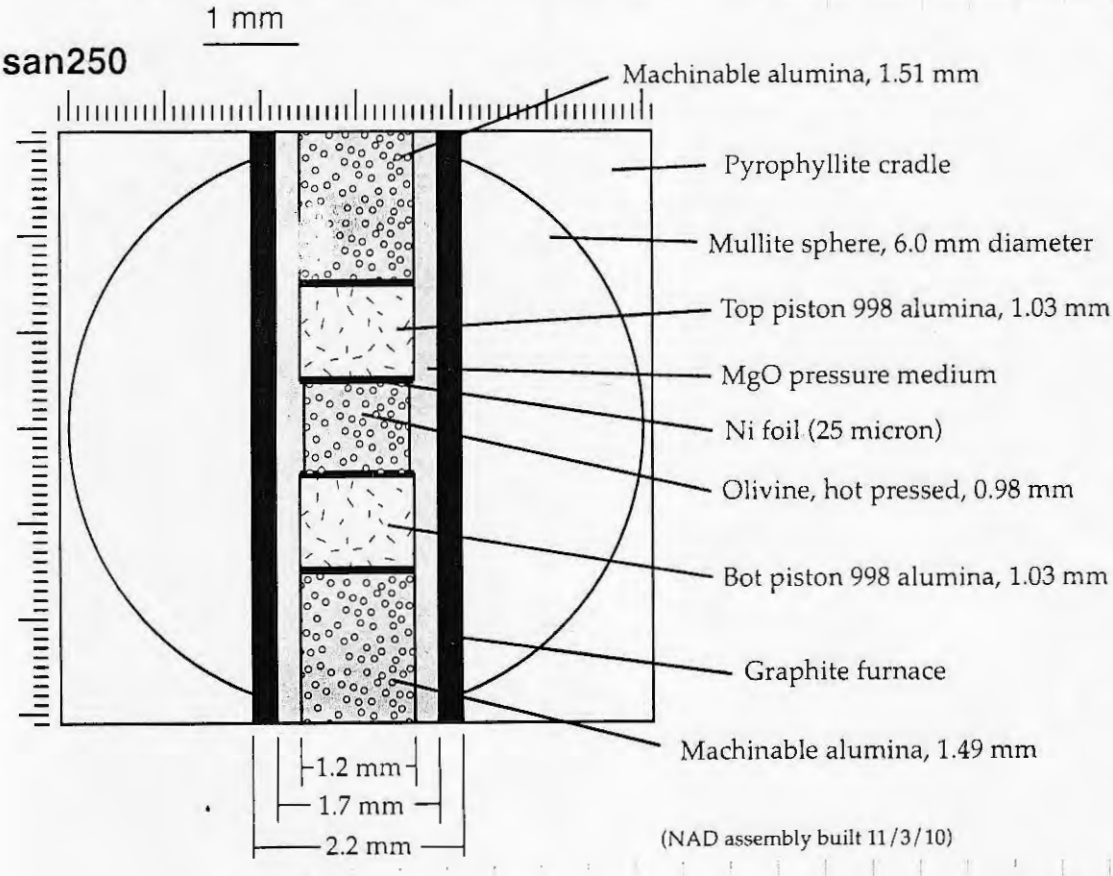
11/04/2010 San_250



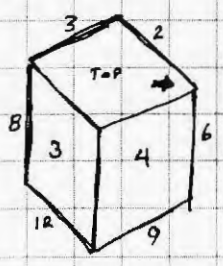
(NAD assembly built 11/3/10)

Anvils: T, B WC anvils both cracked; replace
Replace unbroken PCD in #2 with WC, so now only one PCD

```
97 SAN__250 11/ 4/2010 14:13:29:
mation of dry Olivine
03 E6062 N5830 E6851
el 14080 SAP:10161
atus: 0-Dia Multielement SSD Imaging with Prosilica CCD
```

```
Hybrid cell, dry olivine sample, soft-fired pyrophyllite
ocouples:          0          0
r: Graphite Cylinder 6250 2200 1700 250
ure calibrant: sample  Pressure medium: Mullite
WC  Truncations: 4  Taper:-2
cal Slit:100  Horizontal Slit:100
25\Data\SanCarlos\San_250\SAN__250
```

Cu cube test 120 bar (19 ton)



B-T: 5.48
2-4: 5.88
1-3: 5.85

Re-inserted shims on all 4 anvils, but did not run another Cu cube test.

To Page No. ____

ssed & Understood by me,	Date	Invented by:	Date
		Recorded by:	

Project No. _____

Book No. _____ TITLE _____

From Page No. ____

11/4/10 San 250 (cont)

1557 mid of, open press, imaging and diffraction scan (-2.30, -2.30, +2.08, 0.2, 0.1) im #1

(prosilicia; y diffraction; $\Delta z = \pm 0.2$; $\Delta y = \pm 0.1$)

1640 close up, start McP at 20%

1659 2.2T l_{ol} = 1.224 mm
1701 2.9T McP to 12%
1721 12.4T 8%
~37T 6%

2010 been at 60T for ~100 min. Start heating
2041 centered in x @ 3.9

2047 diff .0002 (-6.8, -6.8, 2.2, 0.2, 0.0) im #2 l_{ol} = 1.169 mm
2058 Jogging rams forward

2102 Start rams 0.001 mm/s Begin Step (1) 60T 1373K

2108 diff .0003 " " " image #3 l_{01} = 1.167 mm

2121 diff .0004 " " " image #4 l_{01} = 1.160 mm

started 2132 diff .0005 " " " image #5 l_{01} = 1.160 mm

started 2144 diff .0006 " " " saved image #6 l_{01} = 1.165 mm (!?)

2155 diff .0007 " " " image #7 l_{01} = 1.158 mm

2206 diff .0008 " " " image #8 l_{01} = 1.155 mm

2218 diff .0009 " " " image #9 l_{01} = 1.151 mm

2230 diff .0010 (-7.05, -7.05, 2.17, 0.2, 0.0) image #10 l_{01} = 1.141 mm

2243 diff ~~.0011~~ aborted -7.15, -7.15, 2.16, 0.2, 0 image #11 l_{01} = 1.139 mm

To Page No. _

Witnessed & Understood by me,	Date	Invented by:	Date
		Recorded by:	

Project No. _____

TITLE _____ Book No. _____

rom Page No. ____

11/4/10 sam 250 (cont)

t	T (est)	W	mΩ	
~~>R.T.~~	>R.T.	10	~67	
2019		168	49	
2021	≲1100°C	277	42	
2138		278	40	↑ step (1)
~2250		285W	38	↓ step (2) 97T
15 0338		284 W	38	
~~5~~				
0649	~1100	274W	44	50T
0808		~	44	
0910		"	45	I ↓ 0.1 (during no beam)

To Page No. ____

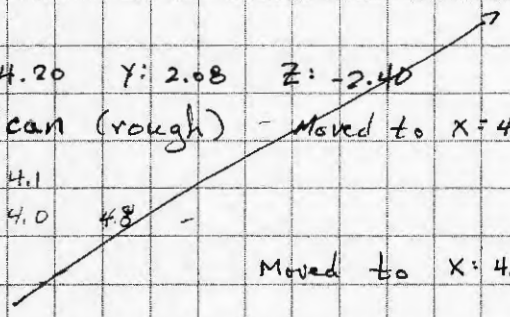
Witnessed & Understood by me,	Date	Invented by:	Date
		Recorded by:	

Project No. _____

Book No. _____ TITLE _____

From Page No. ____

San_250



11/4/10 San-250 (cont)

2256 Justin notices crate crash, after reboot, @ 97T we decide to stay there and deform.

Heat to 285 W, Restart MCA, logger

2311 Centered, still at 3.9 in x

2320 .0011 (-7.2, -7.2, 2.16, 0.2, 6.8) __012.tiff

2332 .0012 " " " " " __013.tiff

2333 Ramp forward @ 0.001 mm/s Begin Step (16) 1373K, 97T

2343 .0013 diffraction pattern image #14 l_{02} = 1.122 mm

2354 .0014 diff image #15 l_{01} = 1.115 mm

0006 _0015.med __016.tiff

0017 _0016.med __017.tiff

0028 ~~0017~~ 0018 diff image #18 l_{02} =

0039 0018 diff image 19 l_{02} = 1.108 mm

0050 0019 diff image #20

0101 0020 diff image 21

To Page No. ____

Witnessed & Understood by me,	Date	Invented by:	Date
		Recorded by:	

Project No. _____

TLE _____ Book No. _____

om Page No. ____

San_250

	Diffraction		IMAGE	LENGTH
0112	0021.med	(-7.2, -7.2, 2.16, 0.2, 0.0)	0022	l_{02} = 1.106 mm
0123	0022.med	" " " " "	0023	l_{02} = 1.104 mm
0126	Ram speed to 0.002 mm/s because of slow strain rate.			
0134	0023.med	(-7.2, -7.2, 2.16, 0.2, 0.0)	0024	l_{02} = 1.099 mm
0144	0024.med	" " " " "	0025	l_{02} = 1.089 mm
0155	0025.med	" " " " "	0026	l_{02} = 1.087 mm
0206	0026.med		0027	l_{02} = 1.080 mm
0216	0027.med		0028	l_{02} = 1.078 mm
0227	0028.med		0029	
0238	0029.med		030	l_{02} = 1.061 mm
0250	0030.med		031	l_{02} = 1.05 mm
0301	0031.med		032	l_{02} =
0311	0032.med		033	
0322	0033.med		034	
0333	0034.med		035	l_{02} = 1.028 mm
0344	0035.med		036	l_{02} = 1.019 mm
0355	0036.med		037	
0406	0037.med		038	

To Page No. ____

d & Understood by me,	Date	Invented by:	Date
		Recorded by:	

Project No. _____

Book No. _____ TITLE _____

From Page No. ____

San_250 11/5/10 (cat

TIME	Diffraction Pattern	(-7.2, -7.2, 2.16, 0.2, 0.0)	Image
0427	0038.med		039.tiff
0428	0039.med	" " " " "	040.tiff
0439	0040.med		041.tiff

End Step (4) 2

0455 Diff rams to 0.008 mm/s Start Step (2) 3 97T 1373K

0456 0041.med 042.tiff

0509 0042 (-7.17, -7.17, 2.14, 0.2, 0.1) # 043 l_{ol} = 9.36 mm

~510 Blowout! Ram load to 97T

Heater power to 297 W

sample moved significantly

Fixed load and heater, finished pattern. Sample has moved significantly, gap has closed

Olivine peaks look fine

0532 Quench

0533 Begin depressurization to 50T, 6%

0647 back at 50T, heat quickly to ~1100°C

0700 .0043.med mid ol, re-centered, (-6.90, -6.90, 2.17, 0.2, 0.0) image #44 l_{ol} = 0.816

~~I forgot how~~ screwed this up .. ~~I think~~

I said 6.0! -- this was the bottom piston

To Page No. _

Witnessed & Understood by me,	Date	Invented by:	Date

Project No. _____

LE _____ Book No. _____

n Page No. ____

1/5/10 san250 (cont)

0712 Diff rams fwd @ 0.002 mm/s. Start step (4) 50T, 1373 K.

0734 Image #45 (no beam not quite ready for diff'n yet) l_{ol} = 0.781 mm

0737 Drop motor speed to 0.001 mm/s

0751 .0044 med (recentered) (6.90, 6.90, 2.16, 0.2, 0.0) image #46 l_{ol} = 0.765
└ 10 s exposure!

0754 .0045 med (600 s) (6.90, 6.90 2.16 0.2 0.0) image # 47 l_{ol} = 0.75

0805 .0046 " #48 l_{ol} = 0.757

0816 .0047 " #49 0.748

0828 .0048 6.85, 6.85 - - - - #50 0.739

0839 .0049 x-rays dump at ~460s, - - - 0.2, 0.1 #51 0.725

0850 Restart acquire w/o x-rays Stop acquiring
in order to finish imaging + diff'n scan
End step (4)

To Page No. ____

essed & Understood by me,	Date	Invented by:	Date
		Recorded by:	