0.21	0.07	0.01	nil	0.35	n.d.
Cr ₂ O ₃	0.42	0.40	n.d.	0.36	0.45	0.31	0.51	0.50	0.37	0.41	0.20	0.31	0.25	0.09	0.32	0.44
NiO	0.39	†	n.d.	†	†	0.13	n.d.	0.21	†	0.31	0.14	0.27	0.23	n.d.	n.d.	n.d.
CoO	0.02	†	n.d.	†	†		n.d.		†	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
TiO ₂	0.58	0.28	n.d.	0.23	0.18	0.25	0.15	0.17	0.16	0.14	0.14	0.12	0.12	0.15	0.06	0.15
MnO	0.13	0.11	n.d.	0.09	0.14	0.17	0.17	0.13	0.09	0.13	0.28	0.14	0.12	0.12	0.12	tr
P ₂ O ₅	0.08		n.d.			0.05	nil	nil		0.02	0.20	nil	nil	0.03	nil	n.d.
H ₂ O	0.21															
	100.00	100.00	99.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Olivine		62	‡	‡	‡	‡	74	‡	64	‡	‡	56-75	67-72	60	60	62
Enstatite		2		§	§	§		§	23	§	§	21-33	9-22	§	‡	
Diopside				§	§	§	9	§	12	§	§	2-11	8-19	§	‡	26
Plagioclase				§	§	§	16									
Pargasite-Edenite		36	§											§	§	10
Garnet (Pyrope)												0.9-2.9	2.1-3.2			
Spinel				¶	¶		1		¶	¶						
Chromite							1									
Picotite		tr						¶								
Magnetite																2

* All Fe calculated as FeO in the moderately serpentinized Lizard rocks.

† Average Ni and Co contents, determined spectrographically, of Lizard peridotites are 0.20 and 0.01%, respectively.

‡ Major constituent, >30%.

§ Minor constituent, >3%, <30%.

¶ Accessory constituent, <3%.

Note: Analyses have been calculated to 100% anhydrous, but no adjustment has been made to the Fe⁺⁺/Fe⁺⁺⁺ ratio.