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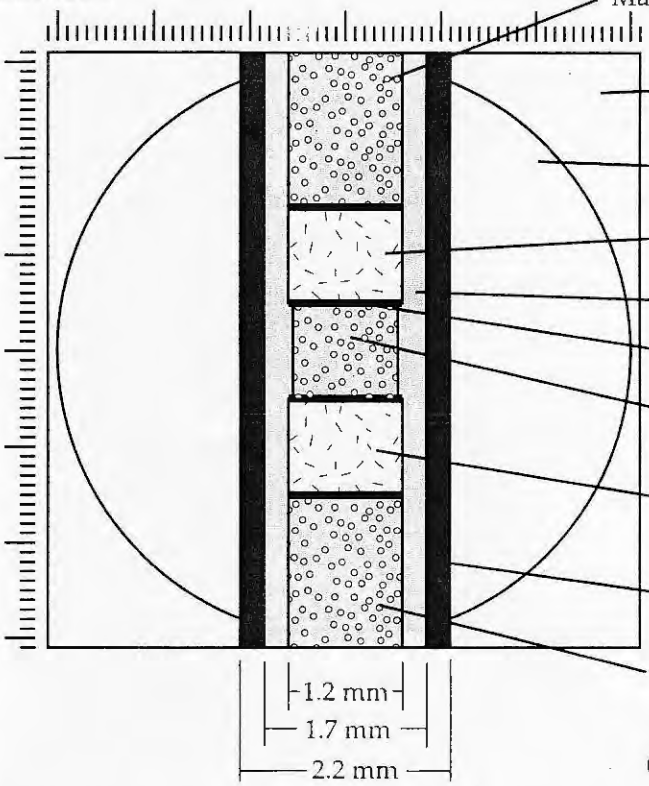
1 mm

san280

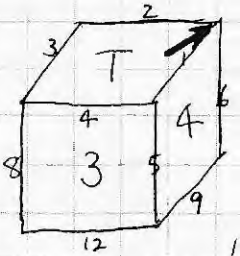


(NAD assembly 111-F built 11/18/11)

for E+2θ calib.
med, 600s

Coords same as San_279, except for a sintered diamond anvil on block 1

(press 29.7 tons)



T-B: 5.755
1-3: 5.468
2-4: 5.496

1:	1.279	5:	1.058	9:	1.118
2:	1.232	6:	0.938	10:	1.080
3:	1.138	7:	1.124	11:	1.235
4:	1.058	8:	1.212	12:	1.332

1-2 working DVRTs, both on top.

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22 13 image 0001.tiff at open press of.
~~23 09~~
0002.med mid ol at open press 600s. (side anvils were out)

11/19/11

0026 Press closed.
0027 Logger started, 10s interval.

0029 MCP to 10%. Target: 30T
0149 10.2T
0230 25.8T lol (onscreen) ~~= 117 mm~~ → this was piston
0237 Diff Ram valves closed
@ 29.9T lol = 129 mm

0245 heater appears to work. Begin heating to 1100°C using San_279 curves

0300 @ 1100°C x-ray spot hard to see when slits closed. See ol. in all active dets though.

0305 Centering scan in x. Use ph 7-8 doublet.
center on x = -7.9

Clf I remember correctly, "imaging_and_diffraction_scan" requires "real", non "x-ray" value of y position
"Press y" reads -13.37, so initial scan will be
0322 .0003.med, 600s (26.1, 26.1, -13.37, 0.2, 0.2), photo #2 l.l = 128 mm
photo again is saved, but can't seem to open on this comp
opens on other comp, but very dark. Lengthen exposure

Ol-pattern looks strong.

0336 Jog rams
0343 Rams @ ~140 bars. Should be close to ~~way~~ slightly take-off. Good DVRT appears to go wrong

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Temperature Log

t	T	W	mΩ	Notes:
0249	~500	139	49	30T, Slip (1)
0251	600	144	45	
0253	700	187	43	
0254	800	208	41	
0257	900	229	46	
0258	1000	248	39	
0259	1100	272	38	

0817-821 Quench

11/19

10 50	RT	0	-	80T. Step (2)
10 55	~500	150	40	
10 56	600	175	39	
10 57	700	203	37	
10 57	800	226	36	
10 58	900	250	35	
10 59	1000	273	35	
11 00	1100	290.3	34	
1413	"	290	33	
1540		290	33	
1545	1200	314	32	80T Step (3)
1750	"	314	32	
1800	"			end Step (3)

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0346: Gogging Rams (continued)
Rams ~145 bars (9T) which was take-off pressure for San_279 @ 30T

0349 Diff Rams forward 0.001 mm/s. Start Step (1)
30T, 1100°C, $\dot{\varepsilon} \simeq 1\times10^{-5}\ s^{-1}$

0351 .0004.med, 600s (26.1, 26.1, -13.37, 0.2, 0.2) photo #3
image doesn't come up on camera computer but length on window 7 PC maximized $l_{(SC)}$ = 127 mm looks to be the same scale

0408	.0005.med,	" (	")	photo #4	l_{ol} = 125.5 $l_{(SC)}$ = 126.5
0420	.0006.med	" (	")	#5	l_{ol} = 125
0432	.0007	" (	")	#6	l_{ol} = 124.5
0443	.0008	" (	")	#7	l_{ol} = 123.5
0455	.0009	" (	")	#8	l_{ol} = 123
0509	.0010	" (	")	#9	l_{ol} = 122
0521	.0011	" (	")	#10	l_{ol} = 121.5
0536	.0012	" (	")	#11	l_{ol} = 120.5
0550	.0013	" (26.15, 26.15,	")	#12	l_{ol} = 119
0601	.0014	" ("	")	#13	l_{ol} = 118.5
0613	.0015	" (	")	#14	l_{ol} = 117.5
0632	.0016	" (" " , -13.43,	")	#15	l_{ol} = 116
0647	.0017	" (	")	#16	l_{ol} = 115
0700		Beam fill			l_{ol} = 113.5
0740	.0018	" (	")	#17	l_{ol} = 111
0751	.0019	" (	")	#18	l_{ol} = 110
0803	.0020	" (	")	#19	l_{ol} = 109

0814 Stop Diff Rams, End Step (1) l_{ol} = 108
0817-821 Quench

0824 McP to 5% Target 80T
0840 34T, McP to 6%

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10:50 heating up at 80.0 tons.

11:42 Diff rams forward @ 0.001 mm/s Start Step (2)
80 T, 1100°C (290W)

z image, z diff, y diff, z range, y range

11:46	.0021. med	600s	(25.83, 25.83, -13.3548, 0.2, 0.2)	image # 20	l_{oz} = 106
12:06	.0022. med	"	(")	21	l_{oz} =
12:23	.0023. med	"	(, 0.1)	22	l_{oz} = 106
12:38	.0024			23	
12:50	.0025			24	l_{oz} = 105
13:04	.0026		(25.88, 25.88, —)	25	104.5
13:18	.0027		(-13.405)	26	104
13:30	.0028			27	103.5
13:42	.0029		(25.92, 25.92,)	28	103
13:55	.0030		(but ✓ changed y!)	29	102.5
14:10	.0031		(25.96, 25.96, -13.4050)	30	102.0
14:23	.0032			31	101.5
14:37	.0033			32	101.5
14:50	.0034			33	101
15:03	.0035		(26.00, 26.00,)	34	100.5

scan x to check x pos'n .. noisy result, but x OK. (but ✓ didn't change y?)

15:20	.0036		(— -13.4338)	35	99.5
15:33	.0037			36	99
15:44	—			37	98.5

~~15:~~ End step (2)

15:45 T to 1200°C (314W). Start step (3) 80T, 1200°C, 0.001 mm/s

15:47	.0038	600s	(26.06, 26.06, -13.4338, 0.2, 0.1)	38	98
15:59 ~~15:49~~	.0039			39	96.5
16:10	.0040			40	95.5
16:22	.0041			41	94.9 *
16:35	.0042		(26.12, 26.12, —	42	93.8
16:47	.0043			43	93.3
17:00	.0044		(26.26, 26.26, ——	44	92.8

* start measuring pixels

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11/19/11 San280 (cont)

1711	.0045. med	600s	(26.26, 26.26, 13.4338, 0.2, 0.1)	image #45 l_{ol} = 91.4
1724	46		26.4, 26.4	46 91.4
1737	47			47 90.6
1749	48		26.5, 26.5	48 89.6
1800 ~~1750~~	stop diff rams		end step (3)	49

1802 furnace off
1803 MCP to -5%
1822 62T diff rams to -0.001 mm/s
1843 48T MCP to -6%
1855 38T "click" -- diff ram curves show step, main ram no; sample maybe shortened from ~89 to 88
[But note: no anvils broken (p.31)]

actually, there is a teensy teensy blip on striptool

1910 28T diff rams to -0.002
2108 0.3T diff rams to -0.00K
Beam pos. changed after open press on the monitor. And centering was so bad that detector table was moved to get centering. (140μm off for det 1-9, 50μm off for det 5-10)

2242 .0049. med 600s. mid ol., open press.

2254 stopped logger.

2254 image #50, 51 (0°, 90°)

valves open.
Rams pushed home with used Cu cube. (Alumina plate is too thick)
to 30 tons.

2358 valves closed.

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