

Alignment adjustment

W  $40\mu\text{m} \rightarrow 60\mu\text{m}$

N-S ~~4.222~~ 4.159

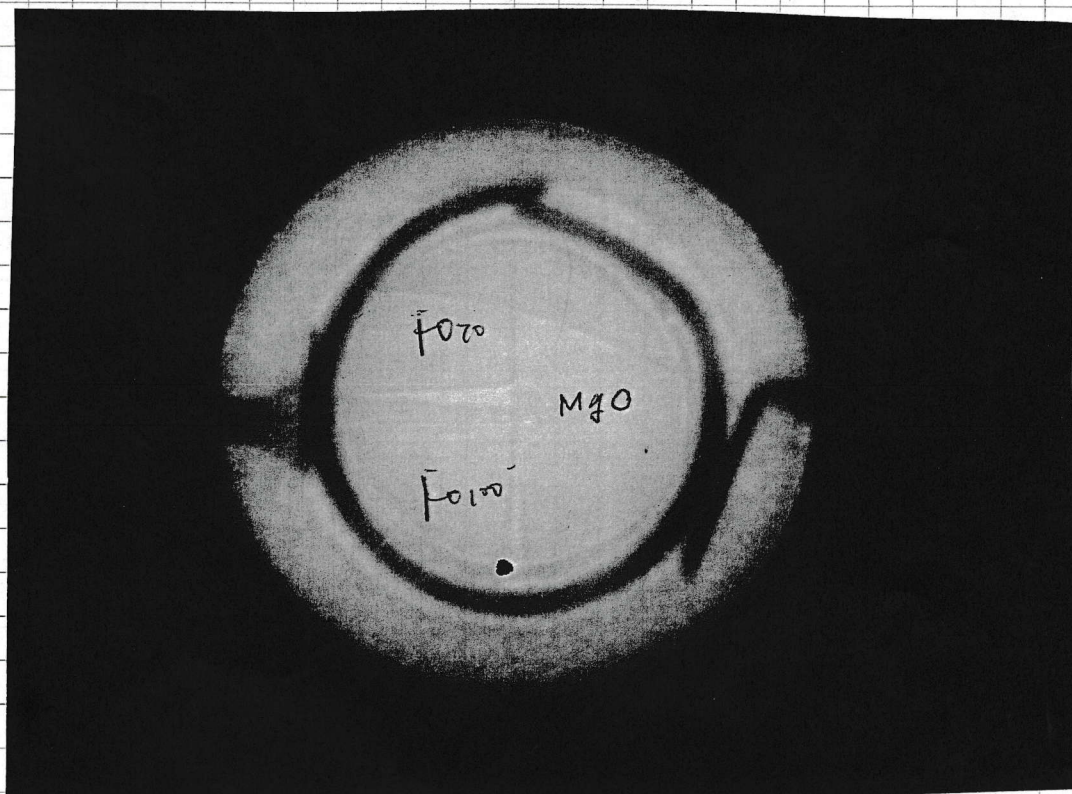
E-W 4.128 120  
4.124

U-L 4.094 4.090  $\leftarrow$  still too small

M2263.

21:05 put a cell assembly

0 con

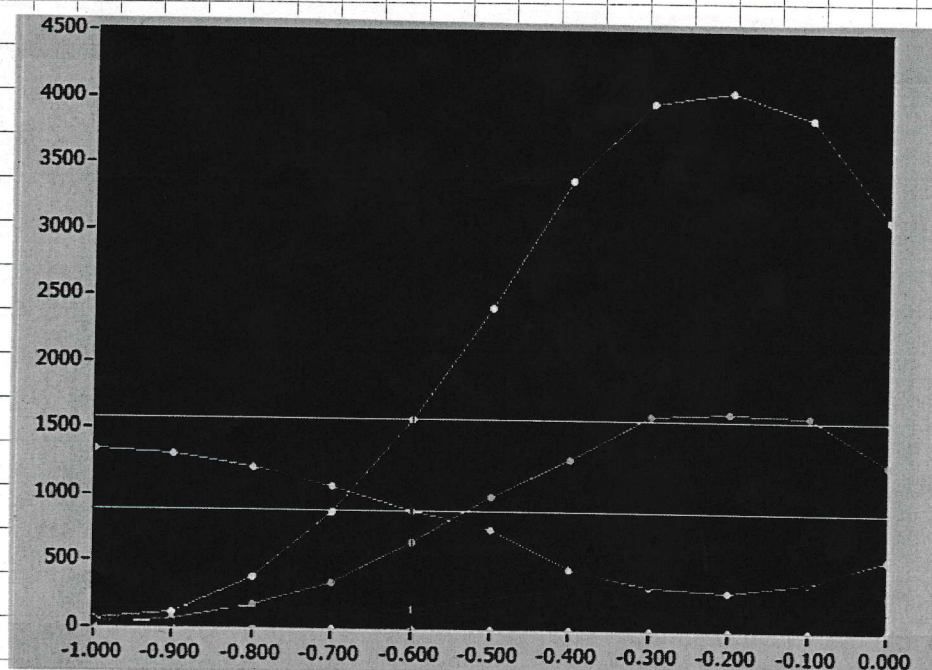




21:13

X scan

$$x = -0.2$$

~~21:17~~

21:17

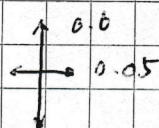
M2263001

MgO, 0 con, R.T., 300 sec,  $K = 0-7.2^\circ$ 

$$x = -0.2, y = -1.49, z = -4.45$$

$$D.T. = 9.67\%$$

I.S.



$$P = 0.03482 \pm 0.03429$$

$$V = 74.682146 \pm 0.015926$$

$$V/V_0 = 0.999998 \pm 0.015926$$

$$a = 421197 \pm 0.00029$$

$$2\theta = 7.19766 \text{ deg.}$$

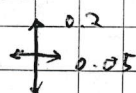
21:26

M2263002

Fe<sub>70</sub>, 0 con, R.T., 100 sec,  $K = 0-7.2^\circ$ 

$$x = -0.2, y = -1.09, z = -4.72$$

$$D.T. = 4.27\%$$



21:31

M2263003

Fe<sub>100</sub>, 0 con, R.T., 100 sec,  $K = 0-7.2^\circ$ 

$$x = -0.2, y = -1.04, z = -4.27$$

$$D.T. = 3.09\%$$

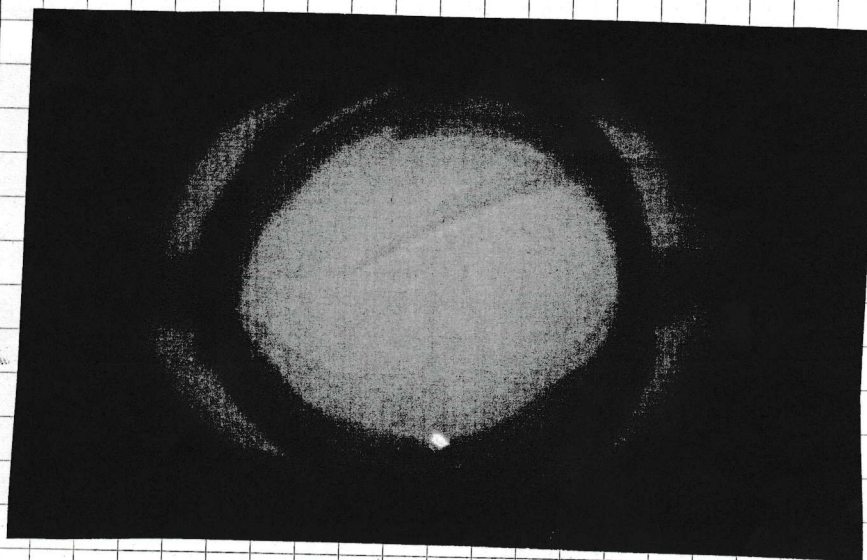
0 con  $\xrightarrow{+5 \text{ min}}$  50 con



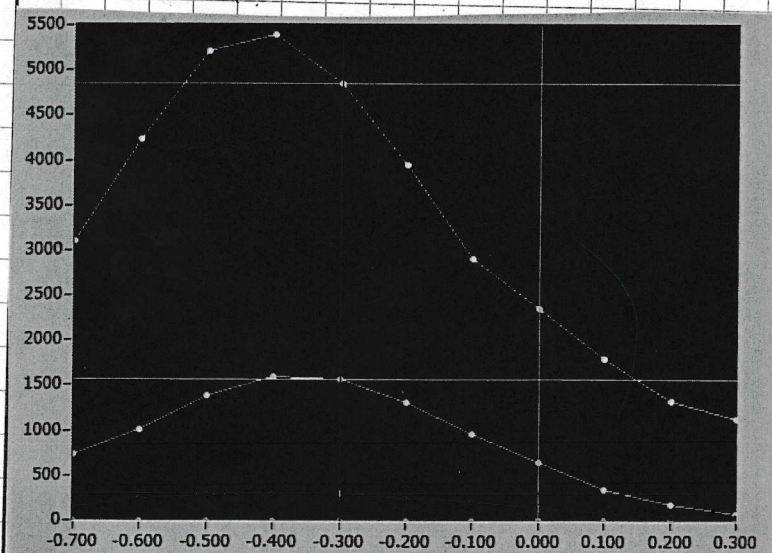
21:54

50 rev

X



X scan



center

$$X = -0.6$$

M2263004 MgO 300s 0.50 MV RT

Incident  $V = 0.6$   $H = 0.05$  D.T 8.52%

$X = -0.60$   $Y = -1.454$   $Z = -2.833$  Stroke 7.444 mm

$$P = 6.22496 \pm 0.06597$$

$$a = 4.162532 \pm 0.00049$$

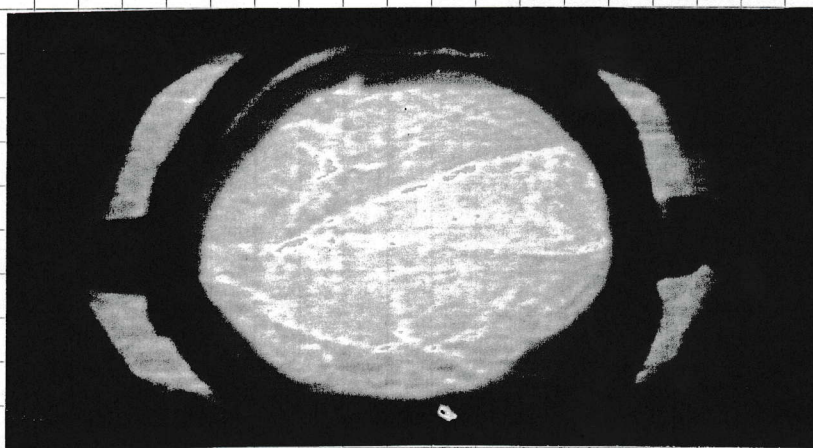
$$V/V_0 = 0.964924 \pm 0.00341$$

(111) (200) (220) (311) (222) (400) (420) (422)



Compression to 6.5 kN in 180 min

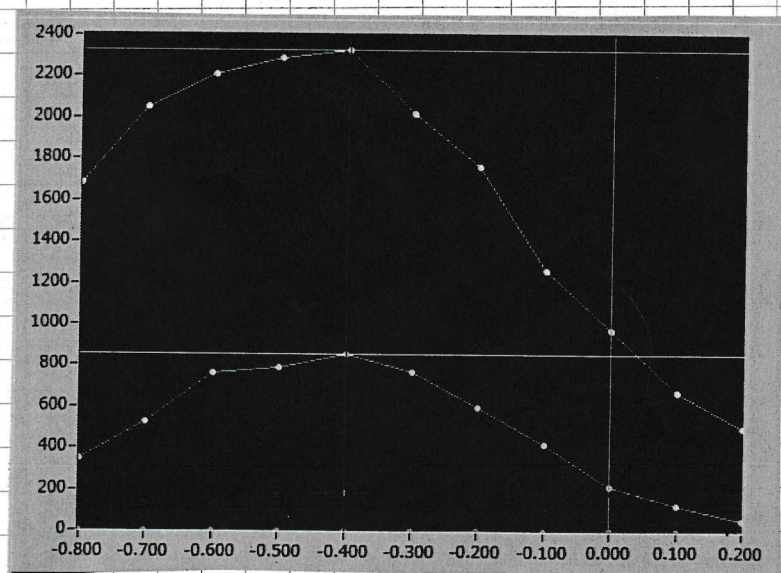
650 con



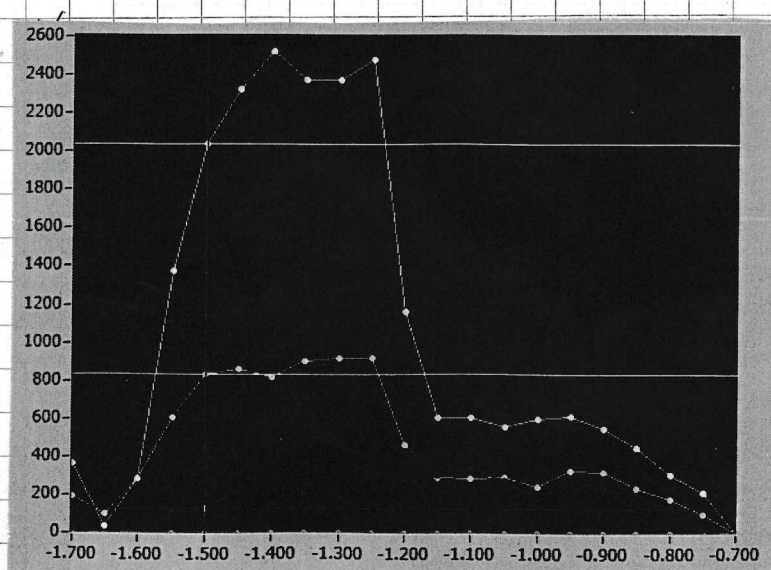
X scan

$Y_2 = -1.415$   $Z = -1.685$

~~07~~ X4



Center  
 $X = -0.40$



Y2 scan

Sample

MgO

$Y_2 = -1.40$

$Y_2 = -1.30$

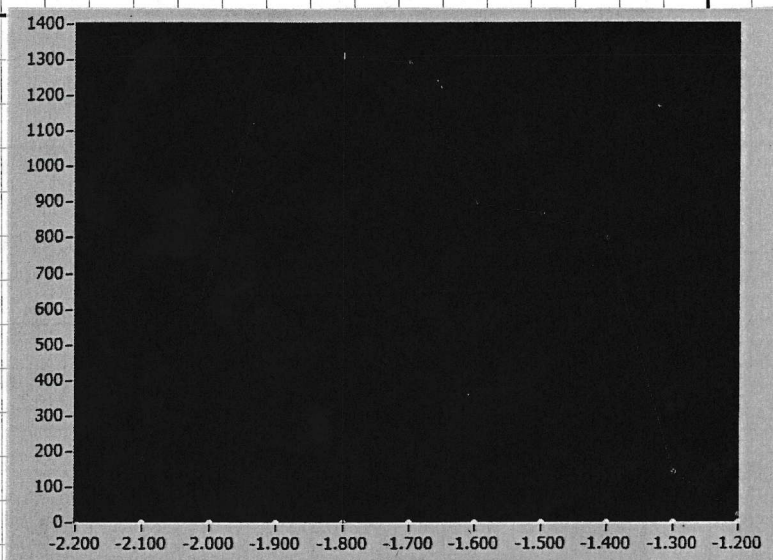


1:41 Z scan

Fo :  $z = -1.8$

Fo :  $z = -1.5$

(  $y = -1.1$  )



M2206305 MgO RT 1000S 6.5 MN

D.T. 5.78% Incident  $V = 0.5$   $H = 0.05$

$X = -0.40$   $Y = -1.30$   $Z = -1.70$  Stroke 9.260 mm

$P : 29.00961 \text{ GPa} \pm 0.10081$

$\alpha : 4.025461 \pm 0.00049$

$V/V_0 : 0.87432 \pm 0.000319$

1:53 Heating to 1100 K

Time	Temp.	$V_1$	$I_1$	$R_1$	$P_1$	$V_2$	$I_2$	$R_2$	$P_2$	Stroke
1:53	28.69	0.14	0.00	91.56	0.00	0.022	0.70	0.02	0.02	9.262
1:55	101.44	22.17	1.46	15.11	92.51	11.22	1.91	<del>5.82</del> 20.98	20.98	9.263
1:57	200.65	22.70	2.35	9.63	53.42	11.50	3.62	3.17	41.89	9.263
1:58	300.17	23.11	3.23	7.14	74.77	11.60	5.27	2.20	60.89	9.263
2:00	399.17	24.02	3.98	6.05	95.84	11.97	6.64	1.81	79.56	9.264
2:01	499.76	24.75	4.71	5.25	116.48	12.27	8.01	1.53	98.10	9.265
2:02	601.62	25.69	5.34	4.82	136.31	12.66	9.16	1.38	115.89	9.271
2:04	701.82	26.72	5.86	4.57	156.95	13.16	10.11	1.30	133.28	9.279
2:06	827.71	27.82	6.54	4.26	181.72	13.66	11.38	1.19	155.56	9.295

2:07 M2263006 MgO, 1100K, 150 sec, 650 ton,  $K = 0 - 7.2^\circ$

D.T. = 6.42%

$x = -0.40$ ,  $y = -1.3$ ,  $z = -1.7$  Stroke 9.306 mm



$$p = 2475608 \pm 0.03555$$

$$v = 67506678 \pm 0.009935$$

$$v/v_0 = 0.903912 \pm 0.00133$$

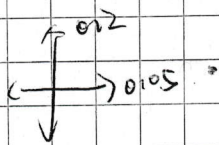
$$a_0 = 401751 \pm 0.00020 \text{ A}^\circ$$

M2263007

$$F_{0100} \quad 1100 \text{ k} \quad 150 \text{ sec} \quad 650 \text{ ton} \quad h = 0.72^\circ$$

$$D.T. = 231$$

$$x = -0.14 \quad y = -1.1 \quad z = -1.5$$



$$P_C + R_W$$

M2263008

$$F_{070} \quad 650 \text{ ton} \quad 1100 \text{ k} \quad 150.0 \text{ sec} \quad h = 0.72^\circ$$

$$D.T. = 323$$

$$x = -0.14 \quad y = -1.1 \quad z = -1.8$$

$$P_C + R_W \text{ (no } A_k, \text{ no } S_{ti})$$

M2263009

$$M_{y0} \quad 650 \text{ ton} \quad 1100 \text{ k} \quad 150.0 \text{ sec} \quad h = 0.72^\circ$$

$$D.T. = 6.65$$

$$x = -0.14 \quad y = -1.3 \quad z = -1.65$$

$$p = 23,85909 \pm 0.02080$$

$$v = 6759195 \pm 0.00921$$

$$v/v_0 = 0.907299 \pm 0.000079$$

$$a = 4.076831 \pm 0.0001$$

M2263010

$$F_{0100} \quad 650 \text{ ton} \quad 1100 \text{ k} \quad 300.0 \text{ sec} \quad h = 0.72^\circ \quad D.T. = 225$$

$$x = -0.14 \quad y = -1.1 \quad z = -1.45$$

$$P_C + R_W + A_k$$

M2263011

$$F_{070} \quad 650 \text{ ton} \quad 1100 \text{ k} \quad 300 \text{ sec} \quad h = 0.72^\circ \quad D.T. = 302$$

$$x = -0.14 \quad y = -1.1 \quad z = -1.75$$

$$P_C + R_W + A_k \text{ (small amount)}$$

M2263012

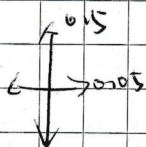
MgO

650 ton

1100 K

 $\mu = 0 \sim 7.2^\circ$ 

200 sec

 $\Delta T = 5.63\%$ 

$$P = 23.69638 \pm 0.05141 \text{ GPa}$$

$$V = 67.803592 \pm 0.014685$$

$$V/V_0 = 0.907921 \pm 0.000197$$

$$a = 4.077763 \pm 0.00029$$

compression 700 MPa in 15 min

M2263013

MgO

700 ton

1100 K

 $\mu = 0 \sim 7.2^\circ$ 

150 sec

$$x = -0.4$$

$$y = -1.3$$

$$z = -1.6$$

$$P = 24.16871 \pm 0.03196 \text{ GPa}$$

$$V = 67.671333 \pm 0.009041 \text{ Å}^3$$

$$V/V_0 = 0.906123 \pm 0.000121$$

$$a = 4.075068 \pm 0.00018 \text{ Å}$$

3:19

M2263014

Fe<sub>100</sub>

700 ton

1100 K

 $\mu = 0 \sim 7.2^\circ$ 

200 sec

 $\Delta T = 2.29\%$ 

$$x = -0.4, y = -1.1, z = -1.4$$

M2263015

Fe<sub>100</sub>

700 ton

1100 K

 $\mu = 0 \sim 7.2^\circ$ 

300 sec

 $\Delta T = 3.22\%$ 

$$x = -0.4$$

$$y = -1.1$$

$$z = -1.7$$



IM 2263016

MgO

700 ton

1100 K

 $k = 0.72^\circ$ 

$x = -0.14$

$y = -1.3$

$z = -1.6$

$p = 24.11968 \pm 0.02832 \text{ GPa}$

$V = 67.685207 \pm 0.008018 \text{ Å}^3$

$V/V_0 = 0.906309 \pm 0.00107$

$\alpha = 4.075347 \pm 0.000617$

Heating to 1700 K

Time	Temp.	$V_1$	$I_1$	$R_1$	$P_1$	$V_2$	$I_2$	$R_2$	$P_2$	Stroke
3:35	827.1	28.70	6.69	4.30	191.8	14.09	11.60	1.21	1632	9.475
3:40	929.2	29.32	7.24	4.05	211.8	14.33	12.65	1.13	181.7	9.476
3:42	1027.2	29.77	7.74	3.85	230.7	14.54	13.59	1.06	197.1	9.476
3:44	1136.9	31.65	7.80	4.07	246.0	15.55	13.59	1.14	211.6	9.476
3:45	1231.5	32.87	8.09	4.07	265.9	16.11	14.14	1.14	227.8	9.475
3:47	1327.8	34.29	8.42	4.09	289.6	16.87	14.67	1.15	248.7	9.475
3:50	1426.7	35.66	8.90	4.02	315.6	17.42	15.60	1.11	270.4	9.477

IM 2263017

MgO

700 ton

1700 K

 $k = 0.72^\circ$ 

$x = -0.14$

$y = -1.3$

$z = -1.6$

$p = 23.745$  (using PD Indenter)

Tangorog BM

$V =$

$0.450(6)$

$V/V_0 =$

$\alpha =$

IM 2263018

Fo 100

700 ton

1700 K

 $k = 0.72^\circ$ 

$x = -0.14$

$y = -1.1$

$z = -1.4$

Brq + PC (no RW)

IM 2263019

MgO

700 ton

1700 K

 $k = 0.72^\circ$ 

$x = -0.14$

$y = -1.39$

$z = -1.55$

$24.17(7)$



22/7  
A:21

→ M 2263020 F070 1700 K, 7.25 MN, 300 sec

$$x = -0.4 \quad y = -1.120 \quad z = -1.65$$

— Brγ + Pr. + st.

22/7  
A:26

M 2263021 MgO 1700 K, 7.25 MN, ~~300 sec~~ 150 sec

$$x = -0.4 \quad y = -1.1370 \quad z = -1.55$$

$$P = 24.14 \pm 0.08469$$

$$V = 68.7761 \pm 0.0019$$

$$V/V_0 = 0.9240 \pm 0.0000265$$

22/7  
A:33

M 2263022 F0100 - 1700 K, 7.25 MN, 300 sec

$$x = -0.4 \quad y = -1.120 \quad z = -1.35$$

Brγ + PC

22/7  
A:37

M 2263023 MgO 1700 K, 7.25 MN, 150 sec

$$x = -0.4 \quad y = -1.120 \quad z = -1.55$$

$$-1.370$$

$$P = 24.03570$$

$$\pm 0.09304$$

$$V = 68.81959 \pm 0.0285$$

$$V/V_0 = 0.921498$$

$$\pm 0.000382$$

22/7  
A:42

M 2263024 F070 - 1700 K, 7.25 MN, 300 sec

$$x = -0.4 \quad y = -1.120 \quad z = -1.65$$

Brγ + PC + st

22/7  
A:50

M 2263025 MgO 1700 K, 7.25 MN, ~~300 sec~~ 150 sec

$$x = -0.4 \quad y = -1.370 \quad z = -1.55$$

22.95(9) , (222), (1420)



M2263 026

MgO, 1700K, 7.25 MN, 150 sec,  
 $x = -0.4$ ,  $y = -1.37$ ,  $z = -1.65$ 

$$P = 24.00728 \pm 0.13409 \text{ GPa}$$

$$V = 68.828312 \pm 0.041161 \text{ Å}^3$$

$$V/V_0 = 0.921615 \pm 0.000551$$

$$a = 4.098161 \pm 0.00081 \text{ Å}$$

2385(9)

5:08

M2263 027

MgO, 1700K, 7.25 MN, 300 sec  
 $x = -0.4$ ,  $y = -1.37$ ,  $z = -1.65$ 

2391(7)

Time	Temp	$V_1$	$I_1$	$R_1$	$P_1$	$V_2$	$I_2$	$R_2$	$P_2$	Stroke
5:12	1428.5	34.22	9.38	3.64	320.6	16.61	16.57	1.00	275.6	9.574

Quench