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[redacted]

2116. Al_2O_3 diffraction, 600s.. E and 2θ calib .0001. med

2151 Olivine powder diffraction, 600s, no c .0002. med

[redacted]

2205 Olivine powder #2, image and diff. scan (41.45, 41.45, -17.66, 0.2, 0.2), 600s .0003. med

2353 Move det table z -0.05 to recover original spot. Before/after positions recorded in ppt

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0014 Open press olivine 600s, imaging and diffraction scan prosilica 39.65, 39.65, -.0004. med, image #1
caliper measured length = 1.06 mm c-tape foils added 25 μm
length onscreen = 475 pixels = 1.06 + 0.025 = 1.085 ⇒ ~438 pixels/mm

0110 Al_2O_3 again, 600s, no changes to det table since z correction during open press. Will see if calibration remains the same as in 0001. med Al_2O_3 platter .0005. med.

0132 Press closed. Logger started, 10s intervals.

0138 McP to 10%. Target 10T
0147 McP to 8%

Do home for night

1017 Back. Had to restart prosilica, so we lose the original position of the window relative to the onscreen spot

1027 Begin heating to 1160°C, ~235 W

1057 Olivine diff. is weak, difficult to center
1112 Long centering scan in Al_2O_3 plug shows that x center is 18.9 in det 1 and 18.4 in det 9, necessitating move in det table z

1212 .0006, 600s (35.7, 35.7, -17.78, 0.2, 0.1) Run #2 l_{pix} = 446 l_{ol} = 1.06 m
1318 Diff Rams jogged in, see DXRT response

1322 Diff rams forward @ 0.0004 mm/s Begin Step (1): 1100°C, 10T

1328 .0007, 600s (35.75, 35.75, -17.78, 0.2, 0.2) Run #3 pixels = 455 l_{ol} = 1.099
1347 .0008, " (") Run #4 pixels = 451 l_{ol} = 1.090
1400 .0009, 600s (") Run #5 pixels = 450 l_{ol} = 1.0

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Heating Record

t	T	W	mΩ
0237	26	0	0
0231	~600	140	50
0233	~700	143	47
0234	~800	181	45
1035	~900	201	42
1035	~1000	221	41
1037	1160	233	39
4/8			
6000		Quench	
0233	26	0	~~50~~
0237	~800	183	39
0239	~900		
0242	~1100	282.7	35
0750	~700	142.2	~~41~~
0751	~800	183.9	38
0752	~1100	282.5	35
1047	~1100	281.8	34
1143	~1100	282.5	34
1156	~1100	282.5	34
1229	~1100	282.4	34
1338	~1100	282.1	34
1555	~1100	282.3	34
1631	~1100	282.4	34

Step 1 : 10T, 0.0004 mm/s

Step 2: 60T, 0.0006 mm/s

→ Step 3: 60 tons, 0.001 mm/s

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1411 .0010, 600s (35.75, 35.75, -17.78, 0.2, 0.2) clm #6 px: 449 l_{ol} = 1.025
1423 .0011, " (") clm #7 px: 448 l_{ol} = 1.023
1434 .0012, " (") clm #8 px: 447 l_{ol} = 1.021
1448 .0013, " (") clm #9 px: 445 l_{ol} = 1.016
1502 .0014, " (") clm #10 px: 443 l_{ol} = 1.011

Now alternate bottom and mid ol.

1518 .0015 bot ol. 600s (36.15, 36.15, -17.78, 0, 0) clm #11 px: 438 l_{ol} = 1.000 } photo taken
1529 .0016, mid ol. 600s (35.75, 35.75, -17.78, 0.2, 0.2) #12 px: 439 l_{ol} = 1.002 } at bottom pt
1547 .0017, bot ol " (36.15, 36.15, " , 0, 0) #13 px: 437 l_{ol} = 0.998
1559 .0018, mid ol " (35.75, 35.75, " , 0.2, 0.2) #14 px: 437 l_{ol} = 0.998

1615 Attempt to check centering; appears to be drift in all directions
diffraction in shots 4-7 is very poor. Results are ambiguous (scanning,
beg adjusting table to recover spot onscreen. Adjustments recorded
in ppt.

1655 .0019 bot ol 600s (36.15, 36.15, -17.77, 0, 0) #15 px = 428 l_{ol} = 0.977
1711 .0020 mid ol " (35.75, 35.75, " , 0.2, 0.2) #16 px = 427 l_{ol} = 0.975
1724 .0021 bot ol " (36.15, 36.15, " , 0, 0) #17 px = 424 l_{ol} = 0.968
1739 .0022 mid ol " (35.75, 35.75 " , 0.2, 0.2) #18 px = 423 l_{ol} = 0.966
1756 .0023 bot ol " (36.15, 36.15, " , 0, 0) #19 px = 422 l_{ol} = 0.963
1809 .0024 ~~bot ol~~ ~~mid ol~~ " ~~(35.75, 35.75, " , 0.2, 0.2)~~ #20 px = 419 l_{ol} = 0.957
1821 .0025 bot ol. " (" ") #21 px = 417 l_{ol} = 0.952
1834 .0026 mid ol " (35.75, 35.75, " , 0.2, 0.2) #22 px = 411 l_{ol} = 0.938
1850 .0027 bot ol " (36.15, 36.15, " , 0, 0) #23 px = 412 l_{ol} = 0.941
1902 .0028 mid ol. " (35.75, 35.75, " , 0.2, 0.2) #24 px = 412 l_{ol} = 0.941

Beam Fill / dinner

2014 Move beam stable 0.015 in z back to spot onscreen, then x, centering scan
2109 Finally centered @ 19.1 in x, motor positions in ppt
2112 .0029 bot ol. " (36.15, 36.15, 17.77, 0, 0) #25 px: 392 l_{ol} = 0.895
2124 .0030 mid ol " (35.75, 35.75, -17.77, 0.2, 0.2) #26 px: 390 l_{ol} = 0.890
2138 .0031 bot ol " (36.15, 36.15, " , 0, 0) #27 px: 390 l_{ol} = 0.890
2149 .0032 mid ol " (35.75, 35.75, " , 0.2, 0.2) #28 px: 388 l_{ol} = 0.886
2200 .0033 bot ol " (36.15, 36.15, " , 0, 0) #29 px: 386 l_{ol} = 0.881
2214 .0034 mid ol " (35.75, 35.75, " , 0.2, 0.2) #30 px: 383 l_{ol} = 0.874

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2230 .0035 bot ol, 600s (36.1, 36.1, -17.7, 0, 0) close #31 px: 381 l_{ol} = 0.870 mm
2246 .0036 mid ol, " (35.75, 35.75, ", 0.2, 0.2) #32 px: 378 l_{ol} = 0.863
2259 .0037 bot ol, " (36.1, 36.1, ", 0, 0) #33 px: 375 l_{ol} = 0.856
2319 .0038 mid ol " (35.75, 35.75, ", 0.2, 0.2) #34 px: 374 l_{ol} = 0.854
2332 .0039 bot ol " (36.1, 36.1, ", 0, 0) #35 px: 371 l_{ol} = 0.847
2344 .0040 mid ol " (35.7, 35.7, ", 0.2, 0.2) #36 px: 370 l_{ol} = 0.845

2357 Stop Diff Rams. End Step (1)
0000 Quench

0001 MCP to 6%, target 60T
0140 37.1T
0231 60 T, Begin heating
0362 Centering. x = 19.1 still. Move det table down -0.015 mm
0305 .0041 mid ol 600s (35.3, 35.3, -17.74, 0.2, 0.2) ~~#37 px: l_{ol}~~
0314 Can slits closed, retake photo #37 px: 357 l_{ol} 0.815 mm

0320 Diff Rams Forward 0.0006 mm/s, Begin Step (2), 60T, 1

0324 .0042 mid Ol 600s (35.3, 35.3, -17.76, 0.2, 0.2) #38 px: 357 l_{ol} = 0.815 mm
0350 Wiggler is off. Stop the diff. Ram. Quench.

0747 Heating up (After beam's fill & wiggler's back)
0810 Move detector table -0.005 in z to get the spot back to the marker, and then x centering scan.
0954 Finally X = 19.1
0954. .0043 mid Ol 600s (35.3, 35.3, -17.74, 0.2, 0.2). #39. px = 354. l_{ol} = 0.808

1004 Diff. Ram. move 0.0006 mm/s. Step2 continues.
1007 .0044 mid Ol 600s (35.3, 35.3, -17.76, 0.2, 0.2) #40, px = 354 l_{ol} = 0.808
1019 .0045 mid Ol 600s (35.3, 35.3, -17.78, 0.2, 0.2) #41, px = 354 l_{ol} = 0.808
1033 .0046 mid Ol 600s (35.3, 35.3, -17.77, 0.2, 0.2), #42, px = 352 l_{ol} = 0.804
1044 .0047 mid Ol 600s (35.3, " " " "), #43, px = 352 l_{ol} = 0.804
1055 .0048 mid Ol 600s (" " " " "), #44, px = 350 l_{ol} = 0.799
1106 .0049 mid Ol 600s (" " " " "), #45, px = 349 l_{ol} = 0.797
1117 .0050 mid Ol 600s (" " " " "), #46, px = 348 l_{ol} = 0.795
1128 .0051 mid Ol 600s (" " " " "), #47, px = 349 l_{ol} = 0.797

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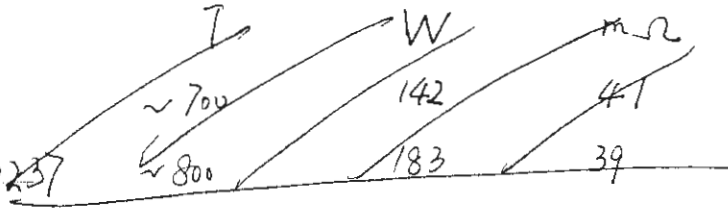

1139	.0052	mid Ol	600s	(35.3, 35.3, -17.77, 0.2, 0.2)	#48,	Px = 348	l_{OL} = 0.795
1150	.0053	mid Ol	600s	(" " " " "),	#49,	Px = 348	l_{OL} = 0.795
1201	.0054	mid Ol	"	(")	#50,	Px = 347	l_{OL} = 0.792
1214	.0055	mid Ol	"	(")	#51	Px = 346	l_{OL} = 0.790
1225	.0056	mid Ol	"	(")	#52	Px = 346	l_{OL} = 0.790
1232		Deformation too slow. Diff Rams to .001 mm/s					Begin Slip (2)
1239	.0057	mid Ol	600	(35.3, 35.3, -17.77, 0.2, 0.2)	#53	Px = 345	l_{OL} = 0.788
1250	.0058	mid Ol	600	(")	#54	Px = 344	l_{OL} = 0.785
1301	.0059	mid Ol	600	(")	#55	Px = 343	l_{OL} = 0.783
1312	.0060	mid Ol	"	(")	#56	Px = 342	l_{OL} = 0.781
1331	.0061	"	"	(")	#57	Px = 338	l_{OL} = 0.772
1342	.0062	"	"	"	#58	Px = 337	l_{OL} = 0.769
1353	.0063	"	"	"	#59	Px = 336	l_{OL} = 0.767
1408	.0064	"	"	"	#60	Px = 334	l_{OL} = 0.763
1419	.0065	"	"	(35.35, 35.35, -17.77, 0.2, 0.2)	#61	= 332	= 0.758
1506	.0066	"	"	(" , " , -17.74, " , ")	#62	= 327	= 0.747
1520	.0067	"	"	(35.35, 35.35, -17.77, 0.2, 0.2)	#63	= 326	= 0.744
1631	.0068	"	"	(" " " " ")	#64	= 324	= 0.740
1642	.0069	"	"	(")	#65	= 320	= 0.731
1554	.0070	"	"	(")	#66	= 319	= 0.728
1610	.0071	"	"	(" -17.79, " ")	#67	= 315	= 0.719
1622	.0072	"	"	(" " " , " ")	#68	=	
1633		Stop Rams. End Slip (3)					
1637	Quench	MeP to -6%, Diff Rams -0.001 mm/s					
1639							
1640	Px = 322, l_{OL} = 0.735						
1740	MeP to -8% @ 13.7 tons.						
1742	Diff. Ram Speed to -0.004 mm/s.						
1748	MeP to -12% @ 9.6 tons				Px = 313,	l_{OL} = 0.715	

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1802. mep to -20% @ 2.6 tons. $P_x = 315$, $l_{ox} = 0.719$.
1814 $P_x = 315$, $l_{ox} = 0.708$. $P_x = 310$, $l_{ox} = 0.708$
1818 mep to -25% @ 0.6 tons
1829 Diff. ram speed to -0.001 mm/s.

~ 1900 Image # 69,70 Open press, 90° rotation

1906 Closed .6073, med Al_2O_3 pre-fill 180s for calibration. centered hastily to lead shutdown

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