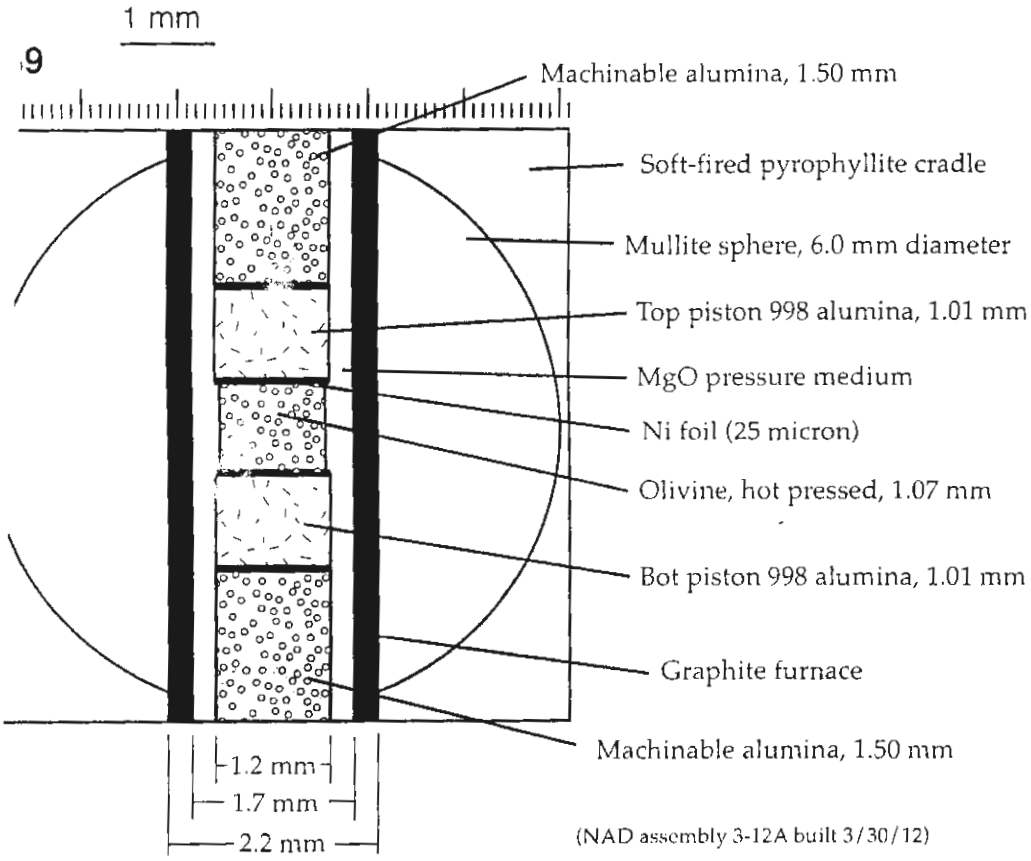
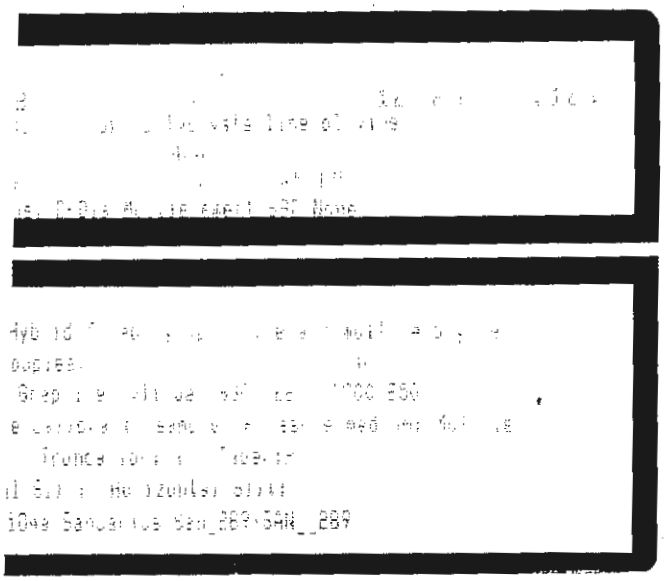
No.— March 31, 2012. San_289 : Deformation of dry olivine

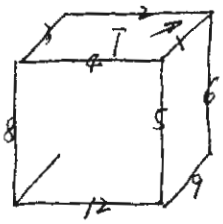


(NAD assembly 3-12A built 3/30/12)



200 .0001. med, 1800s, Al_2O_3 calibration pattern.

Copper cube (20 tons)



T-B: 6.155
1-3: 5.935
2-4: 5.924

1: 1.555	5: 1.293	9: 1.342
2: 1.615	6: 1.350	10: 1.437
3: 1.602	7: 1.450	11: 1.582
4: 1.553	8. 1.382	12: 1.466

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2323 SAN_289_0002. med mid Ali 600S. ~~Large~~ (38.8, 38.8, -17.4780, 0.2, 0.1)
Image # 0001. tiff l_o = 131.00mm (. Opened anvils)

1/1/12

0004 Press closed → Sample cell missing foil between ~~Teflon~~ Teflon + m-Al_2O_3 plug!
0008 Logger started, 10s interval

0010 Begin pressurization, MCP to 10%

0153 at 9.1 tons. MCP to 8%

0202 at 9.7 MCP to 6%
9.9?

02185 close diff ram valves

0217 heating up (Pressure drop from 10.0 tons to 9.6 tons at ~700°C, then gradually get back to 10.0 tons in a couple of min.)

0256 0003. med Mid ol. (33.5, 33.5, -17.7835, 0.2, 0.1)
image # 0002. l_{ol} = ~~122.0~~ 123.0 mm on monitor.

0310 Jogging diff rams to 2.5 T on diff ram

0324 diff rams @ 0.0004 mm/s. (10.0 tons. 1100°C)

(Ram load (Tons) 10.0. Top diff ram 1.8 tons. Bot. 2.0 tons
oil P (bars) main 6.0 ~~29~~ 32 bars
Pos. 22.7 mm 9.2 mm)

0327 0004. med Mid ol (33.55, 33.55, -17.7835, 0.2, 0.1)
image # 0003. l_{ol} = 122.0 mm

0340 0005. med Mid ol (")
image # 0004. l_{ol} = 121.0mm

0356 0006. med Mid ol (") image #0005, ~~l_{ol}~~
0408 0007. med " (") 0006 l_{ol} = 120.
0420 0008. med " (") 0007 119
0431 0009. med " (") 0008 119
0444 0010. med " (") 0009 118
0457 0011. med " (") 0010 117

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4/1/2012 San 289 (cont).

Time	T(C)	W	mΩ
02:20	RT	0	0
02:22	~400	98	67
02:22	~500	118	58
02:23	~600	137	52
02:24	~700	155	48
02:26	~800	173	43
02:27	~900	190	42
02227	~1000	208	40
02:28	~1100	230	38
0423	"	230	37
0459		237→230	38
0624	"	230	39
0834	"	228→230	38
1707		230	38

(T-calibration of San 287)

(did maybe 1 adjustment since last entry)

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4/1/2012 San 289 (cont.)

15:08	.0012.med	Mid ol (	"	) image # 0011	l_{ol} = 116.5
25:20	.0013.med	" (	"	) 0012	116.5
2531	.0014.med	" (	"	) 0013	116
0542	.0015.med	" (	"	) 0014	115.5
0553	.0016.med	" (	"	) 0015	116
0604	.0017.med	" (	"	) 0016	115.0
0616	.0018.med	" (	"	) 0017	114.0
0628	.0019.med	" (	"	) 0018	114.0
0648	.0020.med	" (	"	) 0019	113.5
0822	.0021.med	"	... 0.2, 0.2)	0020	

~~0837~~ — spending time looking at y pos'ns for MgO (found); recenter x, see too much MgO? ~~0850~~

0900 .0022.med " — all same — image # 0021 108.0

— there clearly is MgO in all the 0022.med spectra, including the (100) (maybe) -- the teeniest of the big 3 at the left), which sits just at the right shoulder of the olivine 7-8 doublet.

→ — check spot size.

l_{ol} = 1.13 mm

0926 .0023.med mid ol (33.55, 33.55, -17.7835, 0.2, 0.2) image #22 107.0

0925 3 — check spot size & actual ol length using press Z: l_{ol} = 1.13 mm, spot = 160 x 160 μm!

— however, also note that using "CamSlitY/Z (Width)" indicates a much different size: Y closes completely (= no diff'n) at +0.02; Z at +0.04

4

0952 .0024.med — all same — #23 106.0

1017 .0025.med " 24 105.0

5 — refocus camera (might have hit it earlier accidentally)

1054 .0026.med — all same — 25 102.5

-- the slightly higher than expected l_{ol} here is probably an artifact of camera defocussing. Can't guess when camera moved out of focus, however.

1116:30	.0027.med	— all same —	26	101.5
~~1128~~	0028.med	bottom ol (34.0, 34.0 —	27	101.0
1142	.0029.med	mid ol (33.55, 33.55, —	28	100.5
1154	0030.med	bot ol (34.0, 34.0 —	29 - spot only!	100.0
1206	0031.med	mid ol (—	30 - spot only!	100.00
1217	.0032.med	bot ol (—	31	99.5
1229	0033.med	mid ol (—	32	98.5

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4/1/12 San 289 (cont)

1240	0034. med	bot of	(34.0 —	image #33	t_0 = 98.0 um
1253	35	mid top of	(33.60, 33.60, —	34	97.5
1304	36	bot of	(34.0 —	35	97.5
1315	37	mid top of	(33.6 —	36	97.0
1328	38	bot of	(34.0 —	37	96.5
1339	39	mid top of	(33.6 —	38	96.0
1350	40	bot of	(34.0 —	39	95.5
1402	41	mid of	(33.6 —	40	95.0
1413	42	bot of	(34.0 —	41	94.5
1426	43	mid of	(33.6 —	42	94.0
1438	44	bot of	(34.05, 34.05, —	43	93.5
1450	45	mid of	(33.65, 33.65, —	44	93.0
1453	46	bot of	(34.05, —	45	92.0
1518:30	47	mid of	(33.70, 33.70, -17.8634, 0.2, 0.2)	46	91.5
1533	48	bot of	(34.05, 34.05, -17.8634, 0.0, 0.2	47	
1535	49	mid of	(33.70, — — 0.2 —	48	91.0
1538	50	bot of	(34.10, 34.10, — , 0.0, 0.2)	49	90.5
1609	51	mid of	— same as 49	50	90.0
1622	52	bot of	— same as 50	51	89.5

NOTE! (finally remembered)

— creep curves plotted through 0049. med -- show no major work hardening, but may show a slight const ii + const i effect.

1636	53	mid of	— same as 49	52	89.0
1648:30	54	bot of	— same as 50	53	88.5
1701	55	mid of		54	88.0
1712				55	87.5

1712 Diff. Rams stopped, End Step (2)
1715 Power to 0, MCP to -4%
1716 to 9T MCP to -8%, diff rams to -0.004
1720 6.5T MCP to -20%, " -0.01
1754 Deformed sample open press, photo #56
1818 turned 90°, photo #57

1833 stop logger

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