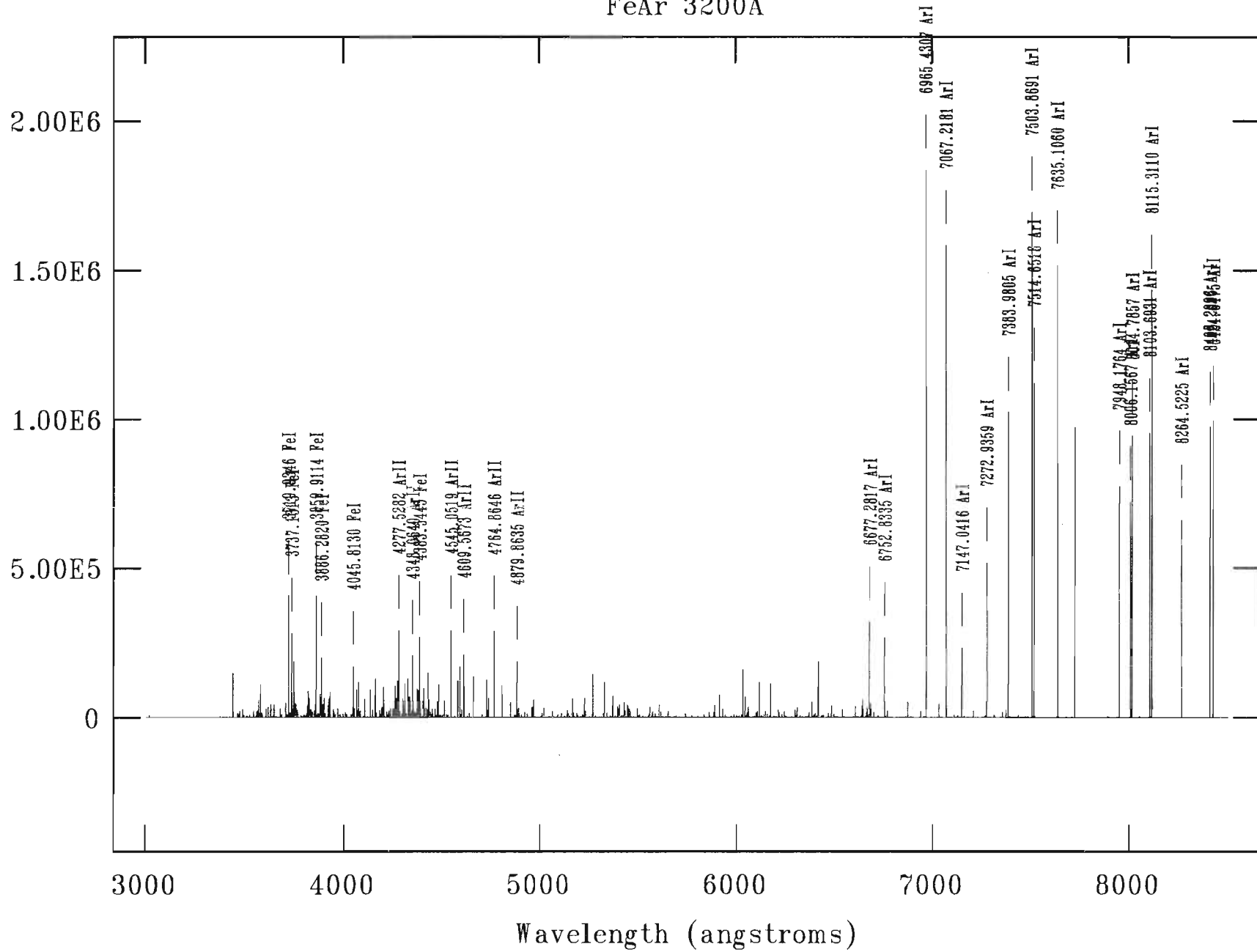


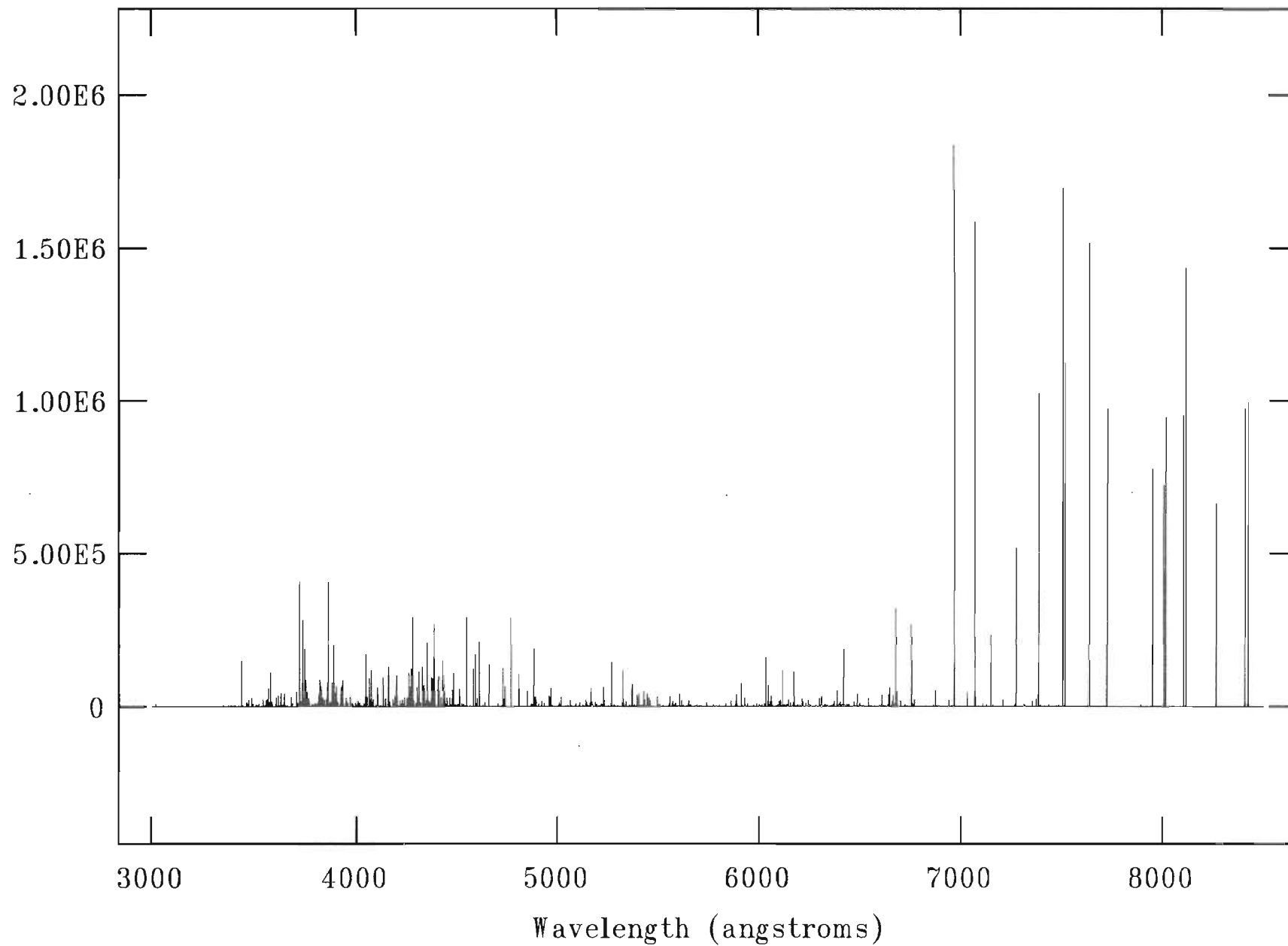
identify output29422 - Ap 1
FeAr 3200A



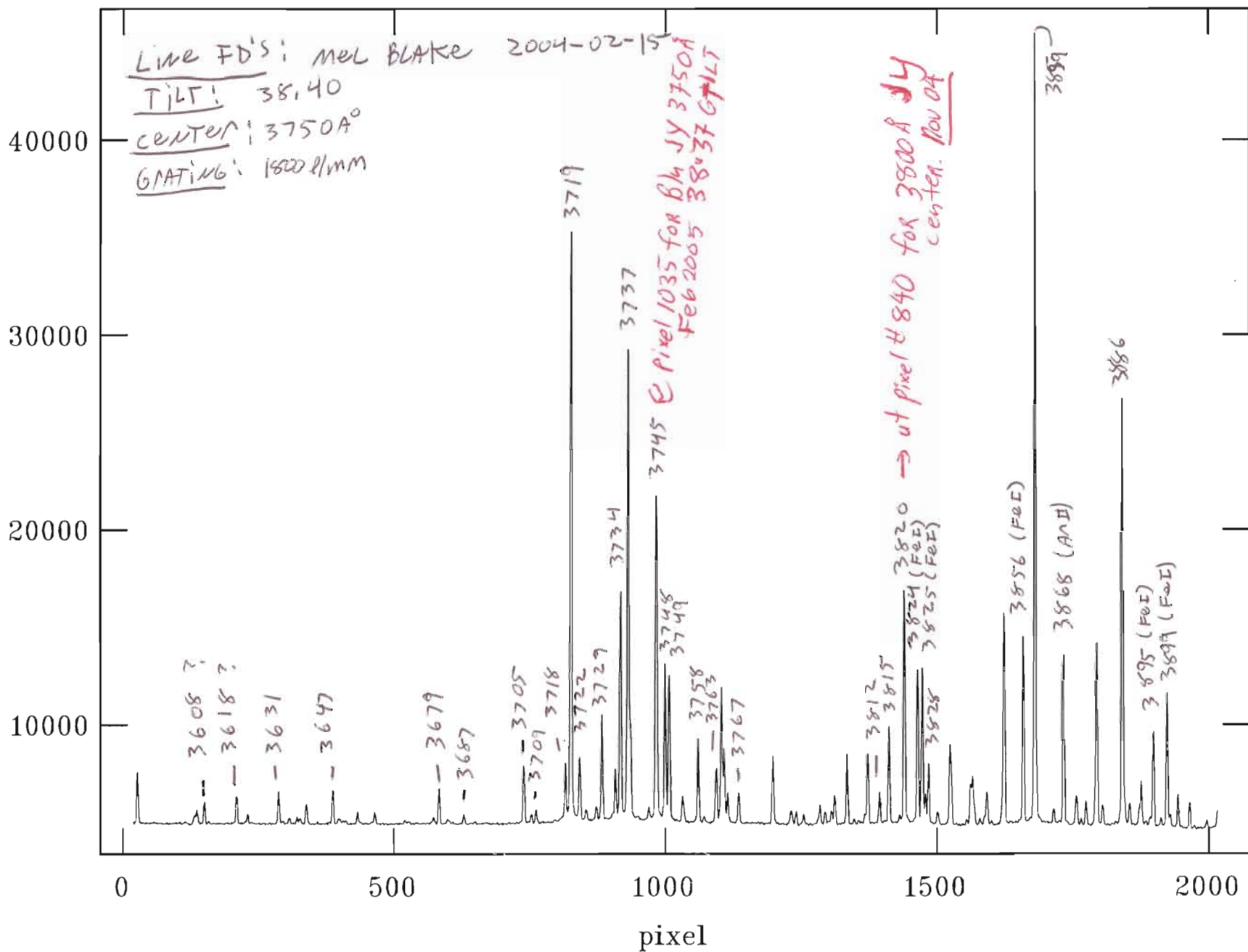
identify output26744 - Ap 1

FeAr 3200A

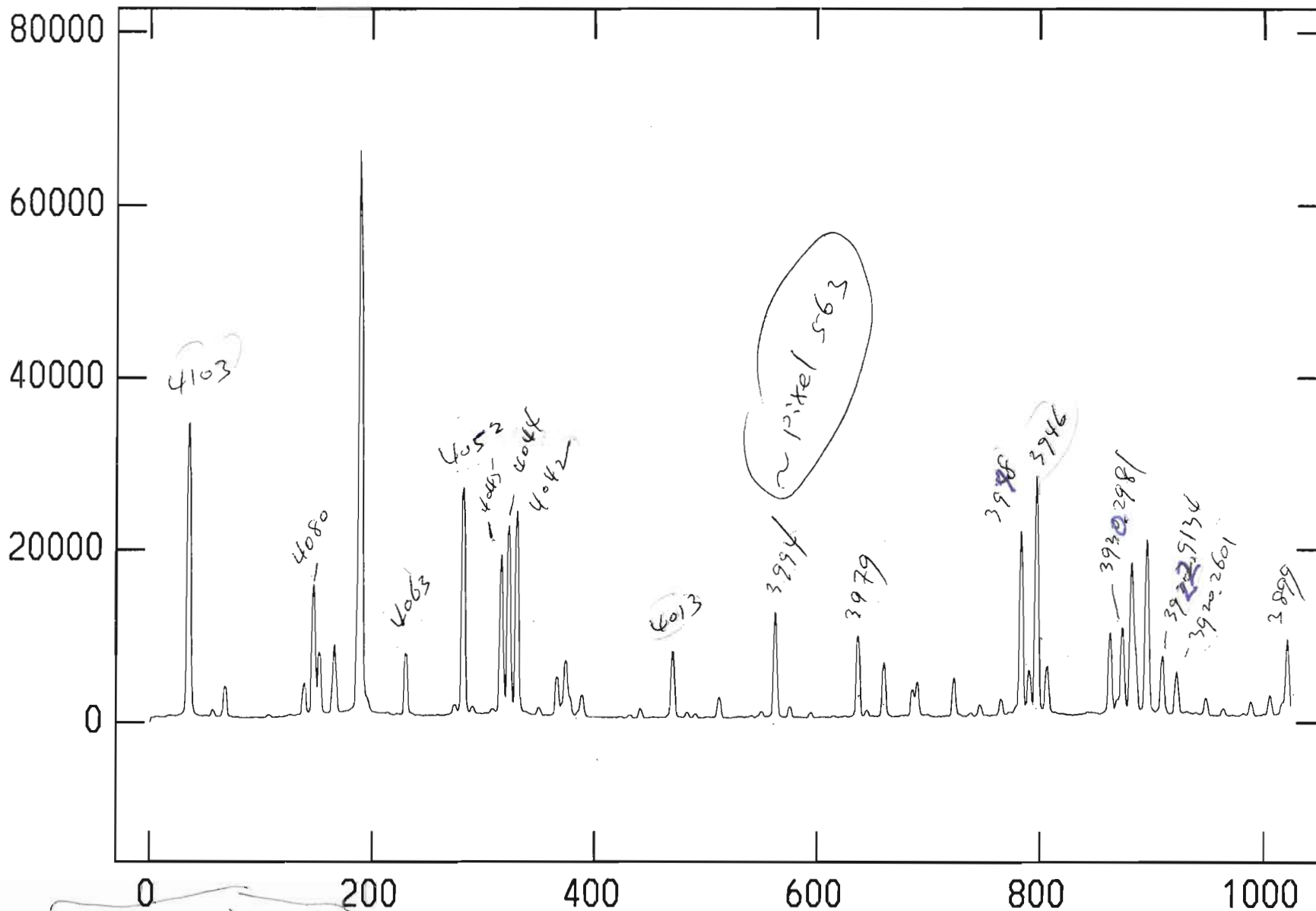
03



04



05

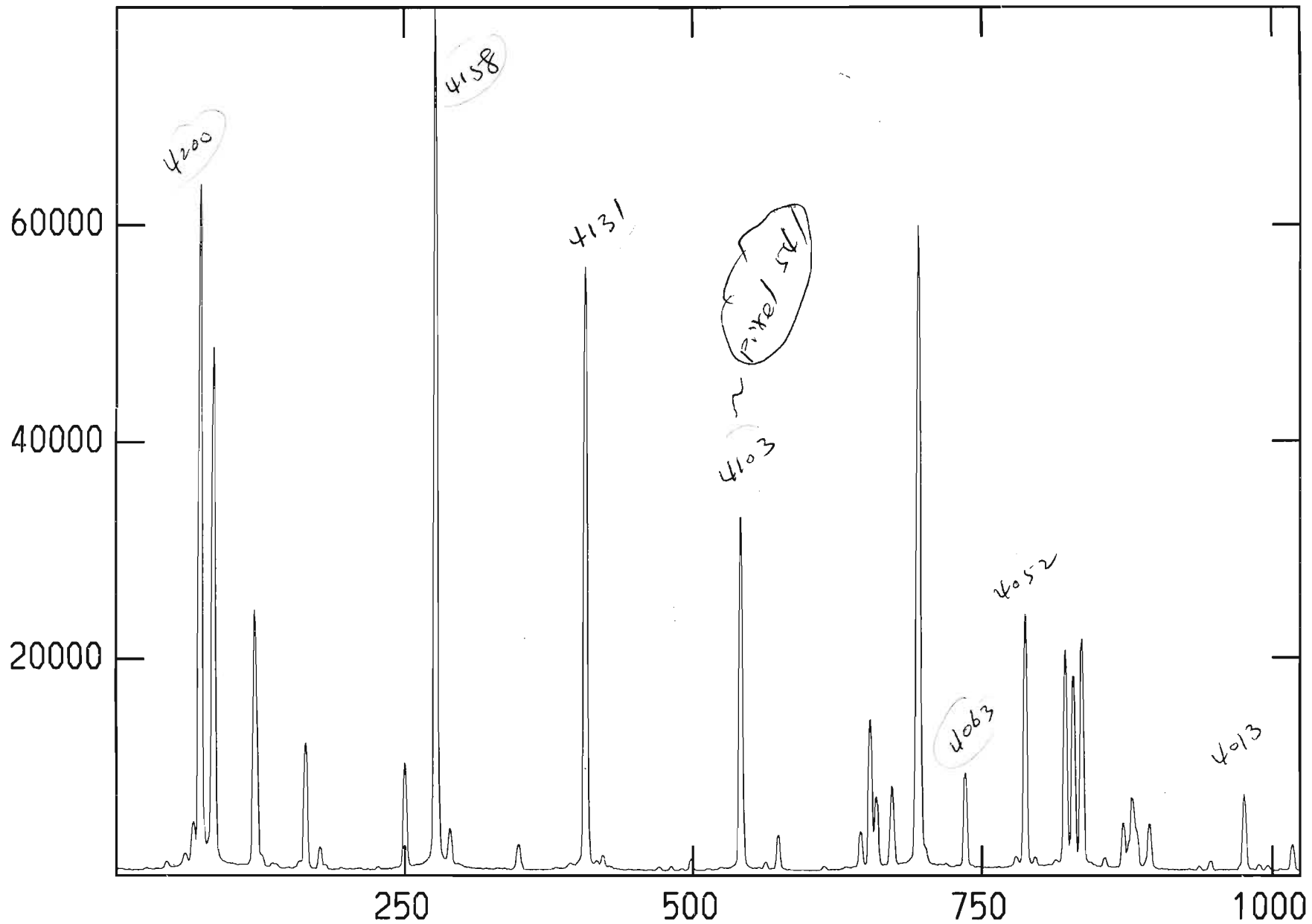


3945 Å ± 2 Å
 @ 39.55° g + 1/4
 July 20/99

Pixel

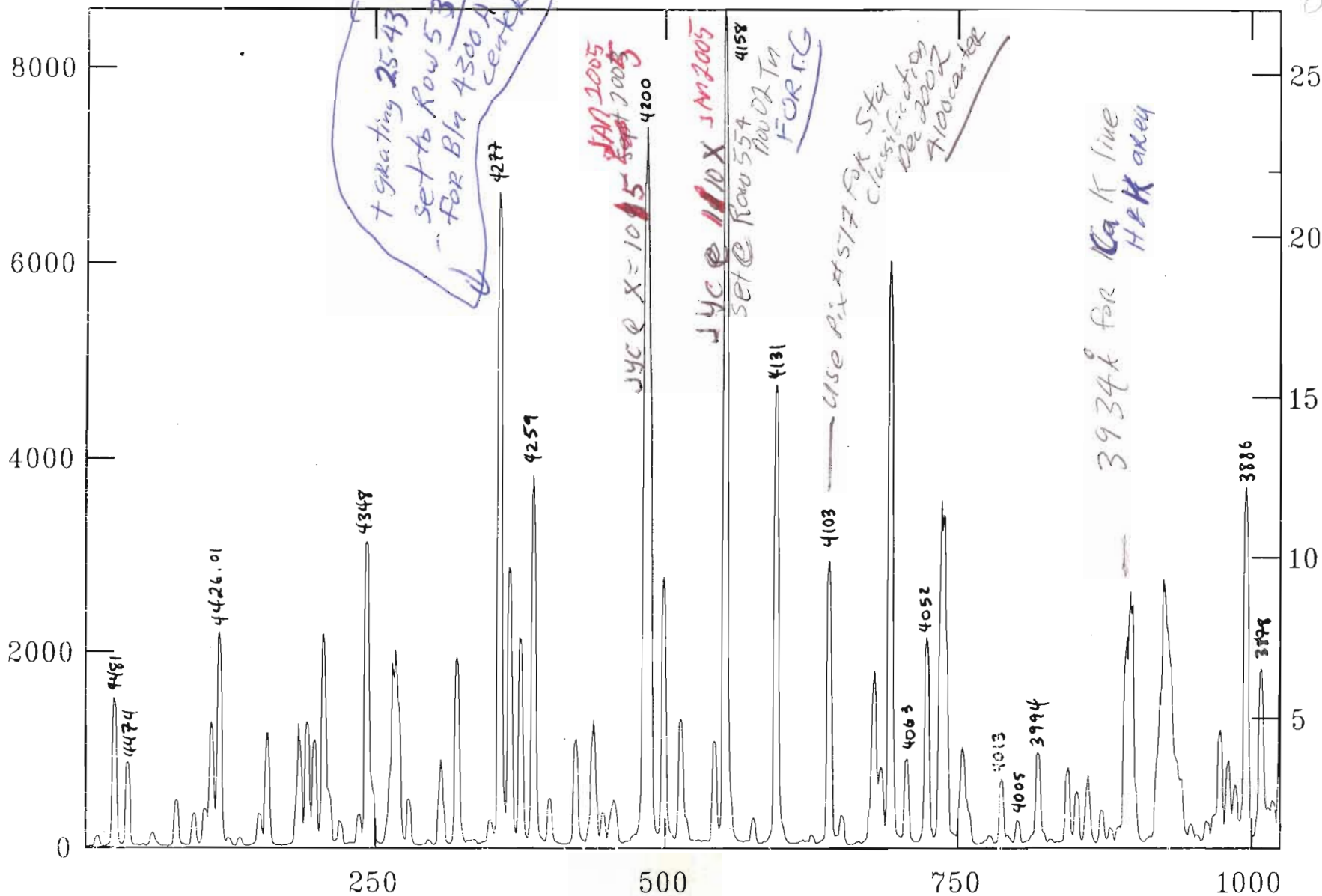
~ 4000 Å center 1800 ln/mm grating % 39.8

06



Column (pixels)

~ 4100 Å center 1800 l/mm + grating 70 40.4

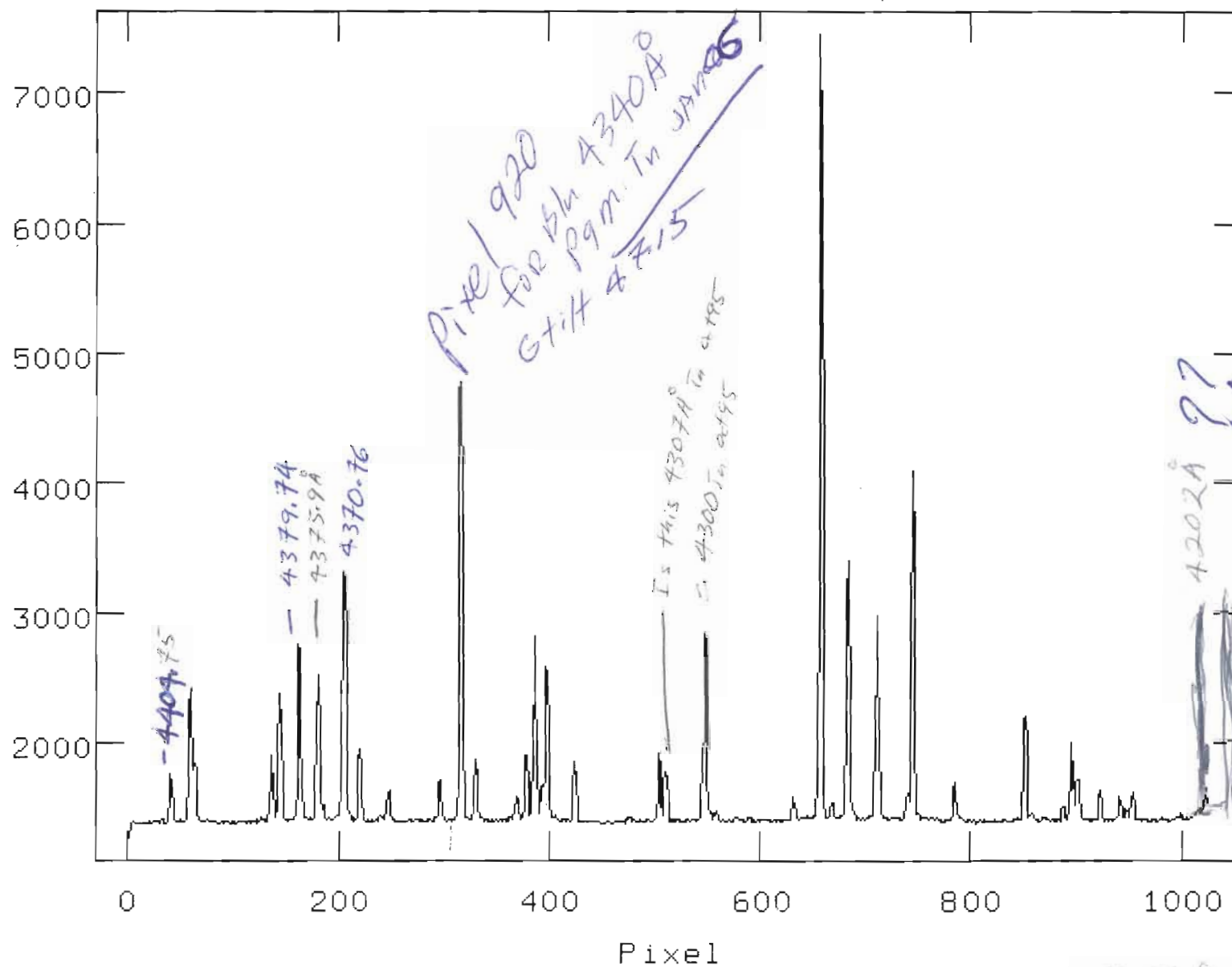


more like 25.20 Feb 13/2001

Line (pixels) 6000 grating @ 25.34 grating Nov 17/99
 FG Ast 2994 setup for 4200 Å

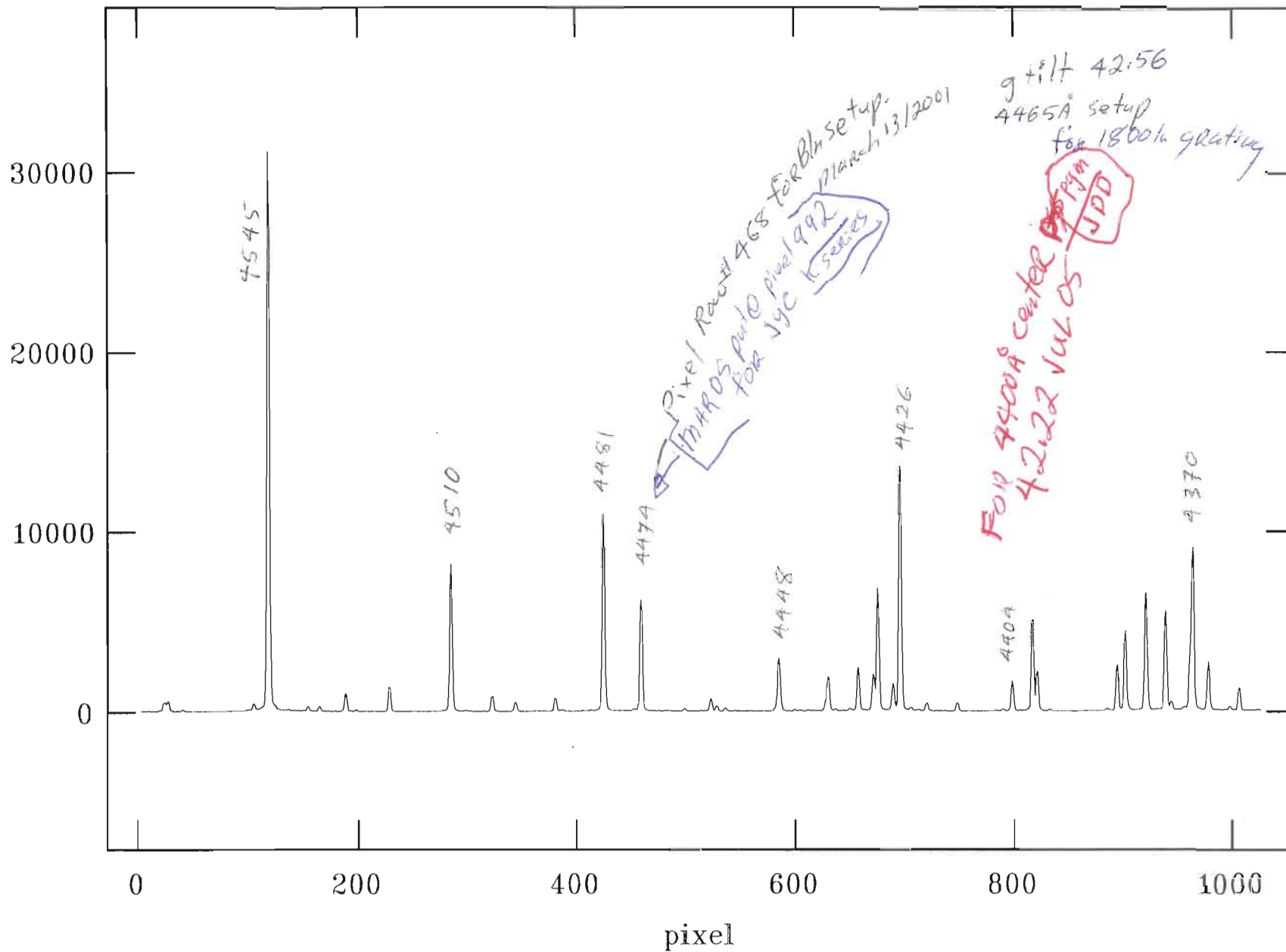
07

NOAO/IRAF V2.10EXPORT jthomson@perseus Sat 00:30:08 01-Oct-94
[cc25739.ms]: FeAr 40.00s ap:1 beam:1

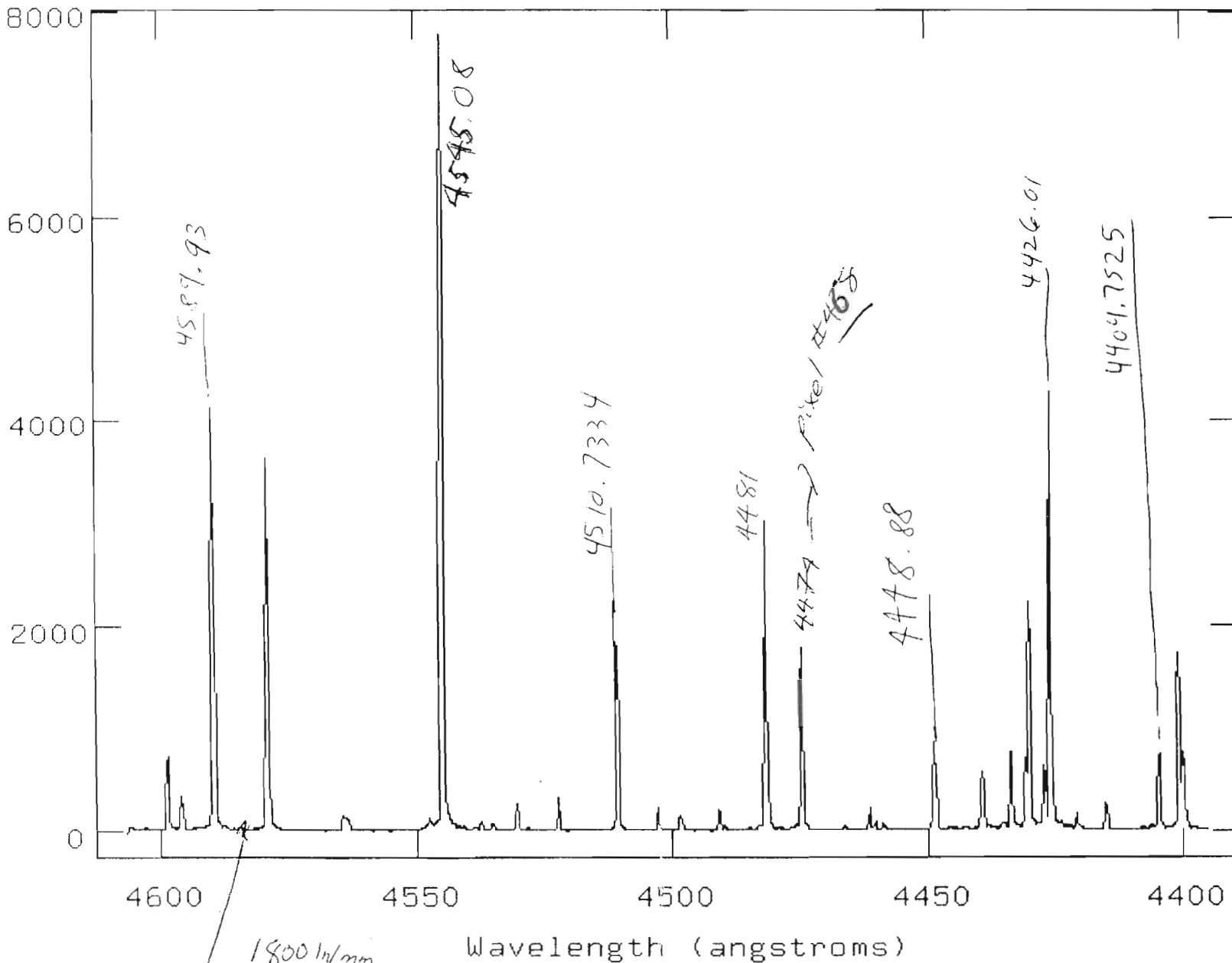


1800ln/mm @4298 Angstroms
G=4446

207 Å Range



4



1800 l/mm

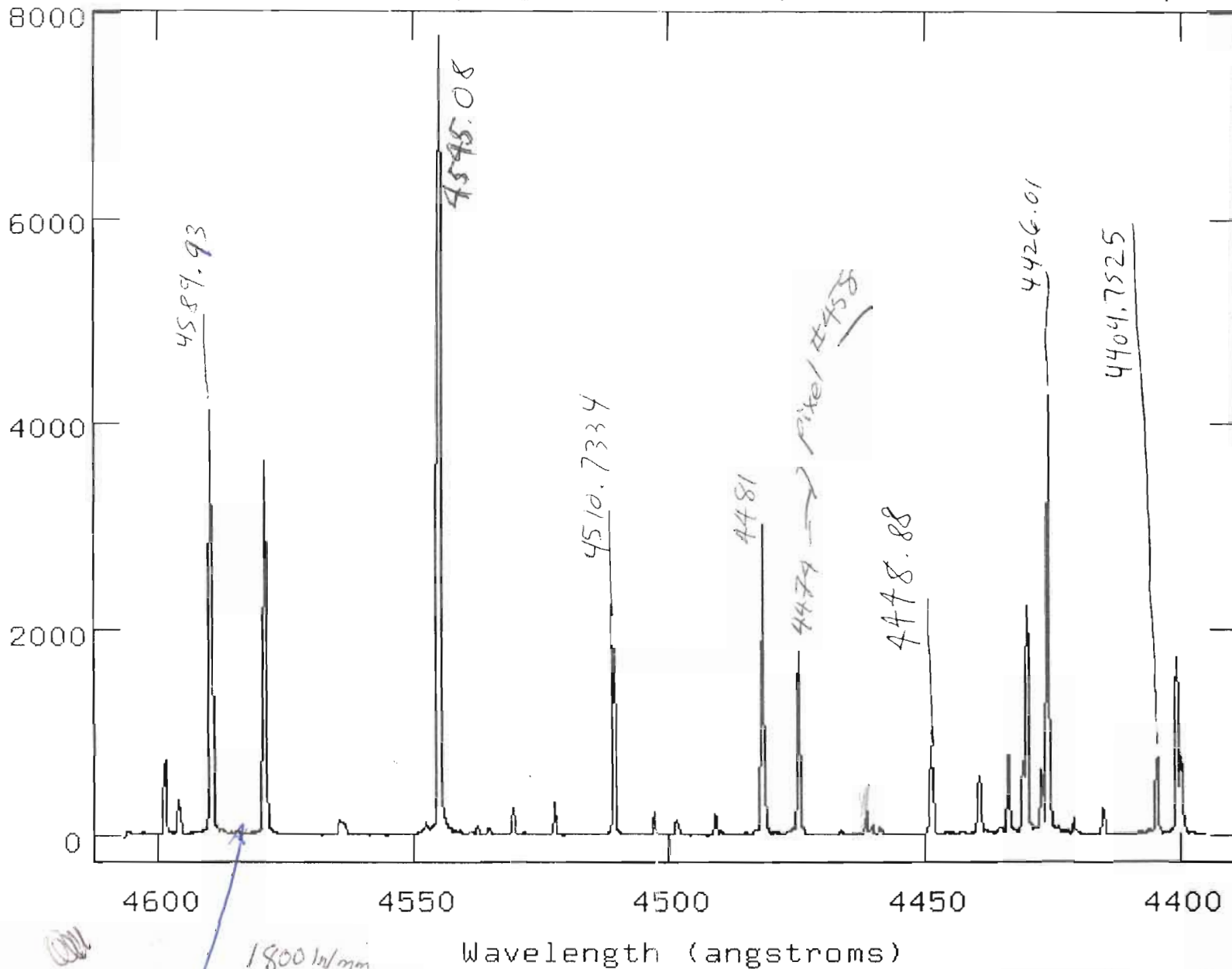
Wavelength (angstroms)

As of 12/24/94 447 [line end of region]
 Center 4450 ± 1 Å Grating ~~4465~~

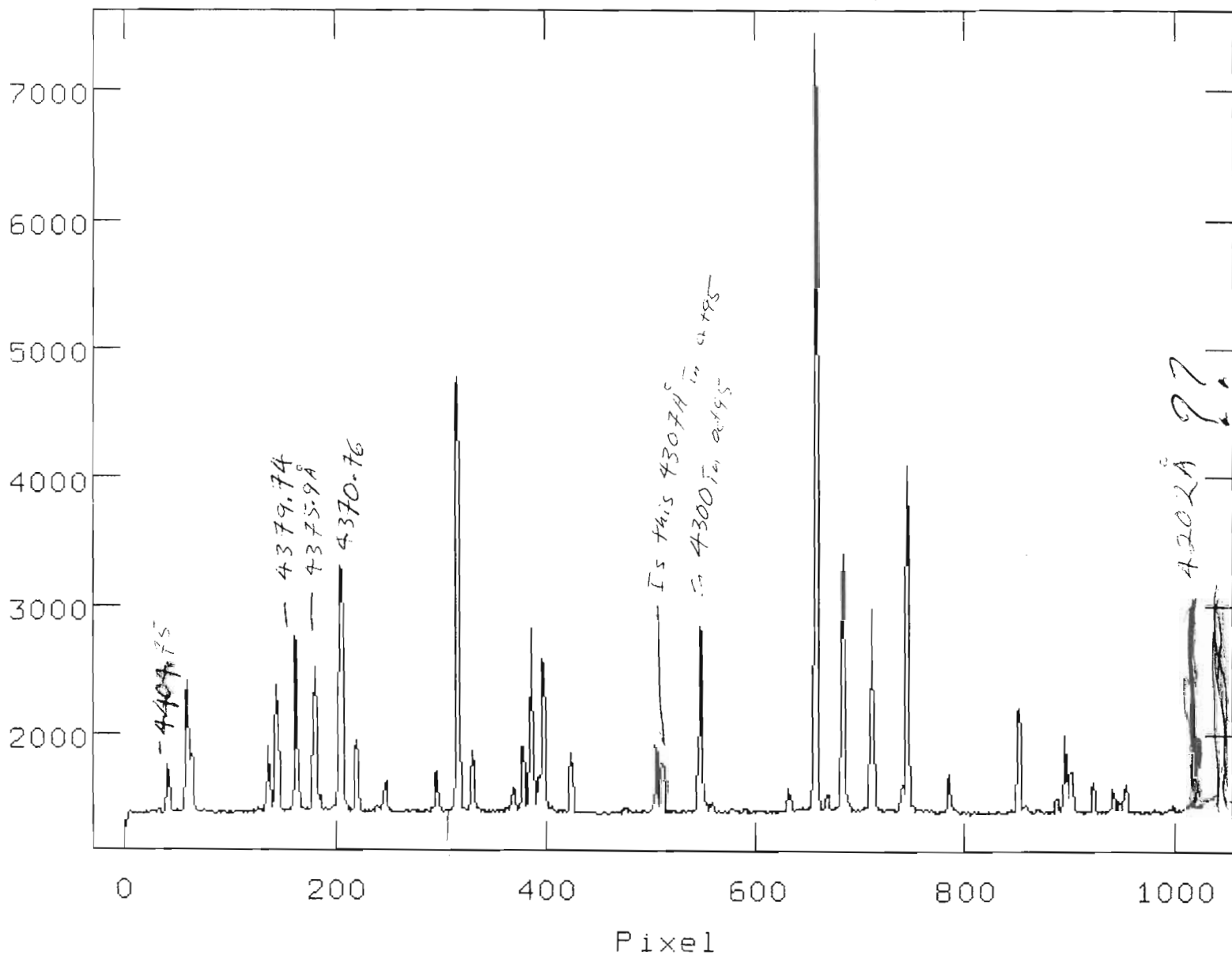
4463 Å = grating 42.50

But Blm wants 4465 Å center ± 5 Å Blueward error preferred.

4



As of ~~MIRA 47~~ (Blue end of region) center ~~4480 ± 1 Å~~ fgrating ~~42.50~~ But Blm wants 4465 Å center ± 5 Å Blueward error preferred.

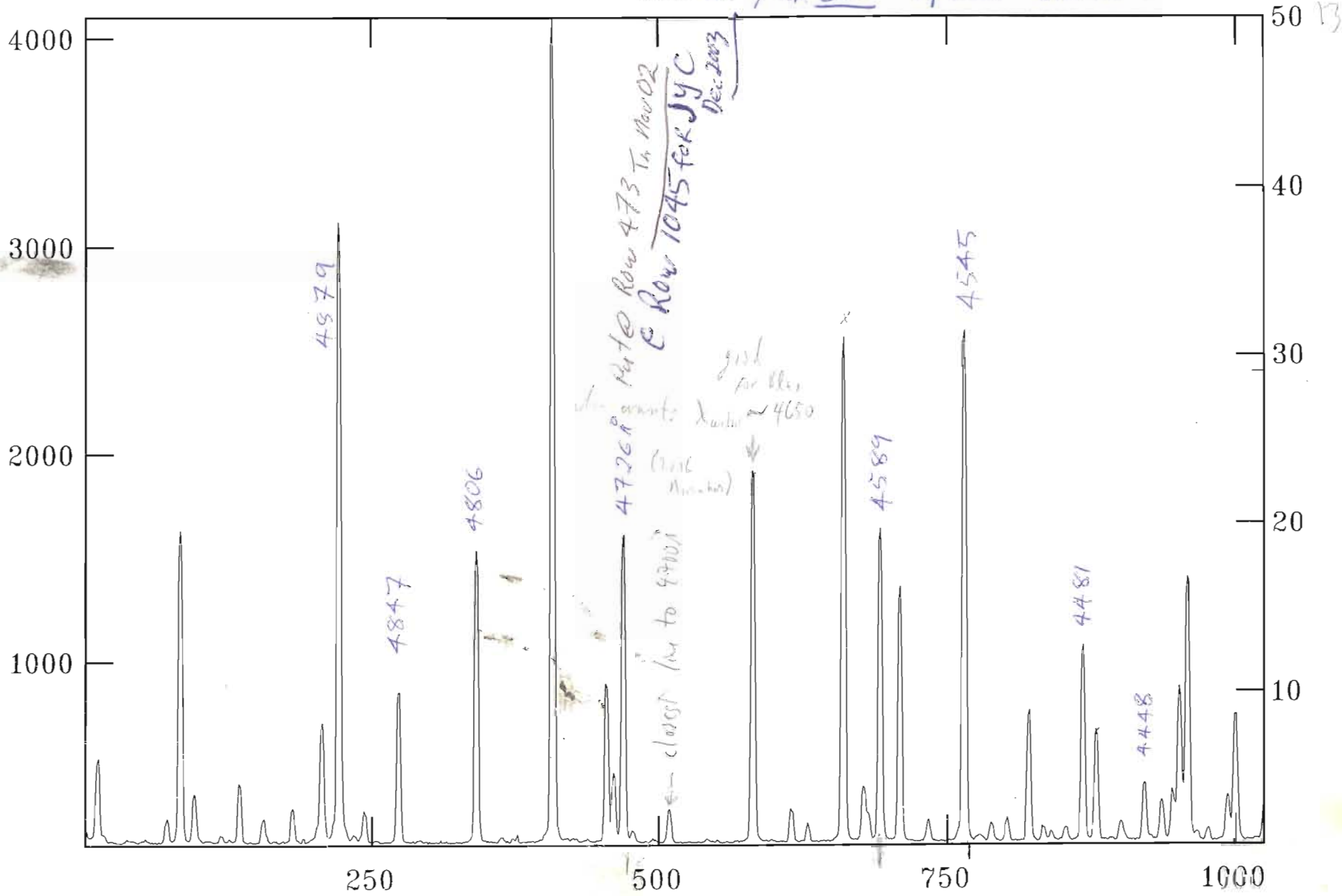


1800ln/mm @4298 Angstroms

G = 4446

207 Å Range

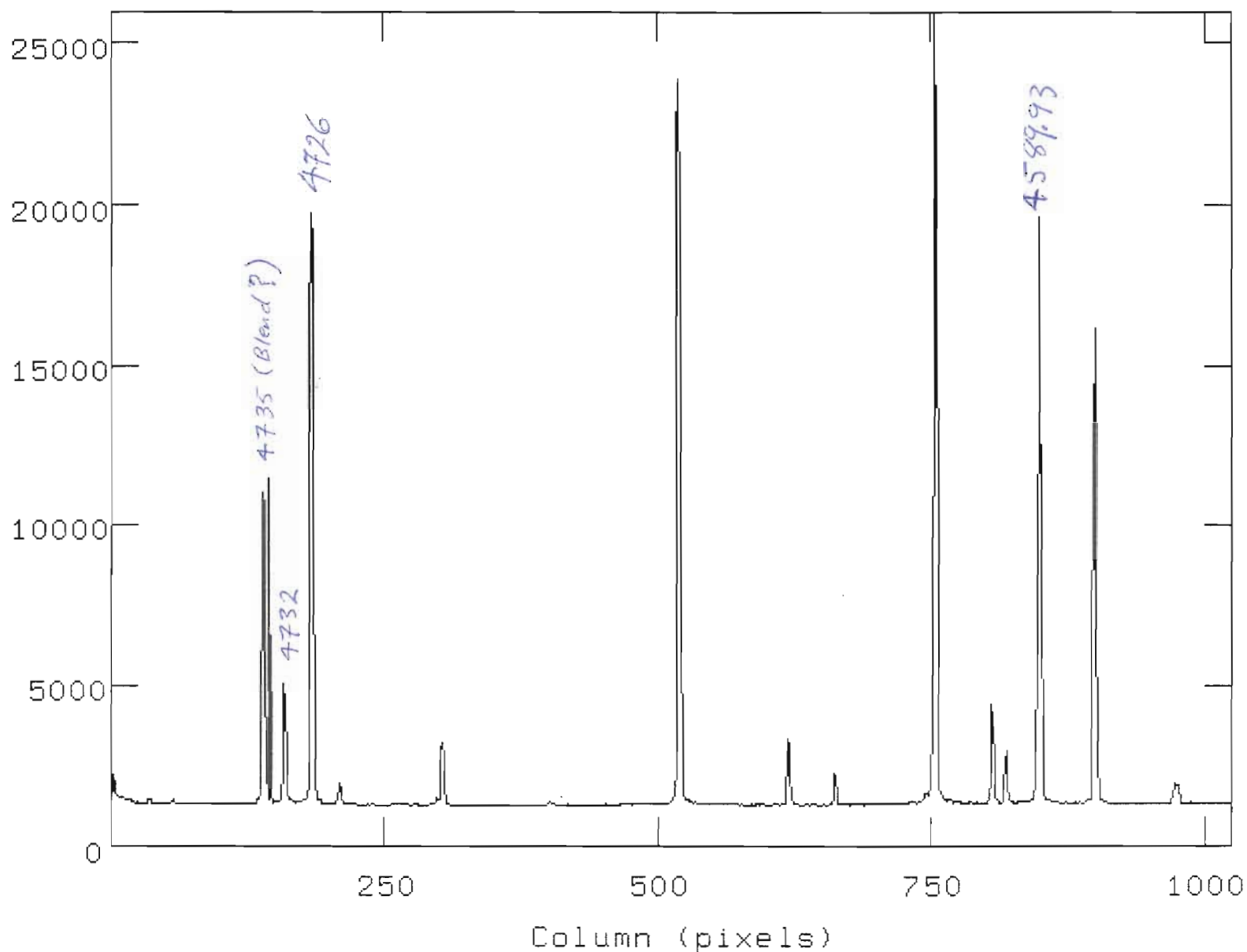
feAr Setup for Gul 4700Å JAN 2000



Line (pixels)

RG 4700Å setup may 2001 600C grating

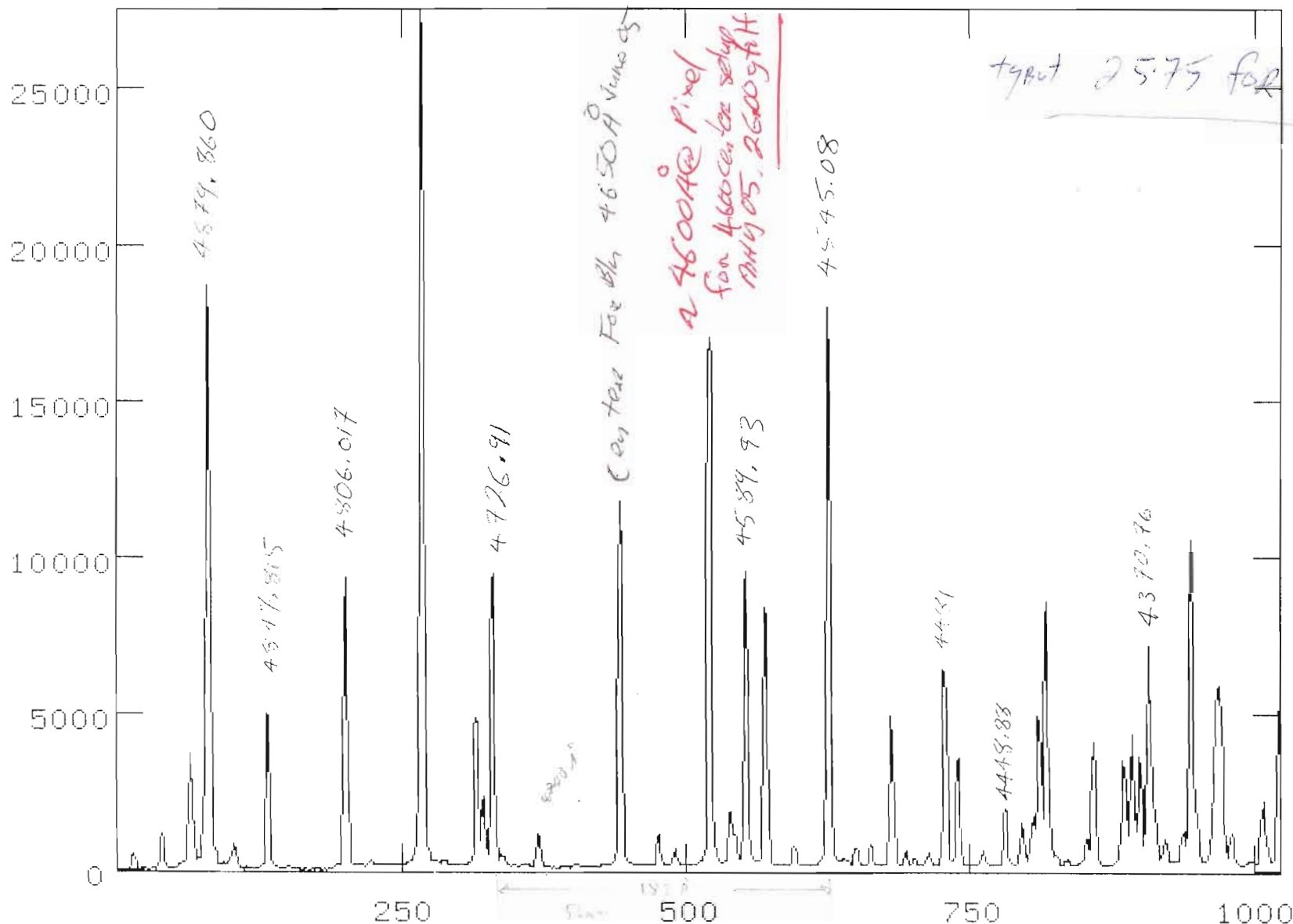
TGRATING 2646 JAN 2000
OK FOR FAYET too "Fay"



1800 ln/mm grating, Center @ 468.8 nm, $G=4680$, tilt=43.95 degs

$G \approx 4700$ as of Feb 16/95

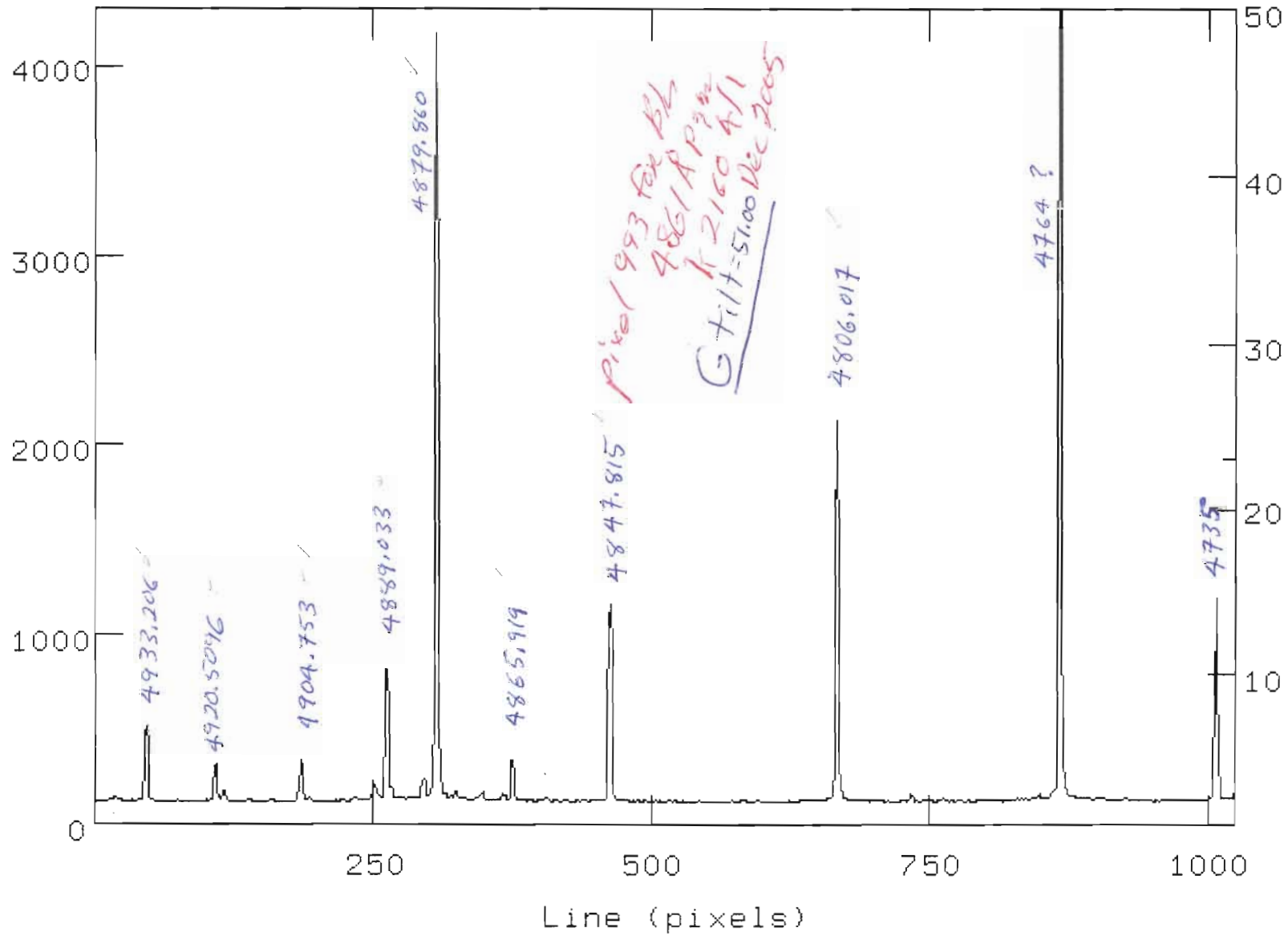
$G = 4713$ @ 468.8 nm on June 2/96



Column (pixels)

JAN 97 600ln/mm 4600 Å center Mn setup
 T grating 90 • degs

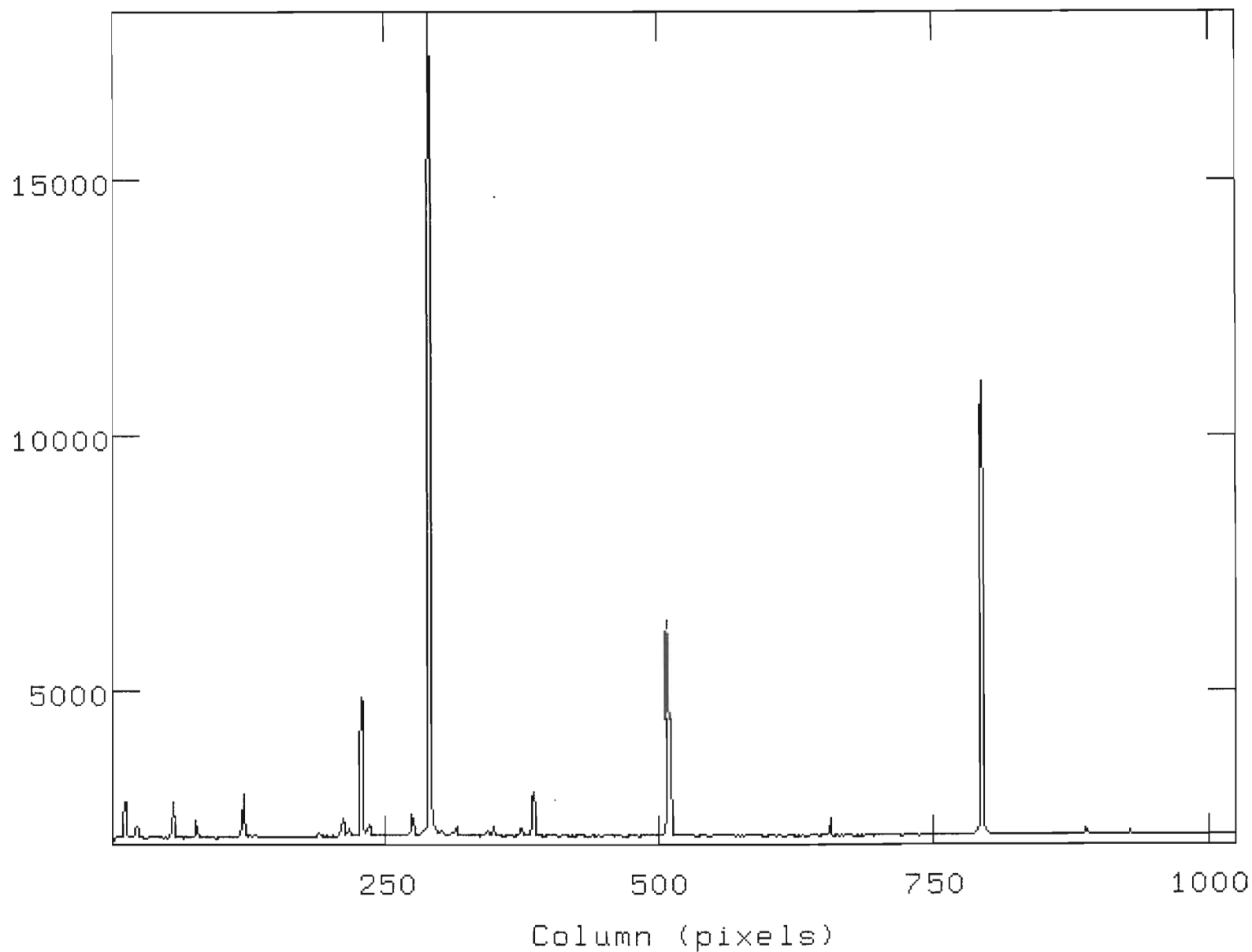
FeAr



1800 ln/mm grating, Center @ 486.1 nm, G=4820, tilt=44.95 degs

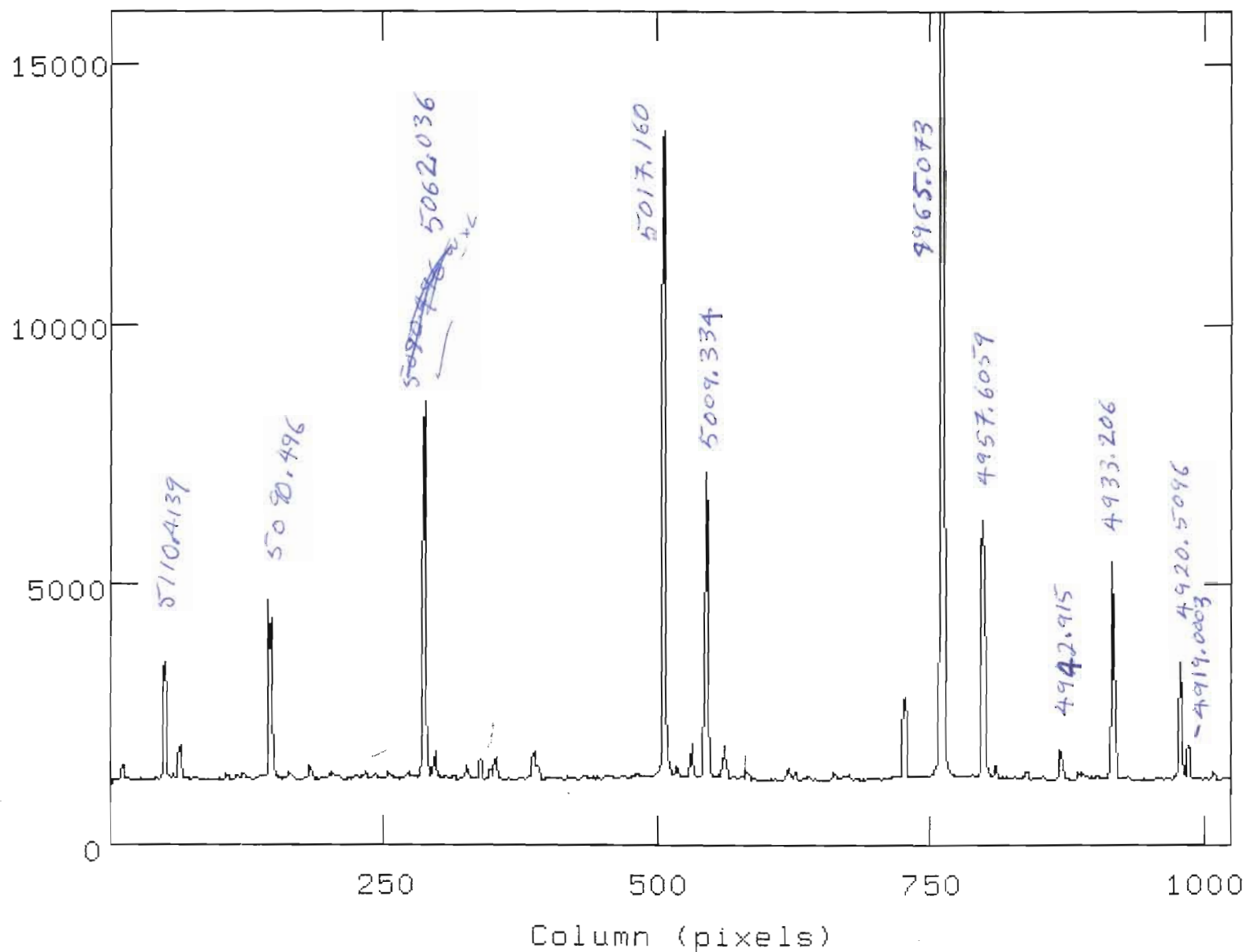
FeAr

16



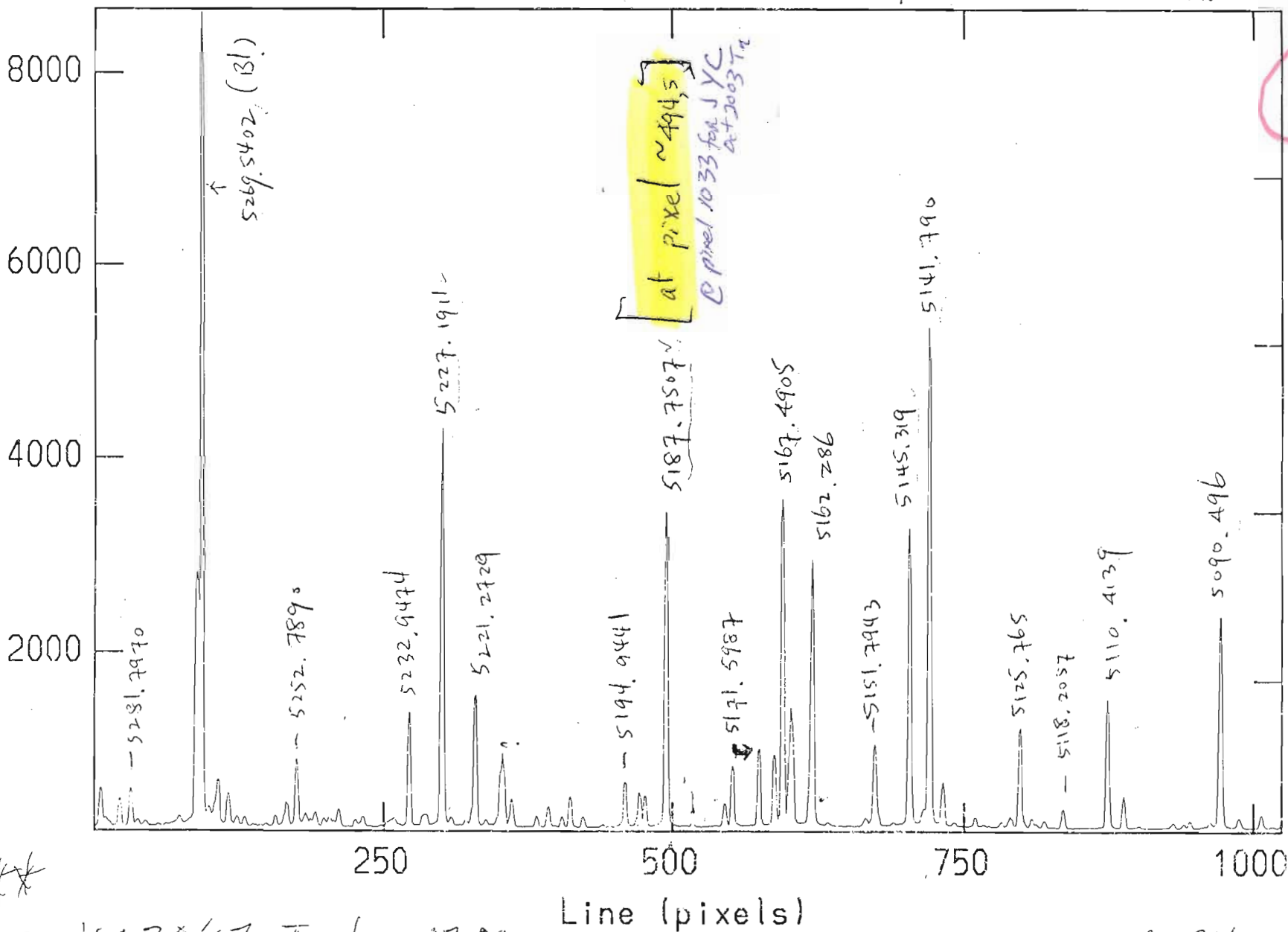
1200 ln/mm 4862 Angs, H Beta, 2nd order, BG39 filter, G=5960

17



1800 ln/mm grating, Center @ 501.6 nm, G=4940, tilt=46.1 degs

NOAO/IRAF V2.10.4EXPORT lu@pe.seus Fri 10:09:57 30-Aug-96
 Average of columns 20 to 30 of 41328
 comp_FeAr 1800 λ /mm @ T = 47.05° WxL 5 84Å Region



5184 Å
 1800 λ /mm

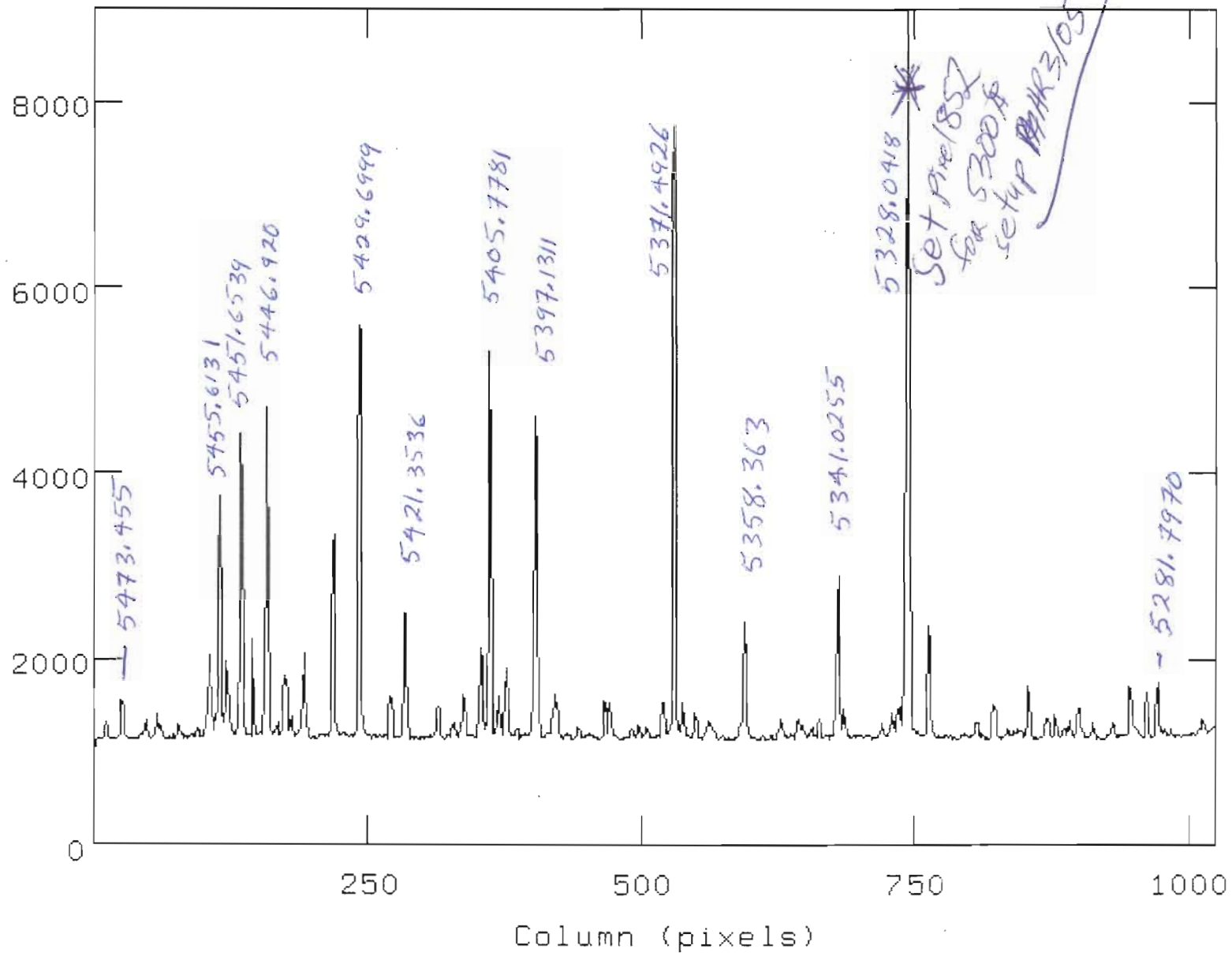
Aug '02
 46.95

change to
 16 row
 movement
 rows = 01

July 99
 5184 Å
 @ 47.00°

MAY 30/97 Tgouting → 47.06
 puts 5182 Å Row 497

now 5212 steps as of Nov 21/96
 46.90 Å Dens



1800 ln/mm grating, Center @ 537.3 nm, G~5190 (Feb95), tilt=48.2 degs

FE-A COMP AT 5. JA

LAB WAVELENGTH

1.242E+04

1.121E+04

Fe I 5167.4905

Fe I 5171.5987

Ar I 5187.7507

Fe I 5194.9441

Fe I 5216.2770

Ar I 5221.2729

Fe I 5227.1911

Fe I 5232.9474

Ar I 5252.7890

BI Fe I 5269.5402

Fe I 5281.7970

Fe I 5283.6283

Ar II 5286.895

Fe I 5302.3023

Ar II 5305.690

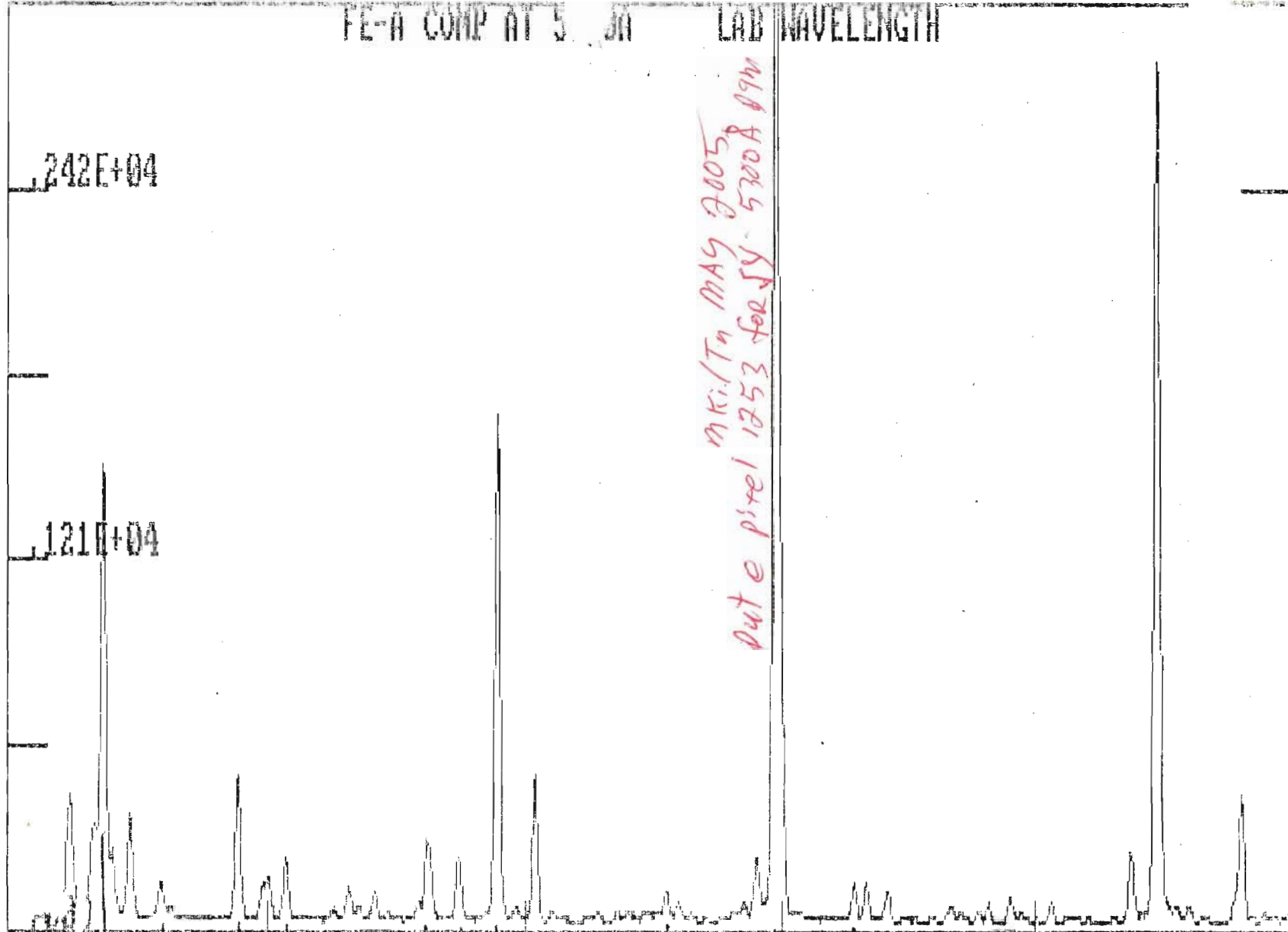
Ar II 5312.002

Fe I 5324.182

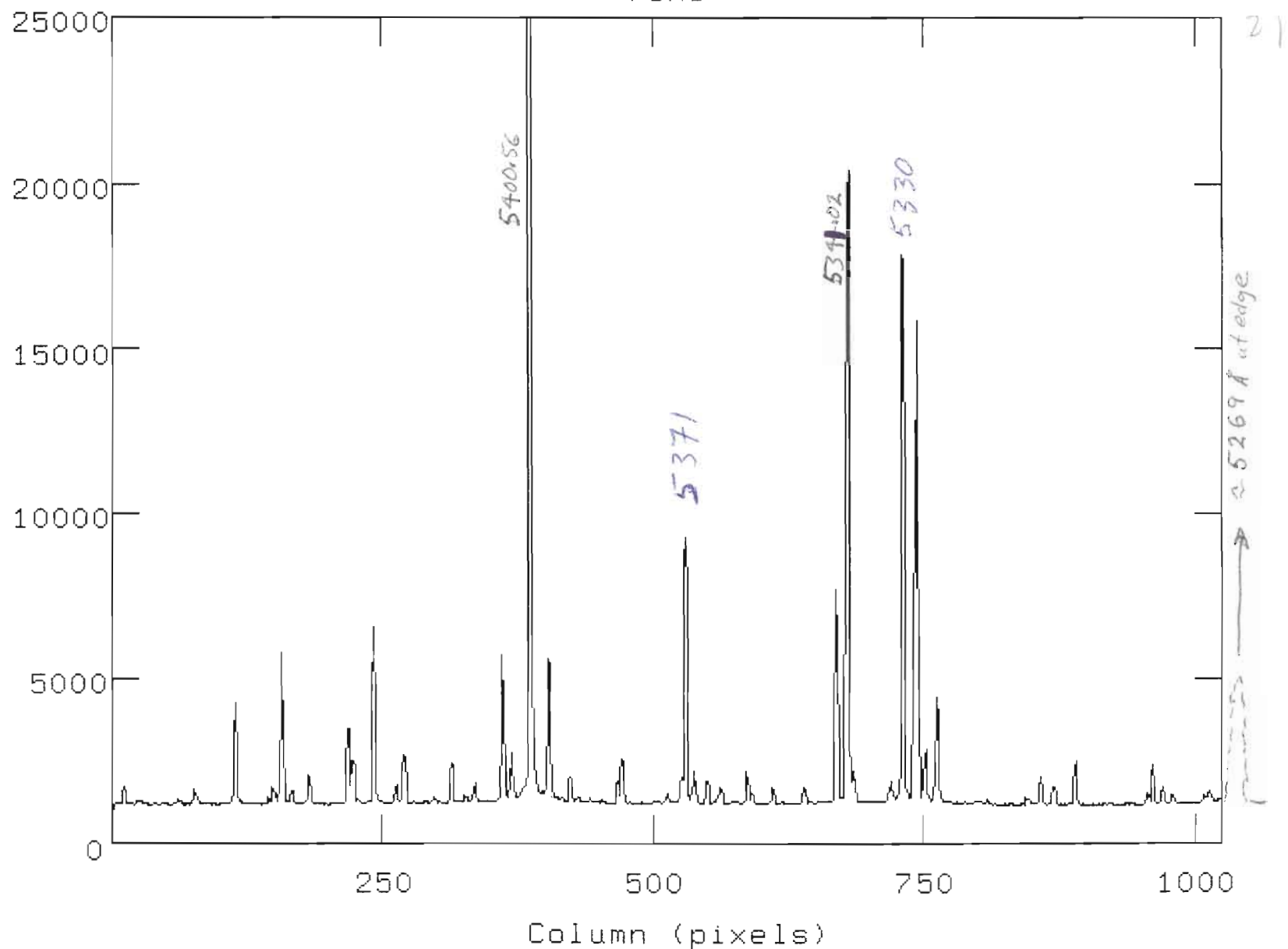
Fe I 5328.0418

Fe I 5341.0255

*MK: TN MAY 2005
put e pixel 1253 for JY. 5300A 09m*



FeNe



1800 ln/mm grating, Center @ 537.3 nm, G~5190 (Feb95), tilt=48.2 degs ■

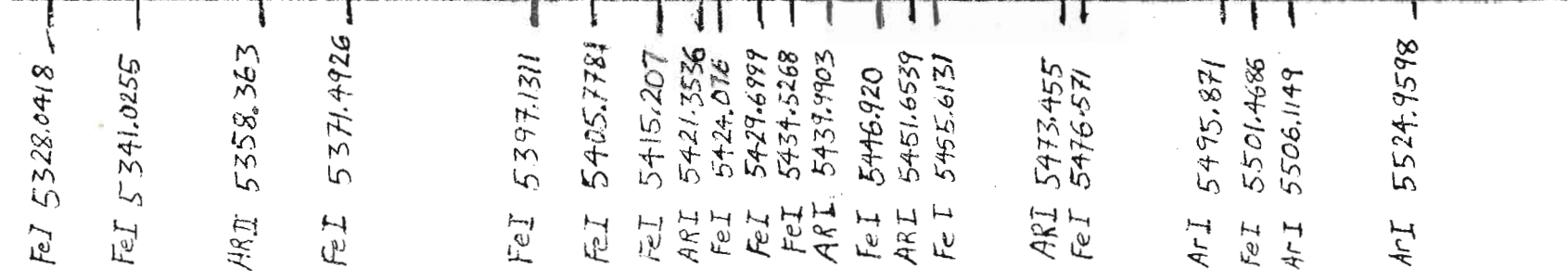
FE-N COMP AT 53

LAB WAVELENGTH

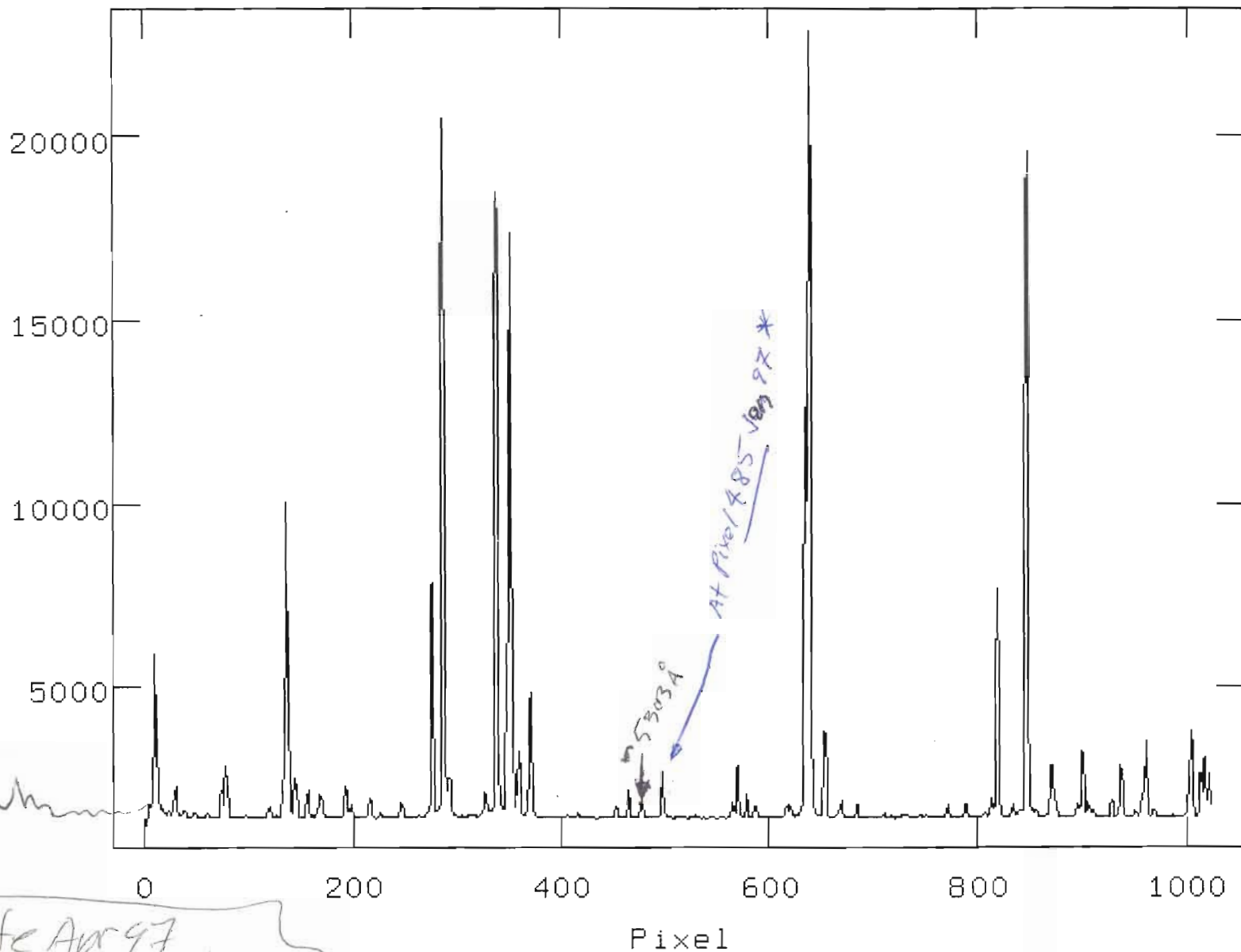
22

.152E+04

762.



NOAO/IRAF V2.10EXPORT jthomson@perseus Sat 00:25:40 01-Oct-94
 [cc25971.ms]: FeNe 20.00s ap:1 beam:1



*
 +grating
 % 47.55
 as of JAN 18/97
 5372 real
 center

5305 Å @
 G = 5160
 Jan 3/4 1996

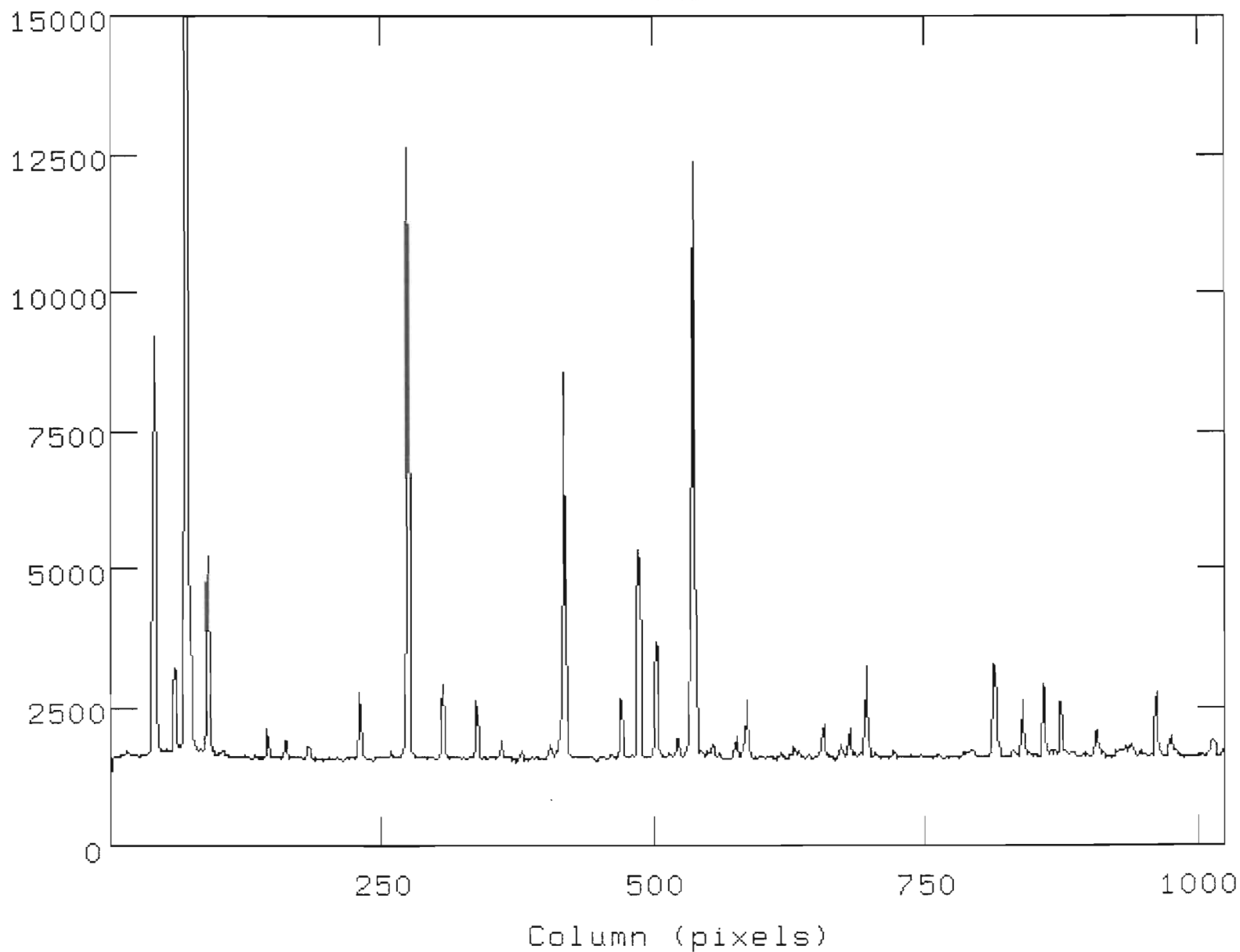
5400 ->
 very bright.

Note Apr 97
 47.56 ideal with
 ± 512 center @ 5298 Å
 * 47.75 June 27/97

Pixel
 1800ln/mm 5303 Angstrom center
 ↑
 not really.

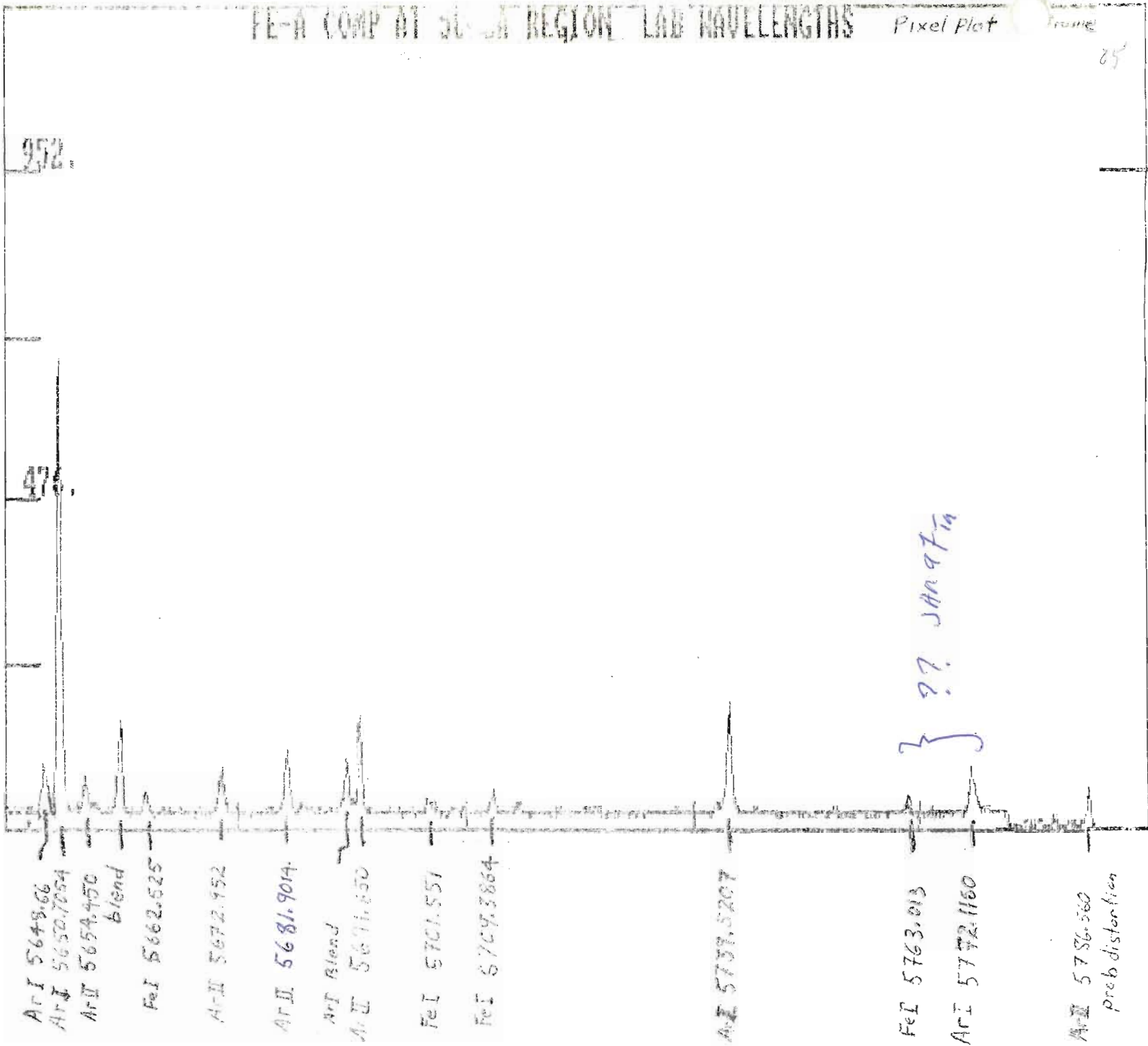
G = 5115
 G = 5140 as of Feb 16/95
 To get 5400 Region Too
 Tilt 47.75

FeNe

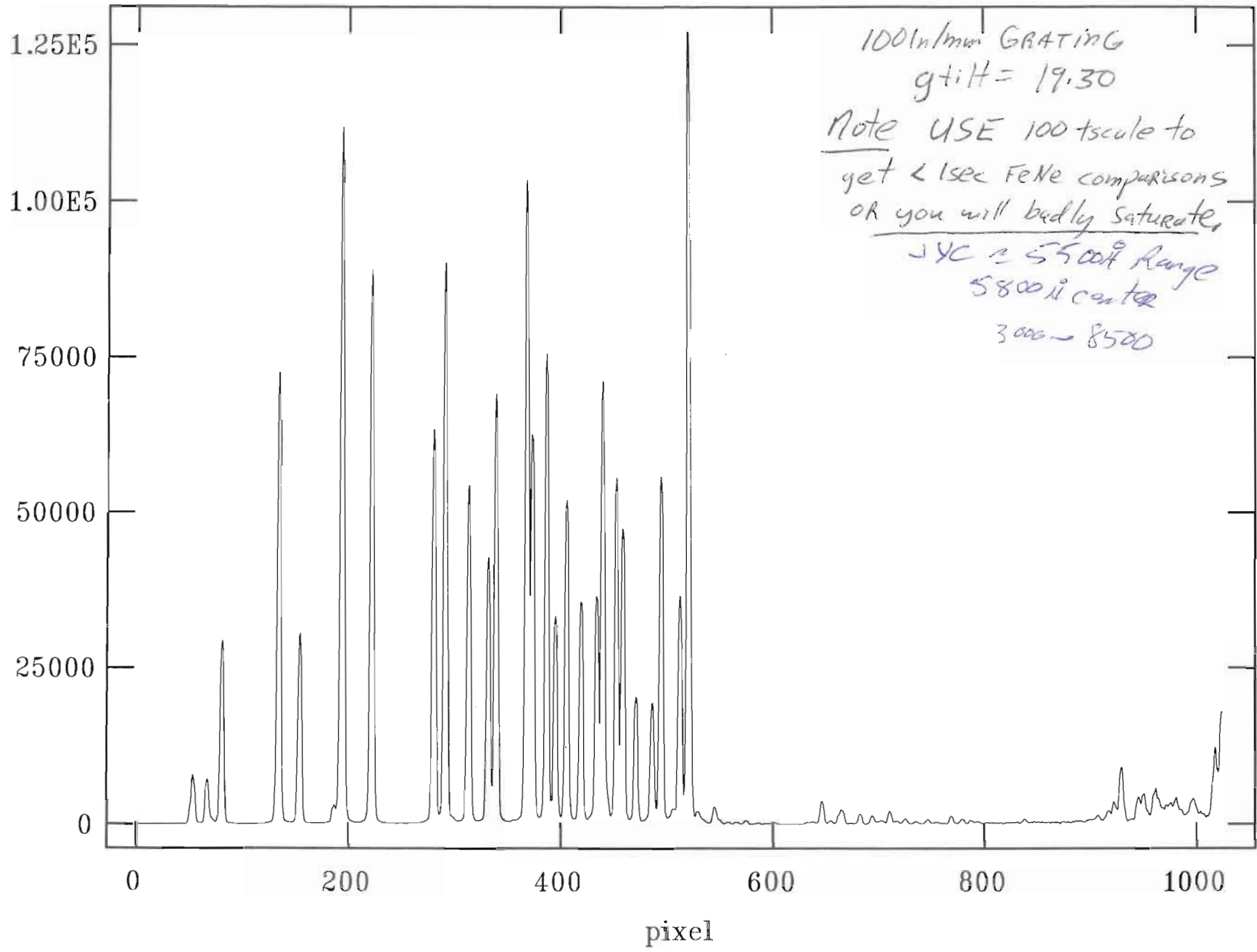


24

1800 ln/mm grating, Center @ 556.8 nm, G=5323, tilt=49.7 degs



[C0021870.0001]: FeNe 0.2 ap:1 beam:1 FAINT object setup

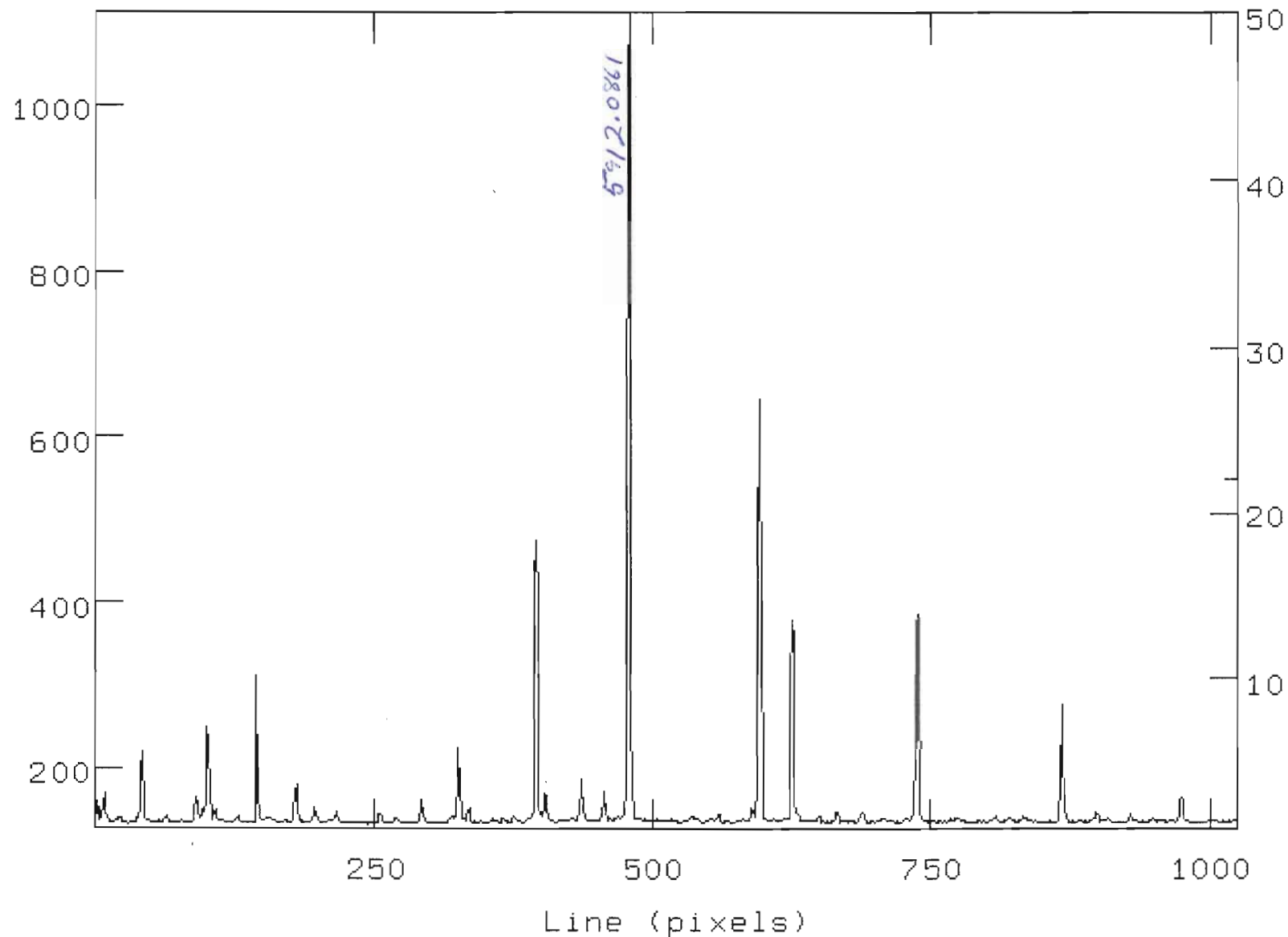


1001mm GRATING
gtilt = 19.30
Note USE 100 tscale to
get < 1sec FeNe comparisons
OR you will badly saturate
Δλ ≈ 5500 Å Range
5800 Å center
3000 - 8500

GRBs?
SN etc
28 5800 Å

NOAO/IRAF V2.10EXPORT jthomson@perseus Thu 05:10:34 27-Oct-94
Average of columns 22 to 33 of cc26326

FeAr

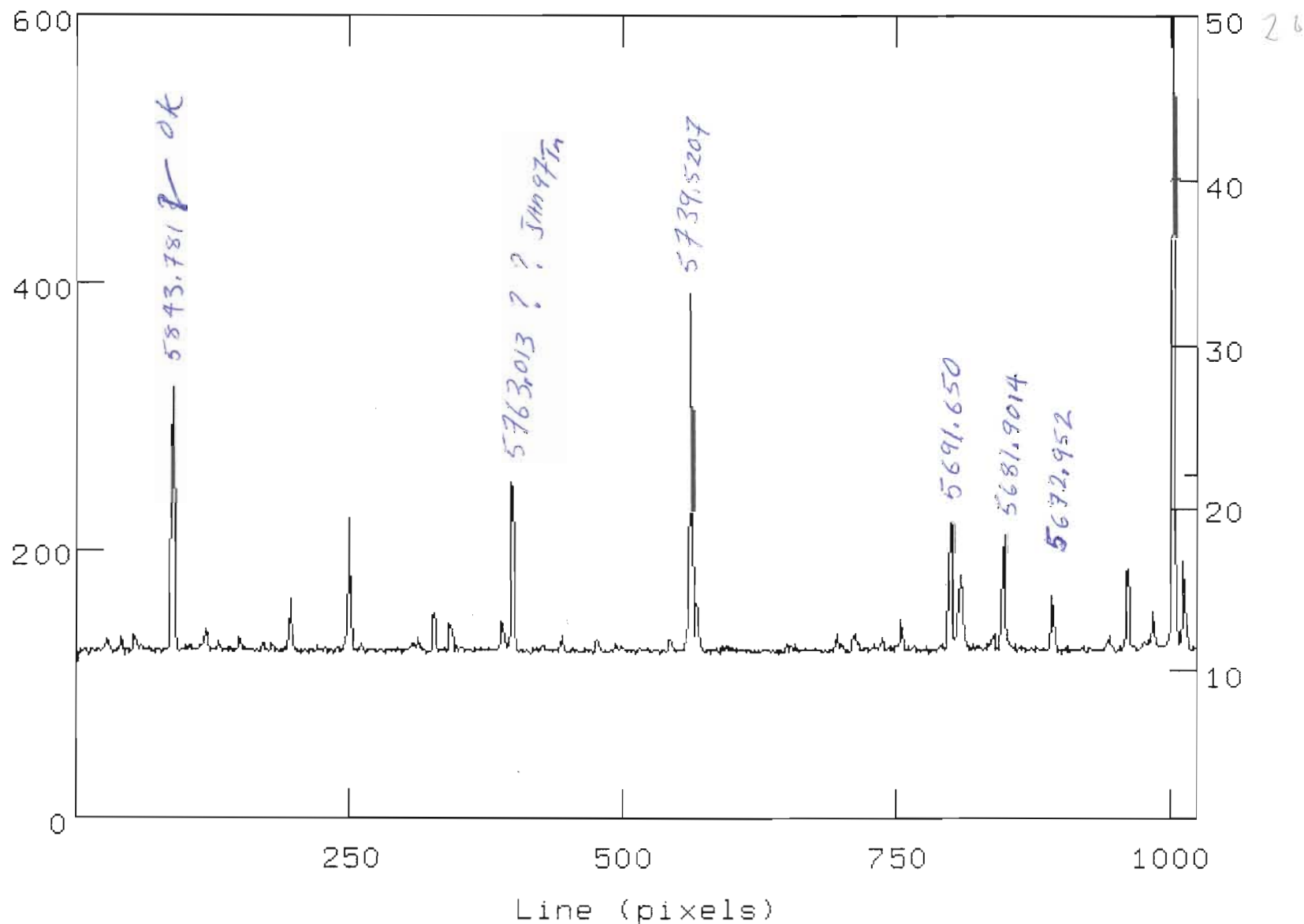


1800 ln/mm 5890 Angstroms G=5545

5567 → 5892 Å

NOAO/IRAF V2.10EXPORT jthomson@perseus Wed 01:21:17 19-Apr-95
Average of columns 22 to 27 of cc30877

FeAr



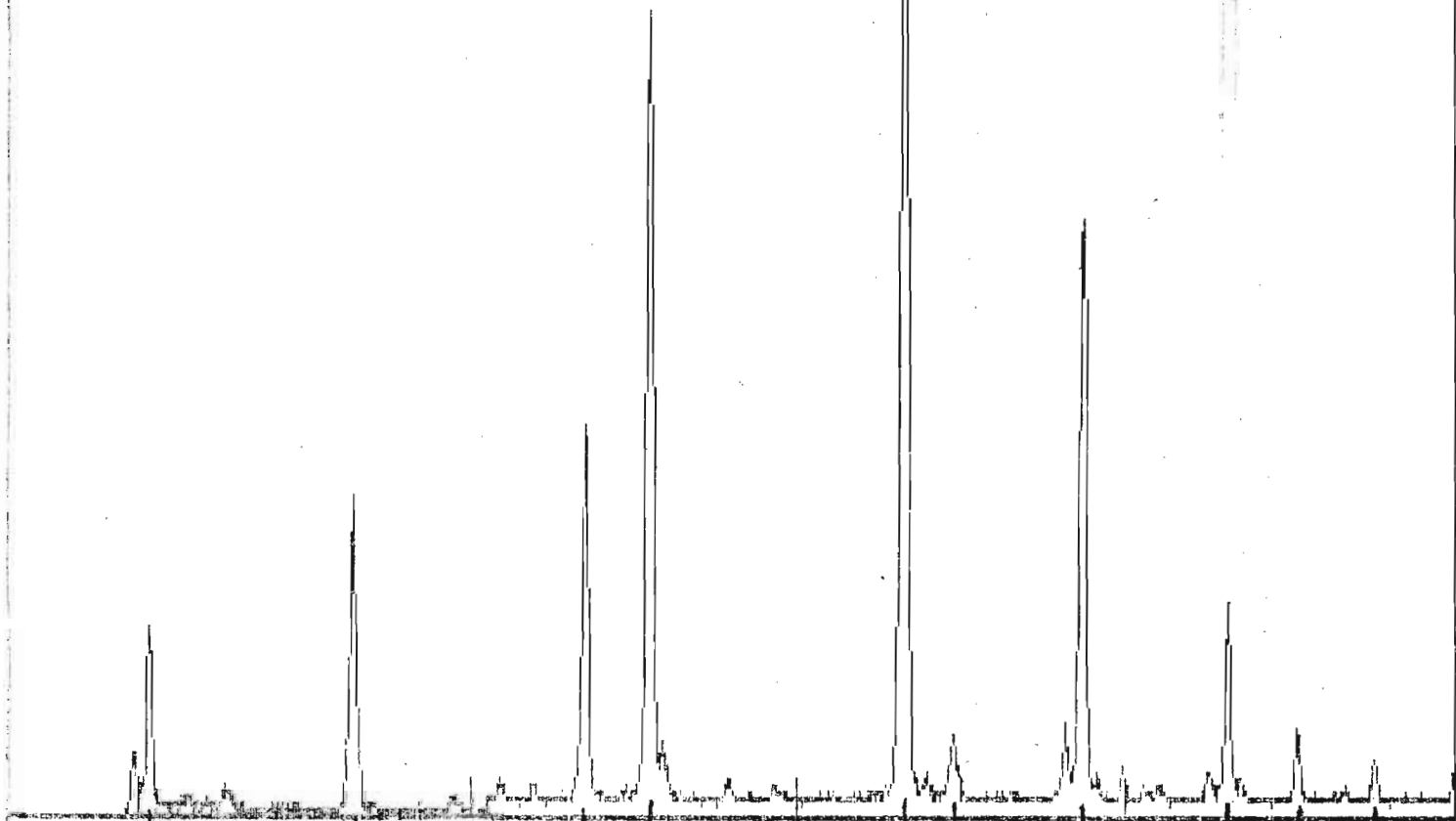
1800 ln/mm grating, Center @ 574.9 nm, G=5454, tilt=50.8 degs

FE-A COMP AT 5800A

ION LAB WAVELENGTHS

PIXEL PLOT Full ne

27



? ArI 5843.781

ArI 5860.3118

ArI 5882.6250

ArI 5888.5851

ArI 5912.0861

ArI 5916.58

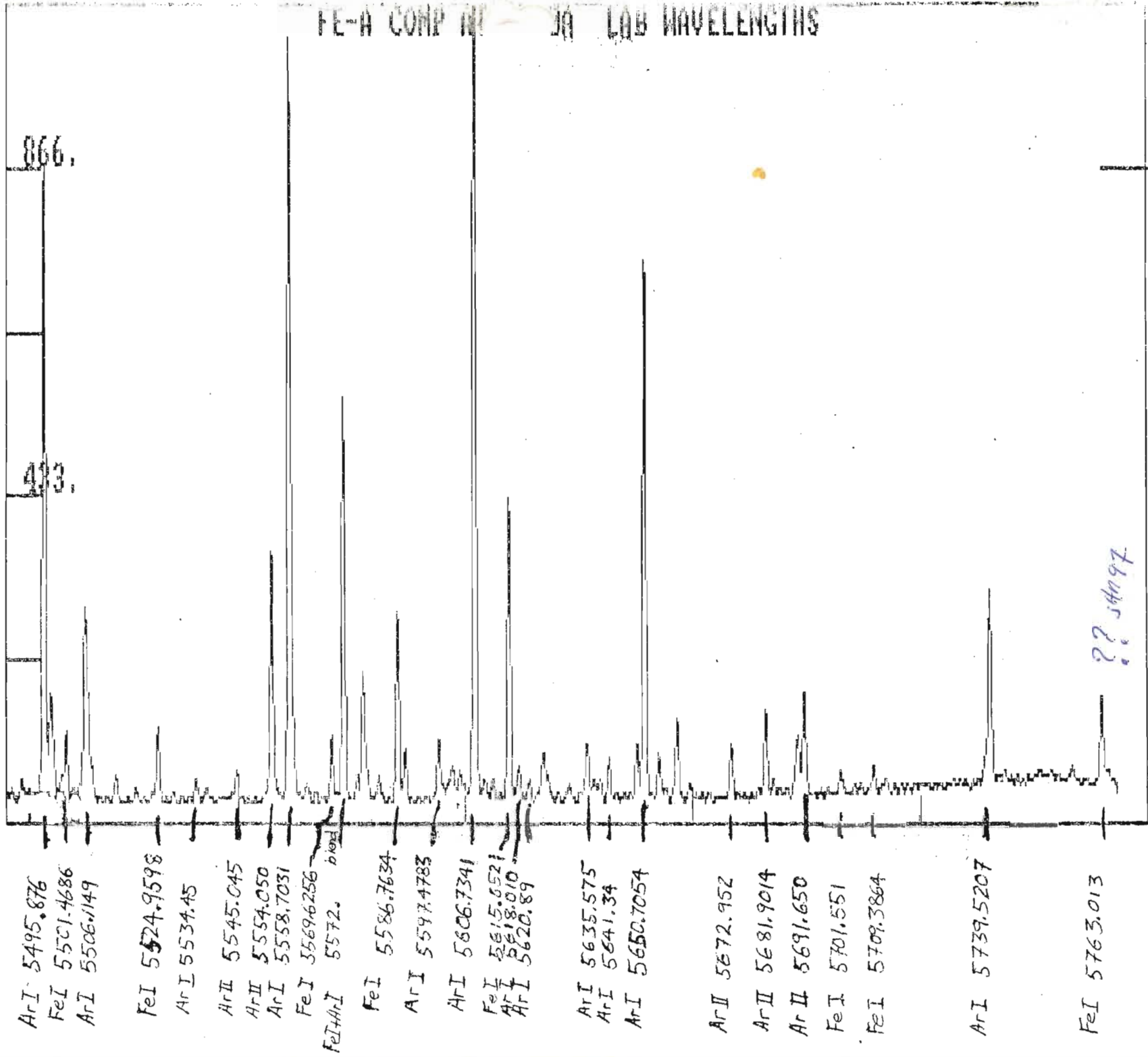
ArI 5928.8124

ArI 5942.6722

ArI 5949.2595

? 5957

FE-A COMP IN JA LAB WAVELENGTHS



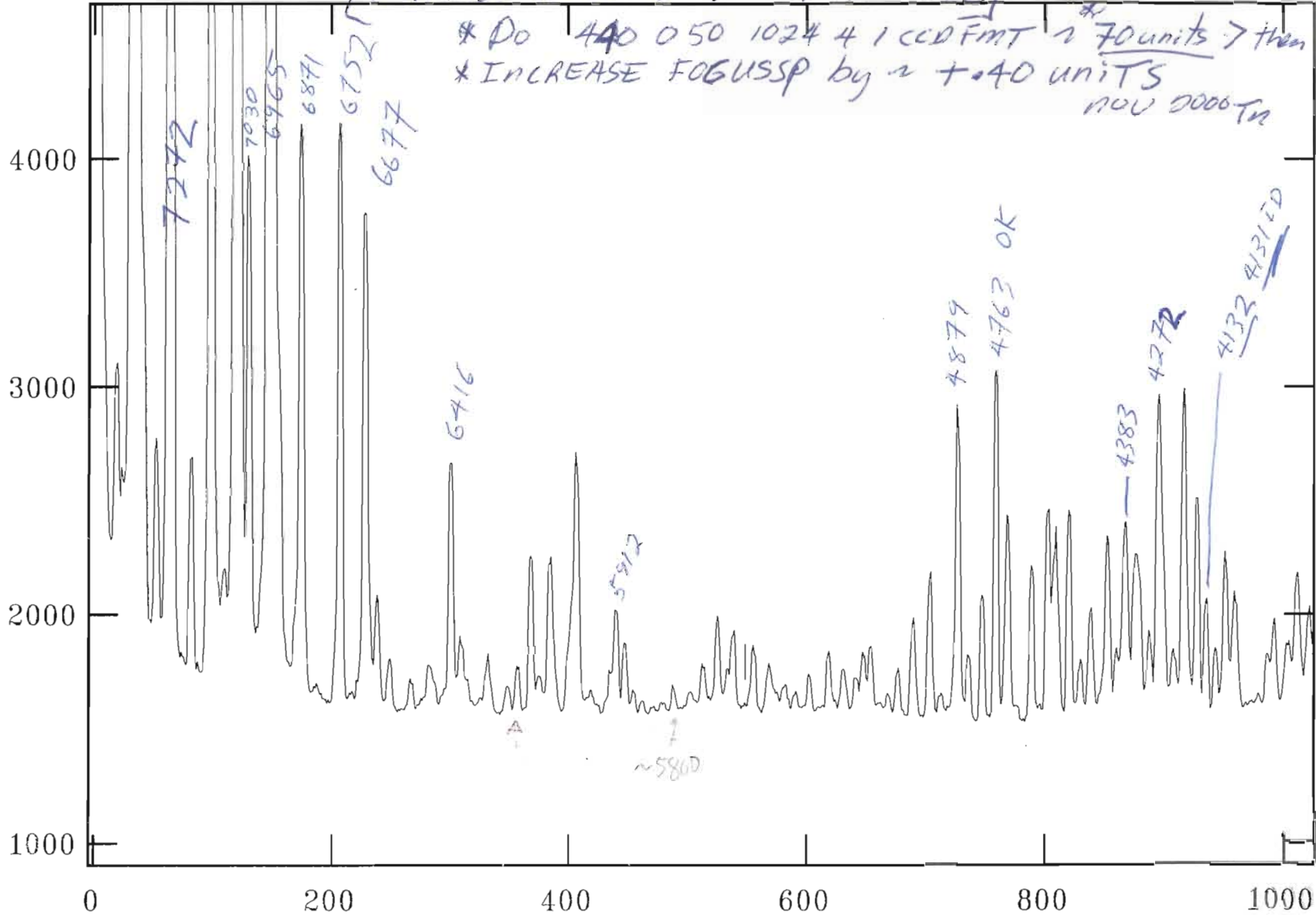
Nov 99
+ gratings

GRB or whatever SETUP

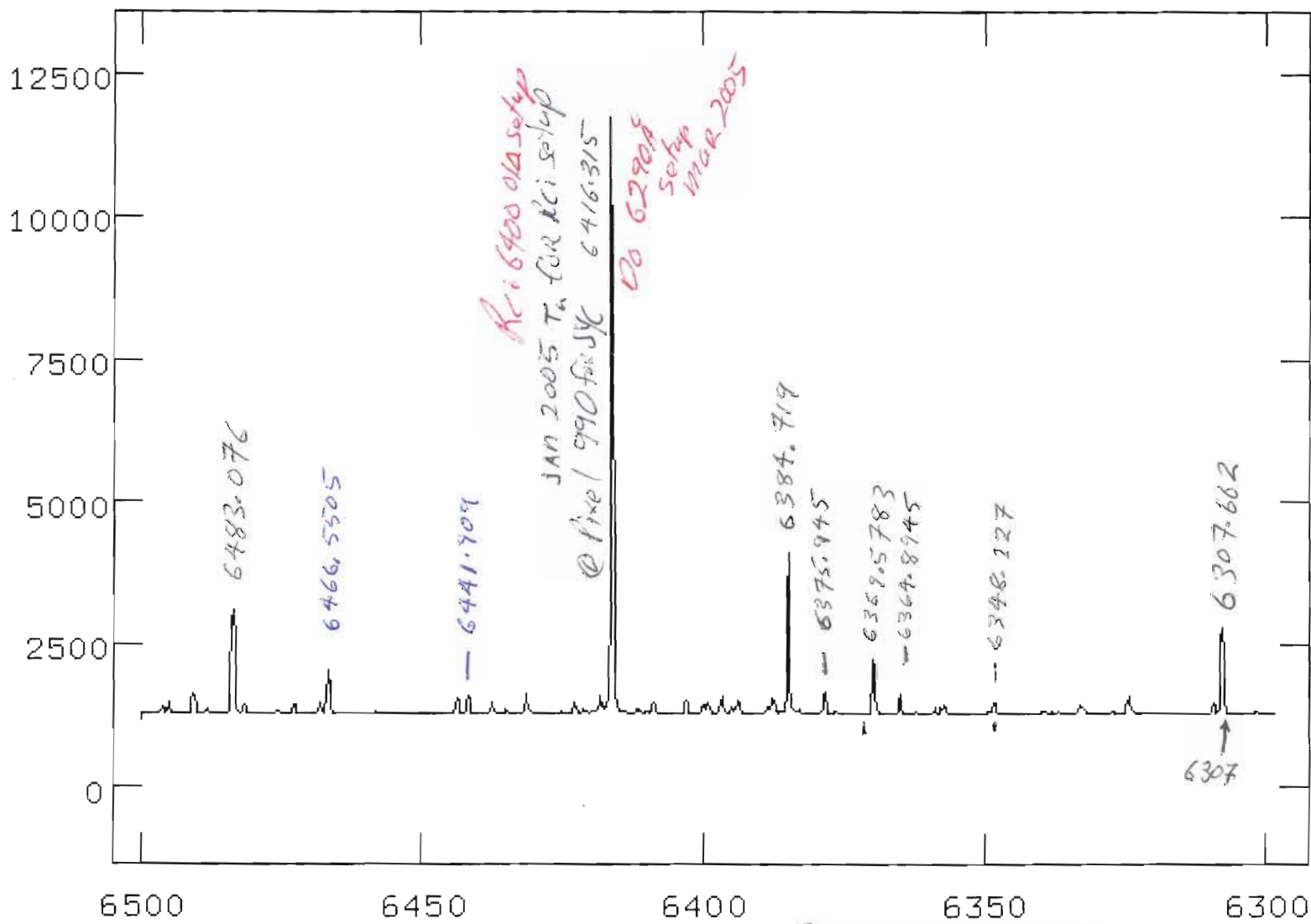
identify CC69571.0001 - Ap 1

FOR FAST 1800m → ^{FeAr} 100m/mm CHARGE 100m/mm 5700Å = 19.35

* Do 440 0 50 1024 4 1 CCD FMT → 70 units → then 1800m YORIG
* INCREASE FOCUS by ~ +40 units
NOV 0006m 30.1

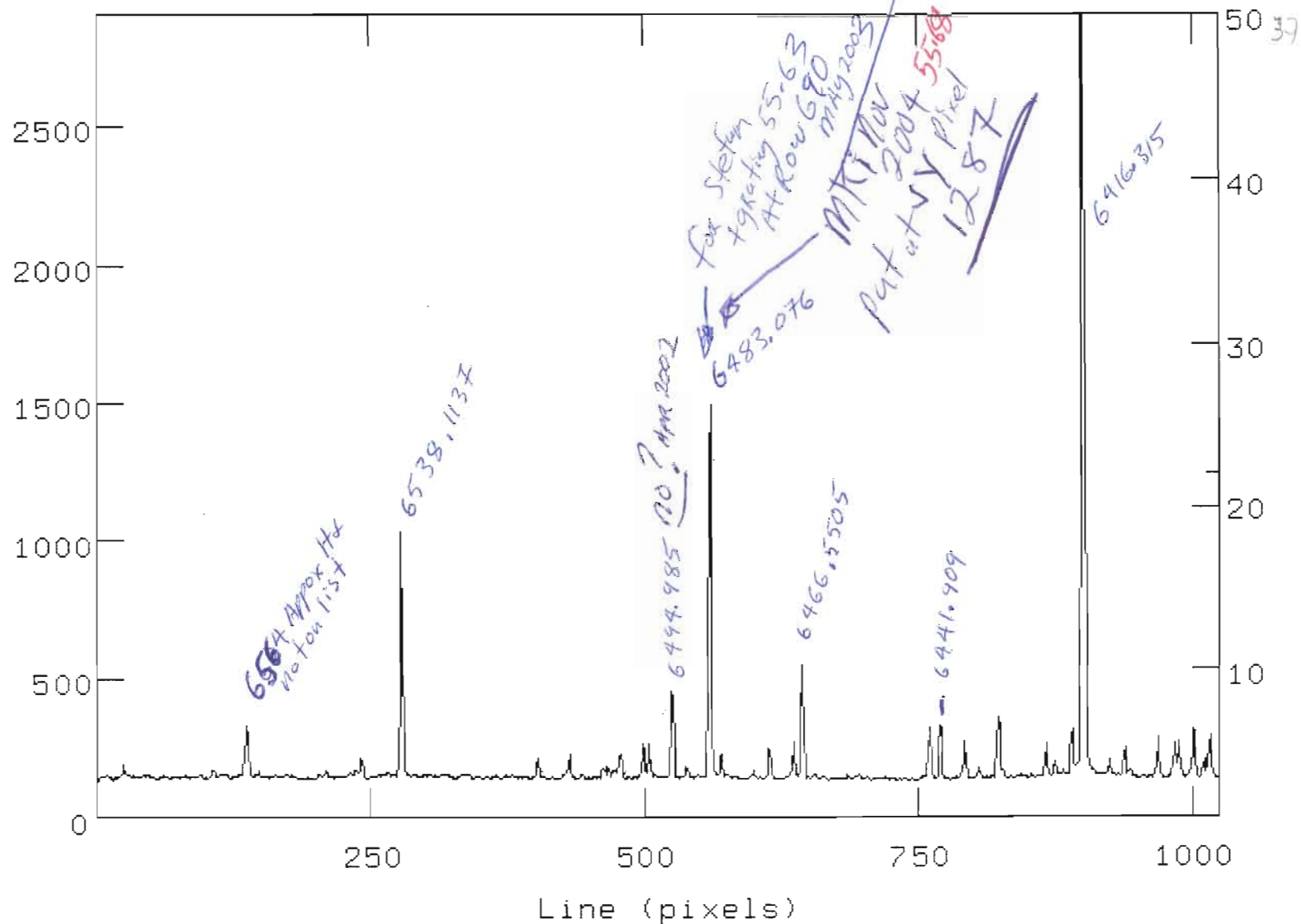


pixel

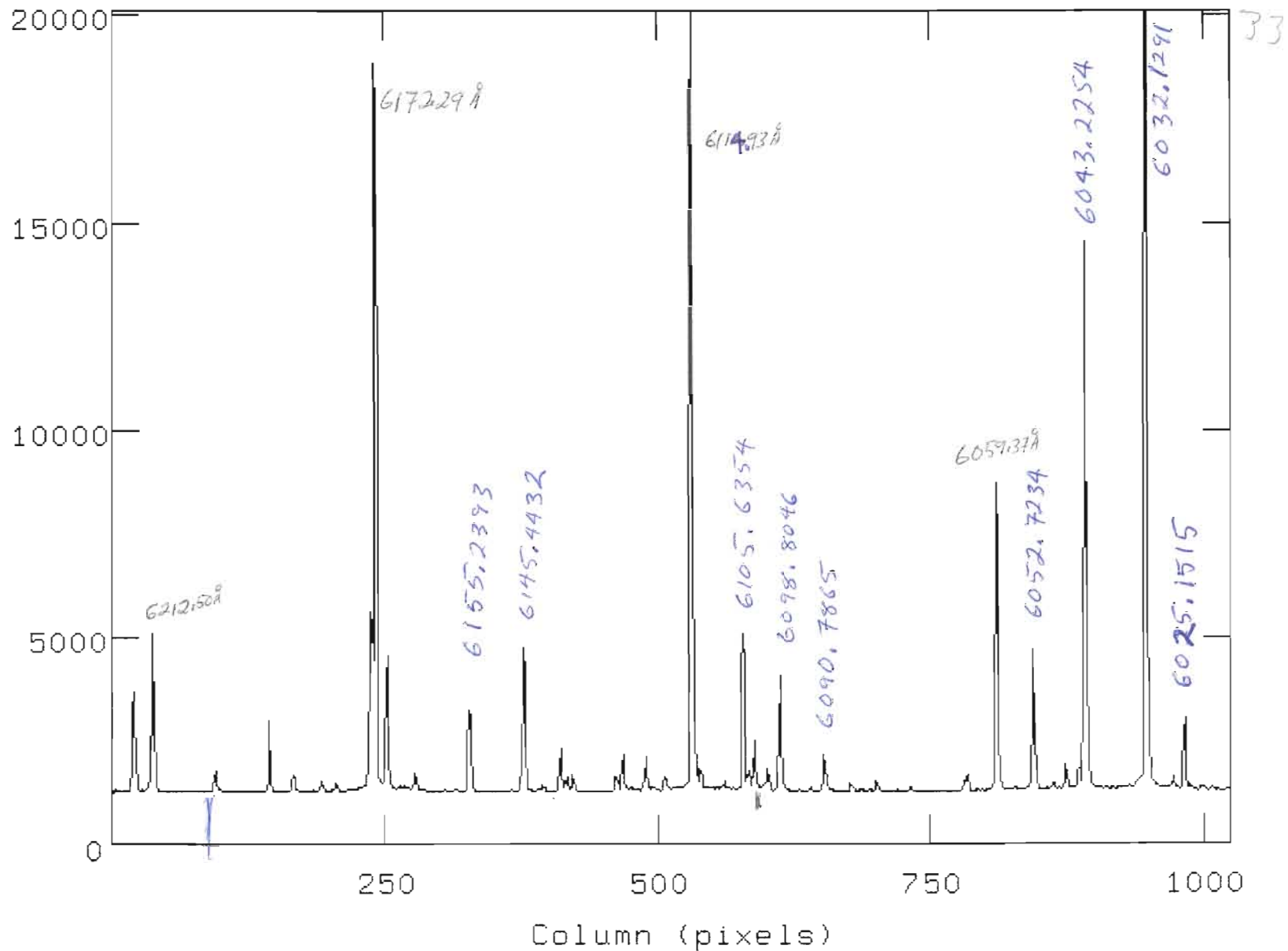


Pixel A (next page is pixel)
 1800 In/mm Rm Region ■ ~~G = 5910 Exactly ± 2Å~~
 @ 6400 Å
~~G = 5930 @ 50 Feb 16/95~~

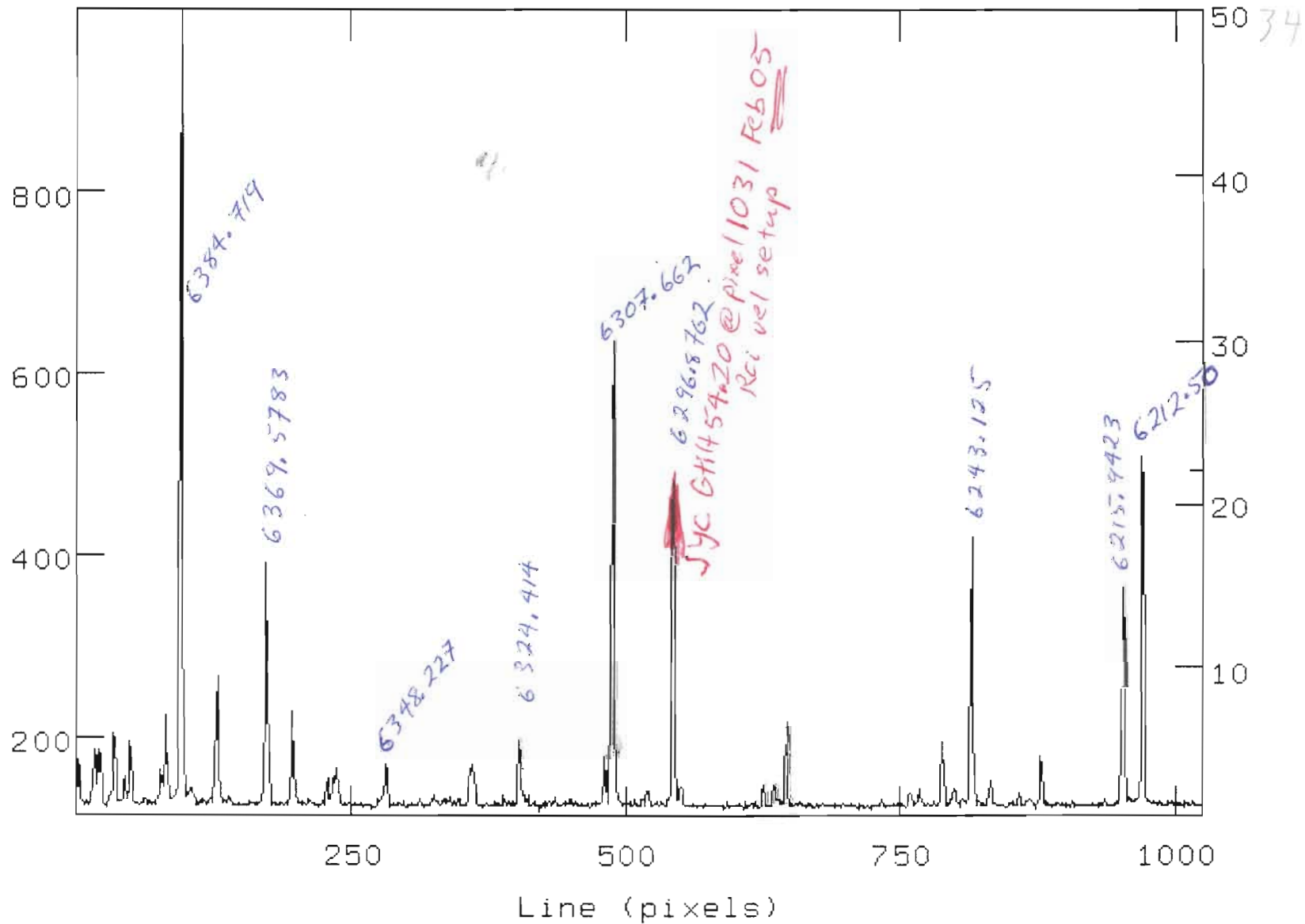
FeAr



1800 ln/mm grating, Center @ 649.8 nm, G=6000, tilt=55.7 degs

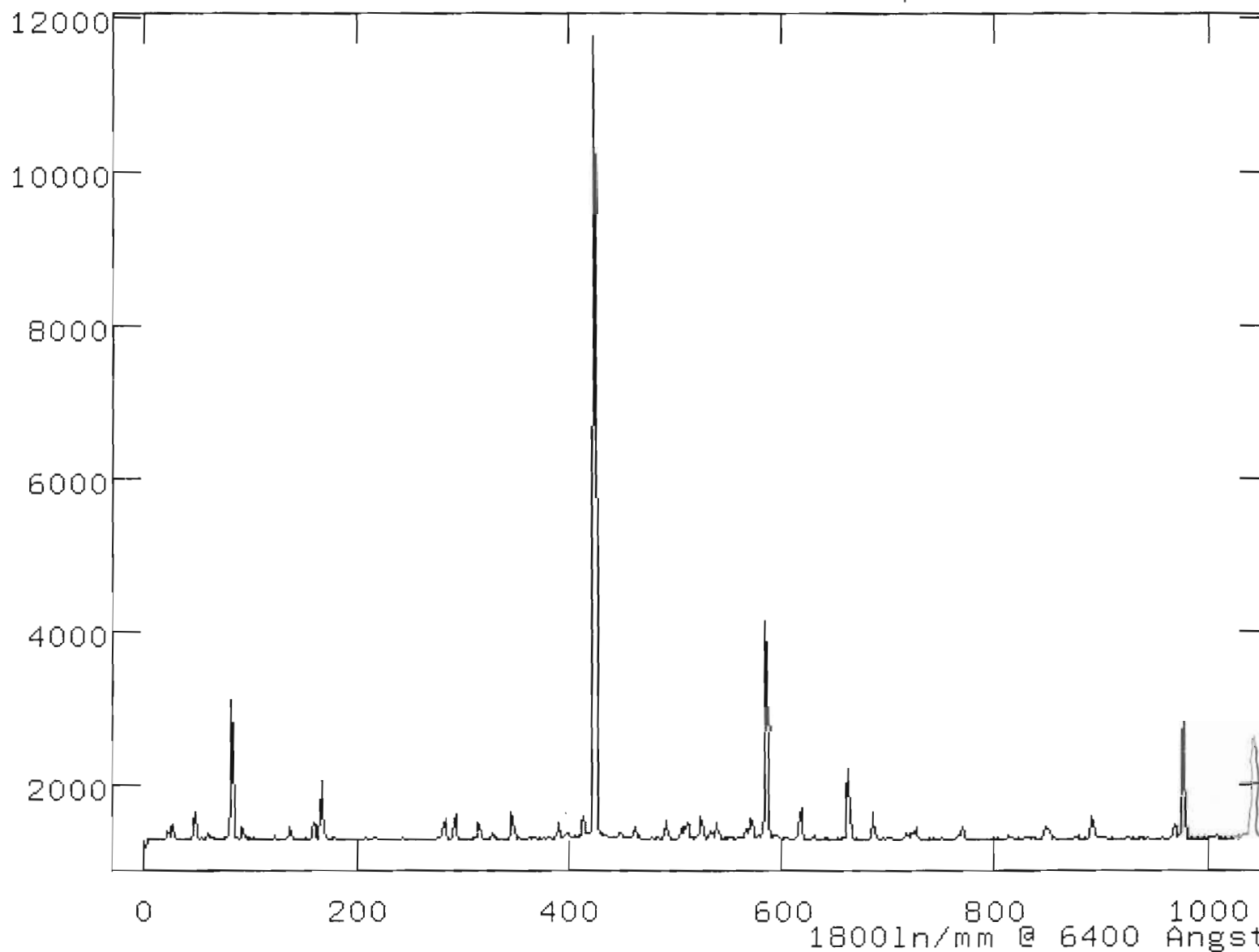


1800 ln/mm grating, Center @ 611.9 nm, G=5723, tilt=53.1 degs



1800 ln/mm grating, Center @ 630.2 nm, G=5860, tilt=54.3 degs

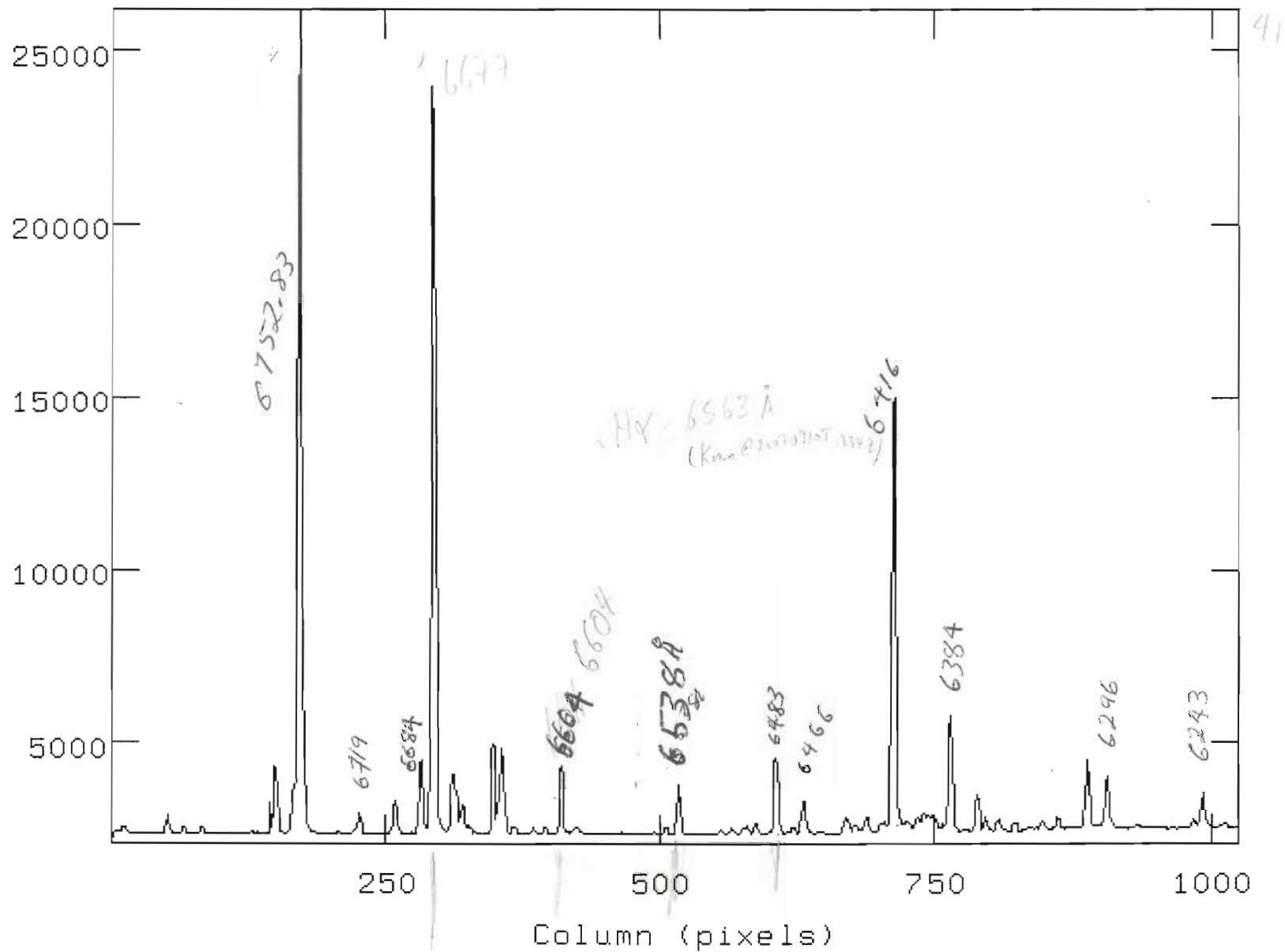
NOAO/IRAF V2.10EXPORT jthomson@perseus Sat 00:34:08 01-Oct-94
[cc25886.ms]: FeAr 60.00s ap:1 beam:1



33

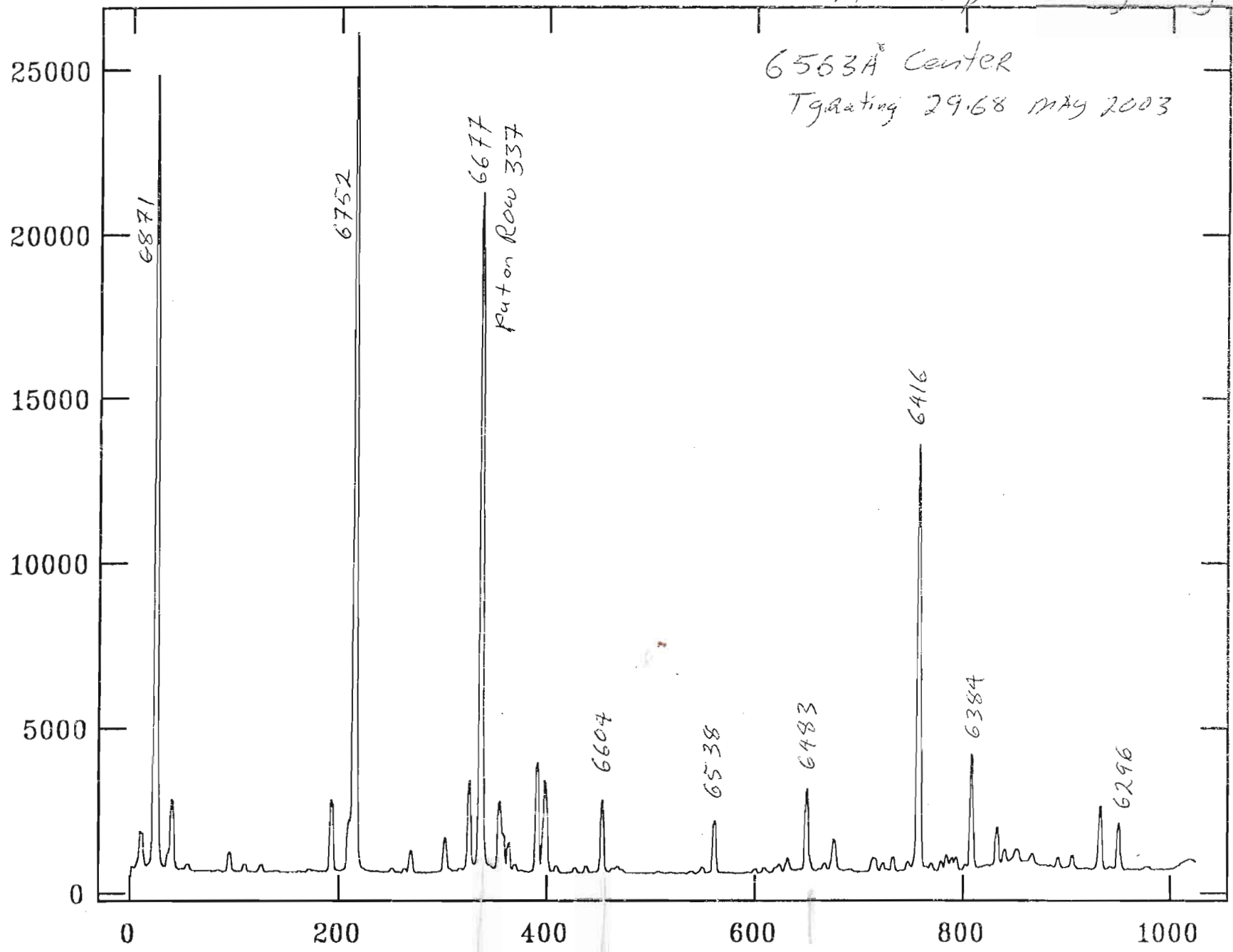
Pixel
(previous page is
wave cal'd)

G = ~~5910~~ 5950 ~~5975~~ 5942
for 6395 Å on Aug 8/95



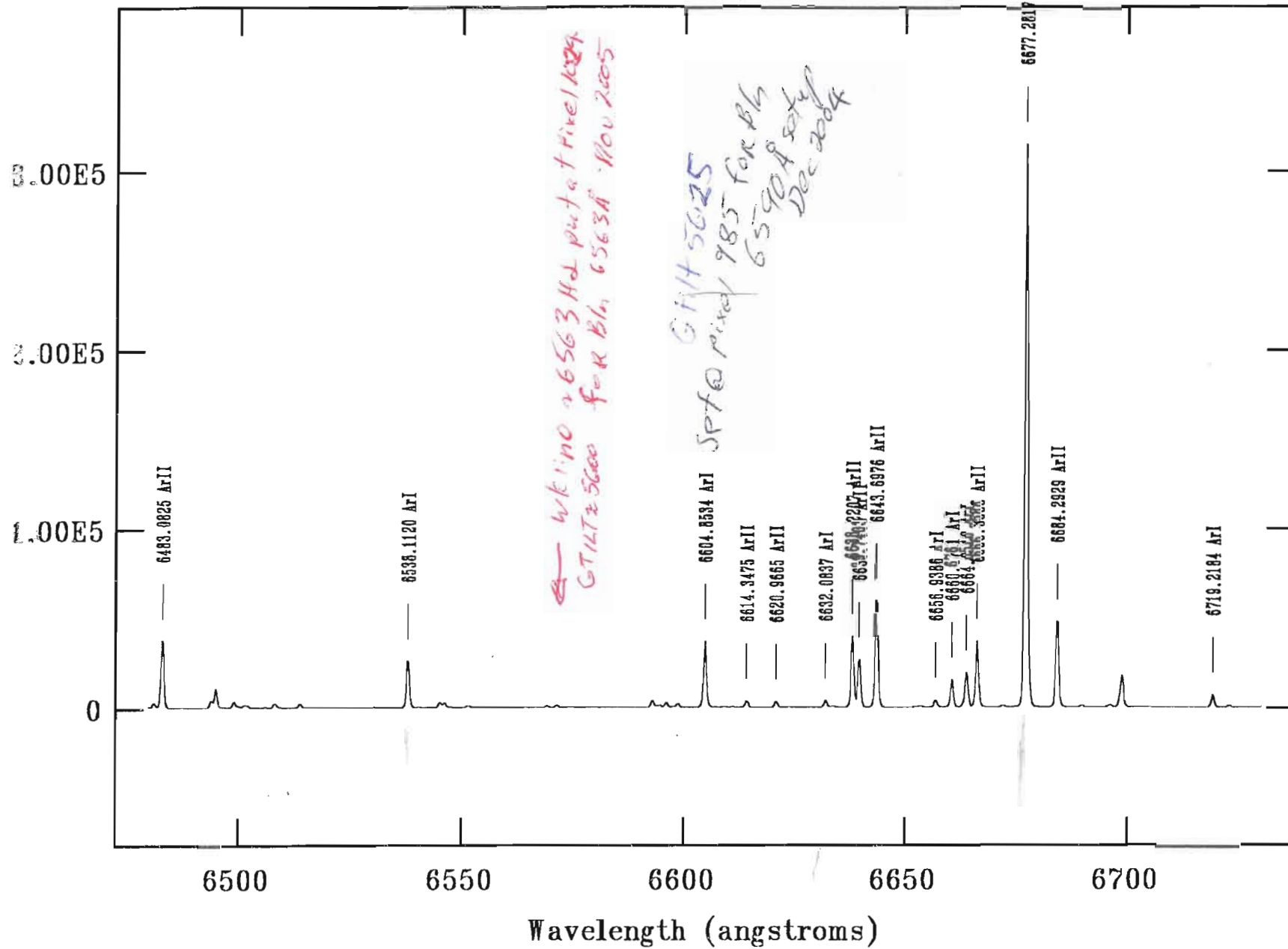
600 in/mm 6563 Angs, H Alpha, 1st order, no filters, G=3100

541: feAr - Aperture 1 *Blu Setup 600C grating*



identify output51937 - Ap 1

FeAr ~~3900A~~



*Wk 1110 26563 Hd put a + five 1/22/04
 GTILT 5600 for R Blk, 6563A Nov 2005*

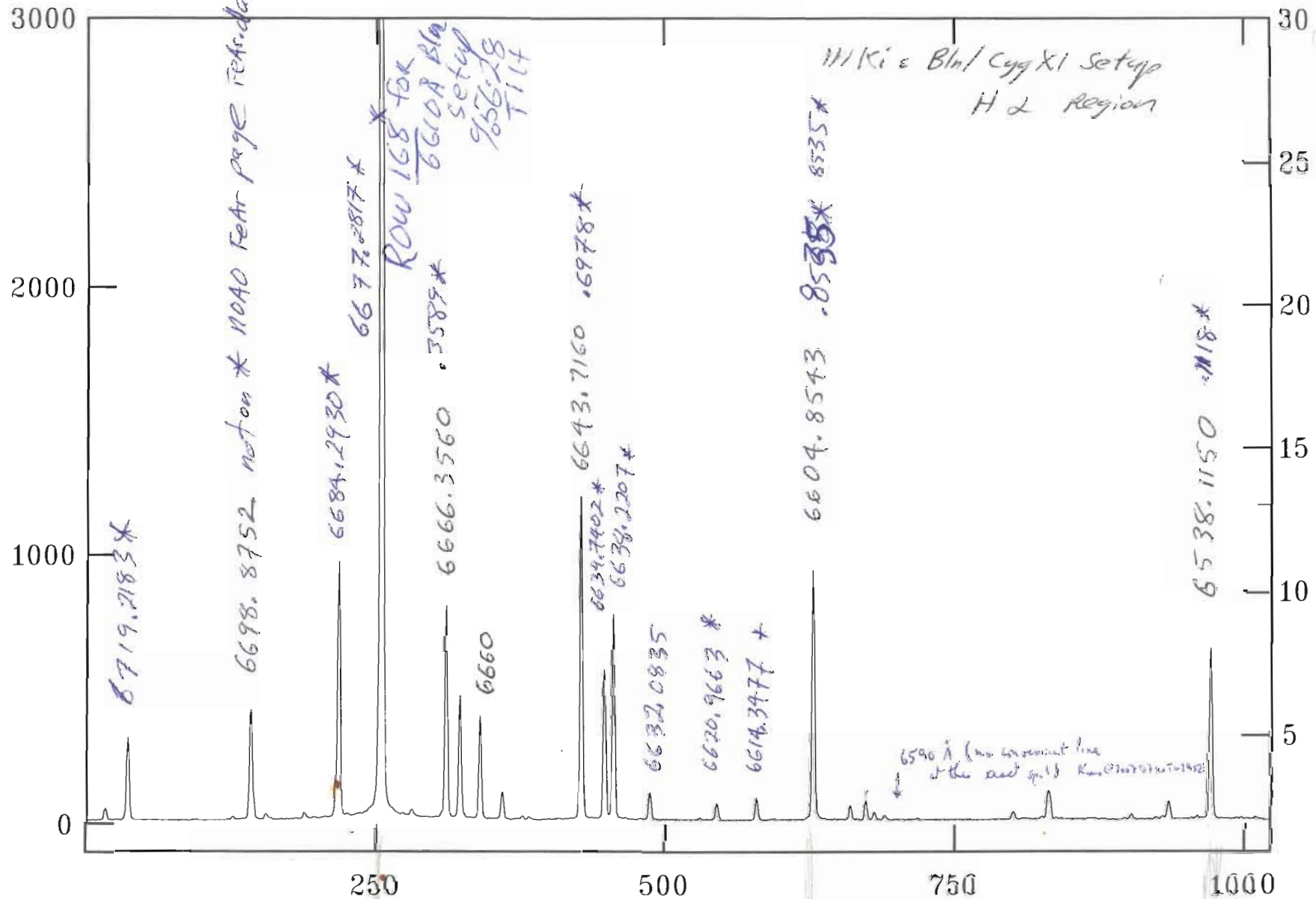
*GTILT 5625
 SPFO pixel 985 for Ph
 6590A setup
 Dec 2004*

38

*1/B: This
 printout,
 unlike the
 others we
 are using
 in this atlas,
 has the longer
 wavelengths
 on the right!
 (2002-10-15
 King)*

Average of columns 13 to 25 of C0022195

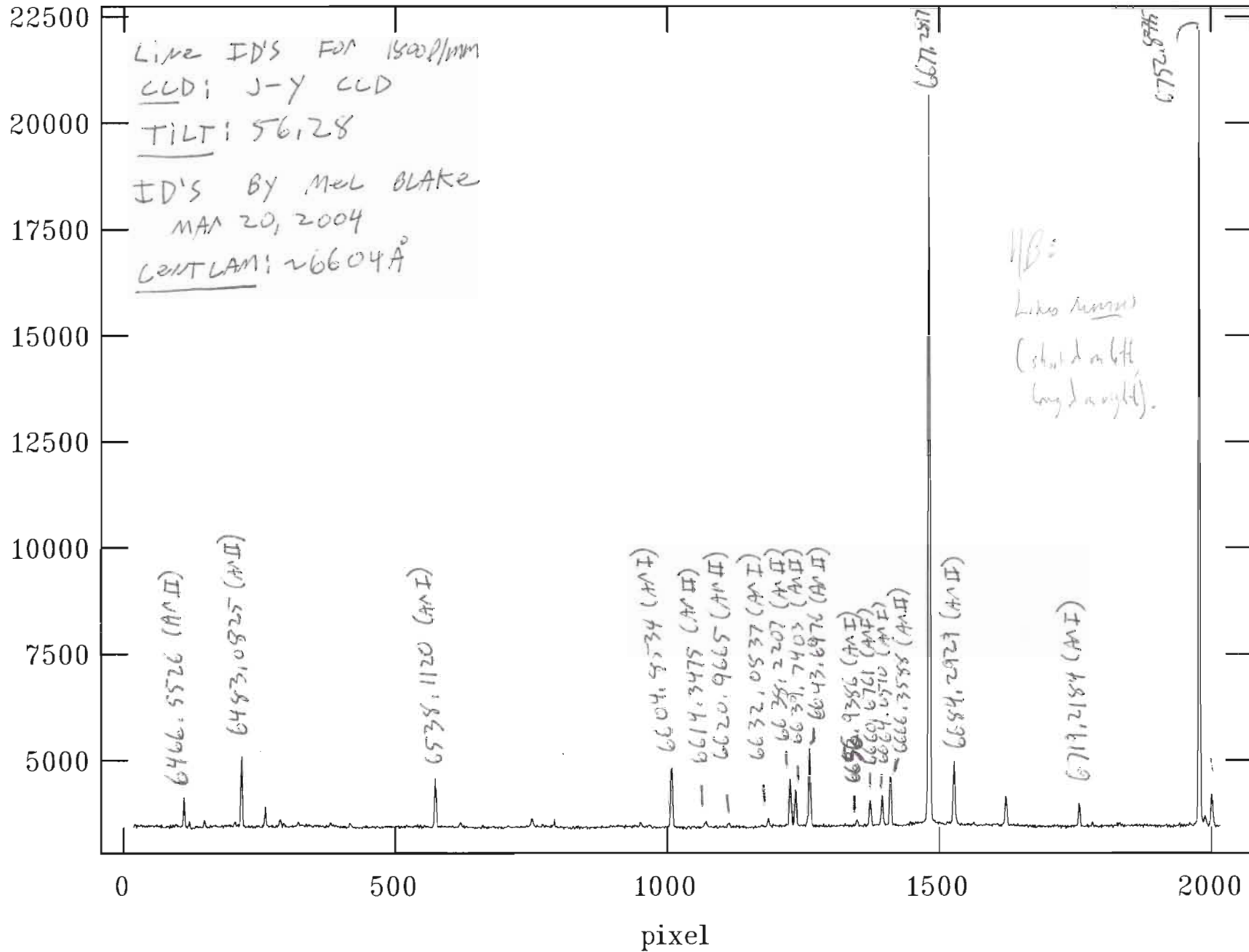
FeAr

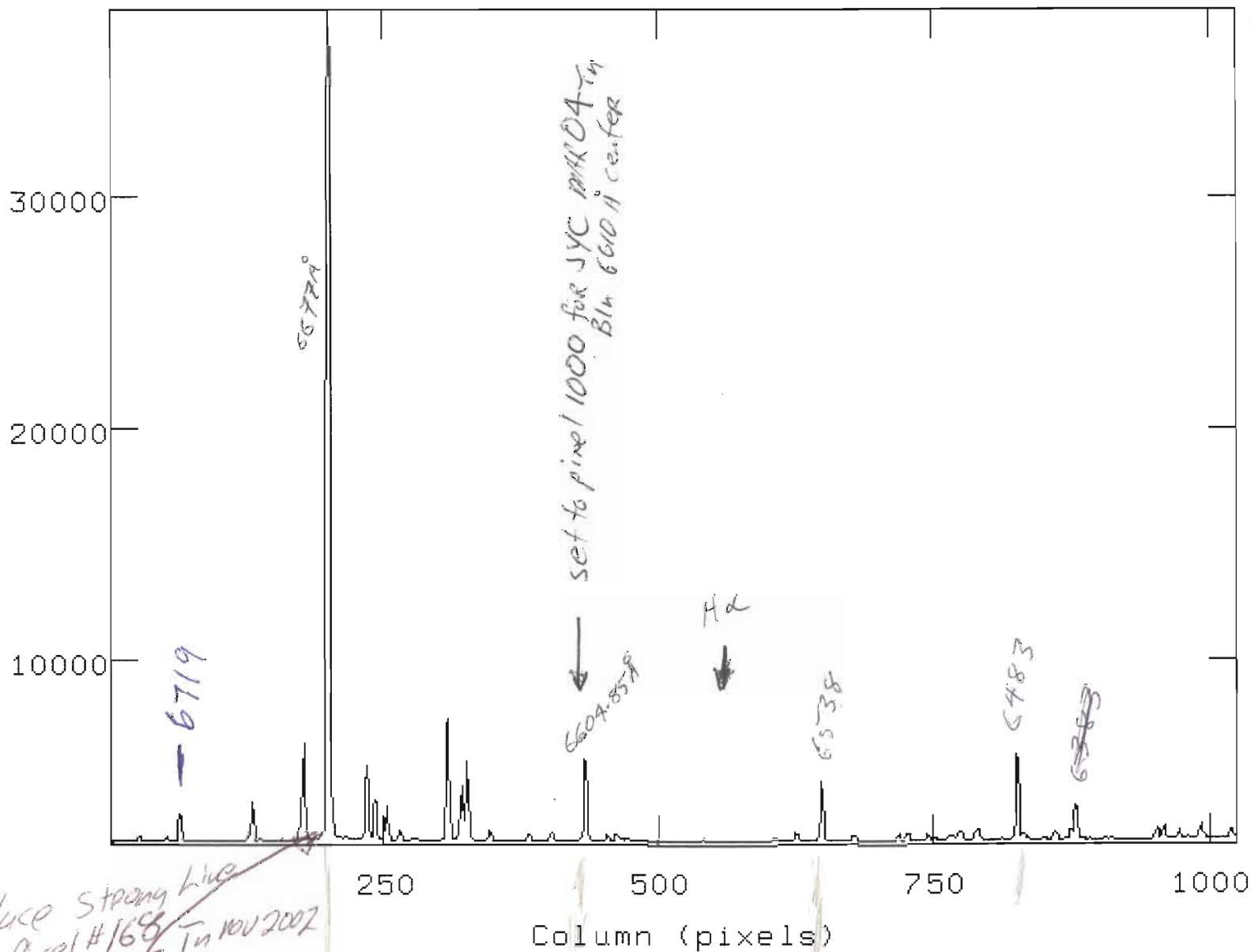


DO + grating 56.28 June 2002

Line (pixels)

CENTER 6628Å @ tilt + grating = 56.38
MARCH 2002





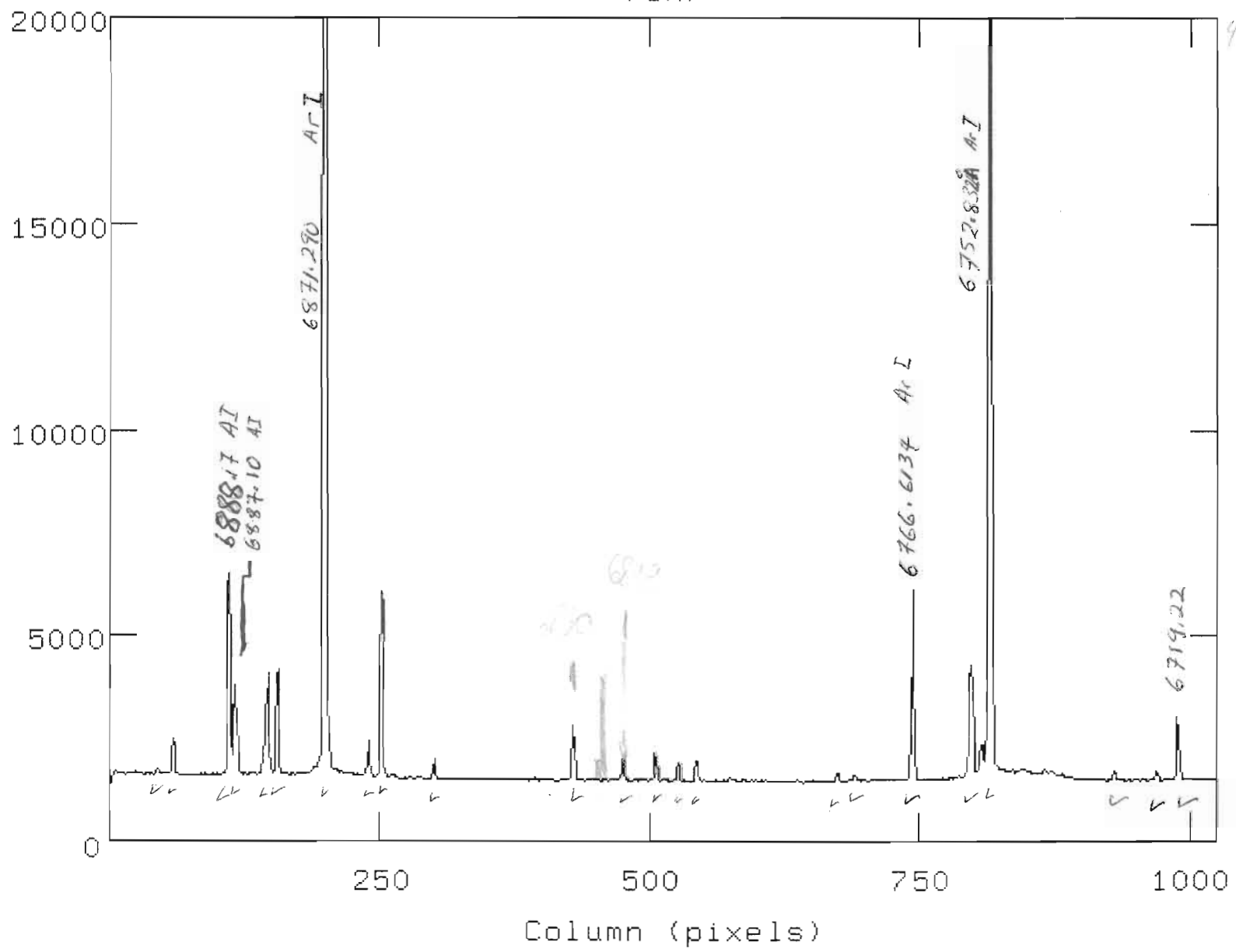
44

Place strong line
at pixel #168
in 10V2002

1200 ln/mm 6563 Angs, H Alpha, 1st order, OG 560 filter, G=4500

[FOR Bln Egg XI work NOV 2002 1800 ln/mm + grating 56.28]

4520
tilt = 42.1°



43

✓ = no cosmic rays

681nm center 1800 ln/mm G=6250

NOAO/IRAF V2.11EXPORT detector@hydra Mon 21:33:58 15-Mar-99

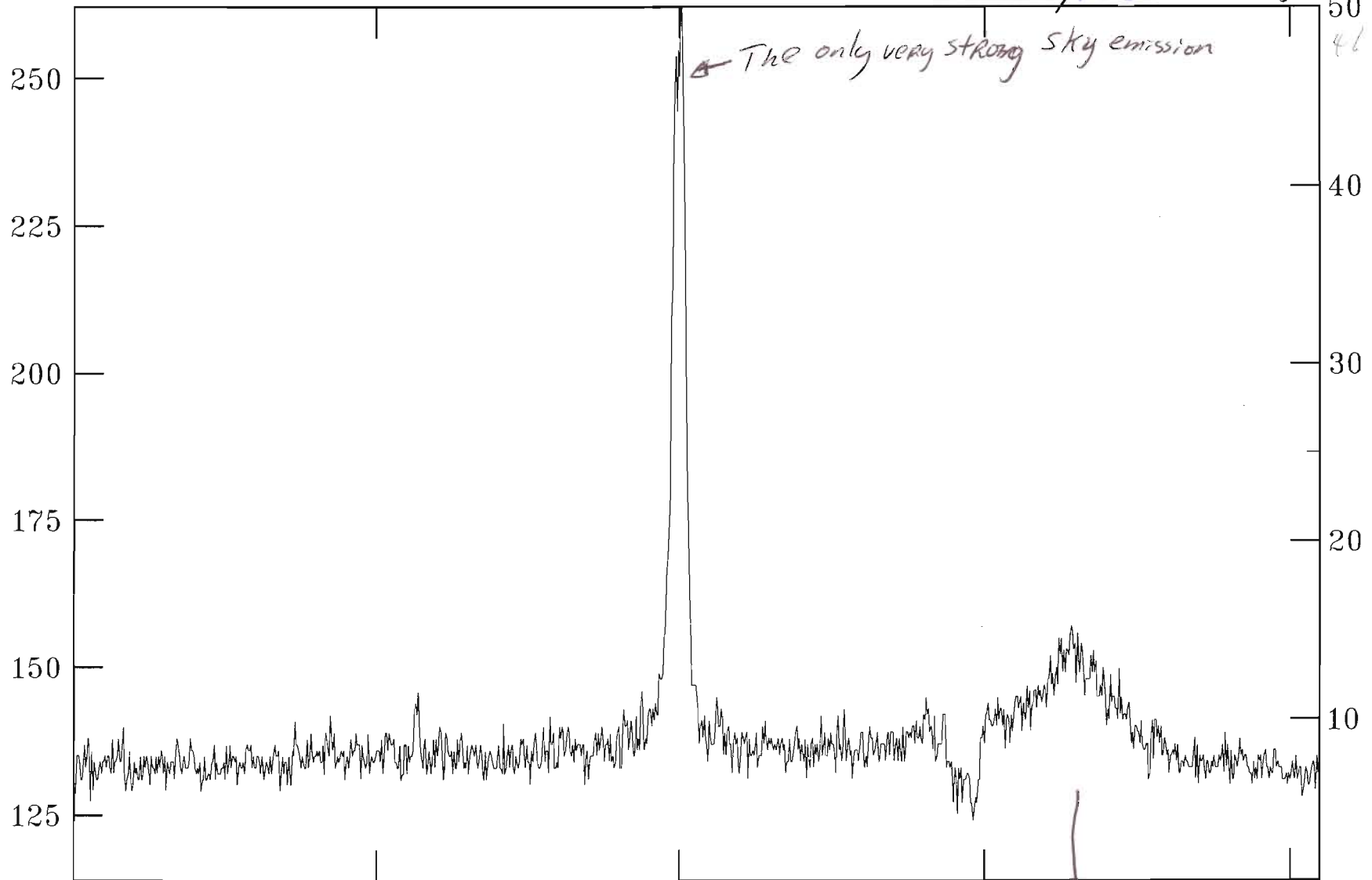
Column 25 of cc63455

8158Å center

Q1613

150ln/min / 21.35° ~~Angle~~

1s FORNER



8158 Segs 21.69° we go 21.45

\therefore go - 0.24° of computation

H α \approx 7300Å

expected red shift

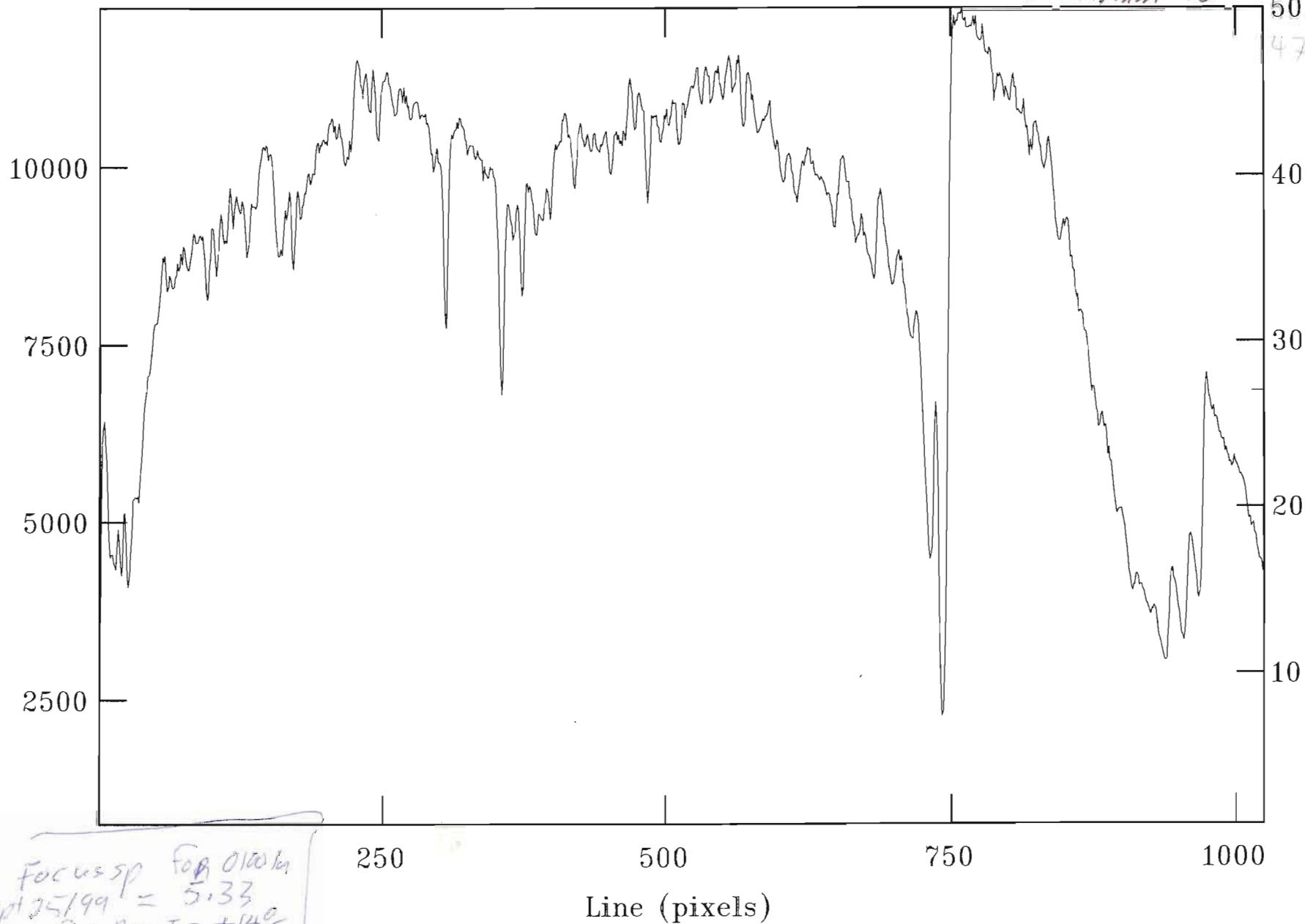
NOAO/IRAF V2.11EXPORT detector@nydra Mon 21:29:00 15-Mar-99

Column 27 of cc63424

HD92620

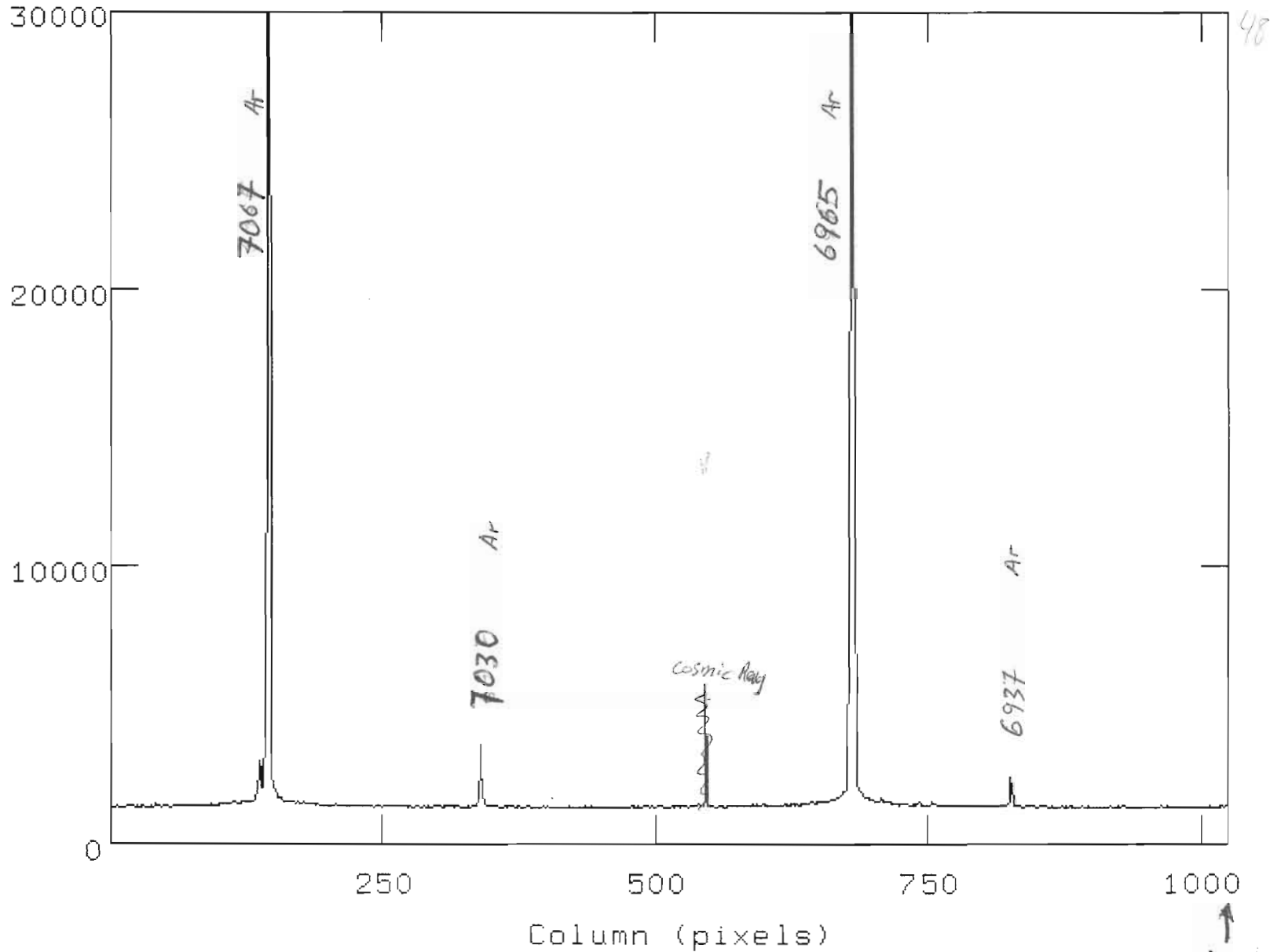
8158 Å center

150 l/mm 1st ORDER



Focus sp for 0100 l/mm
Sept 25/99 = 5.33
for Dome T = +14°C

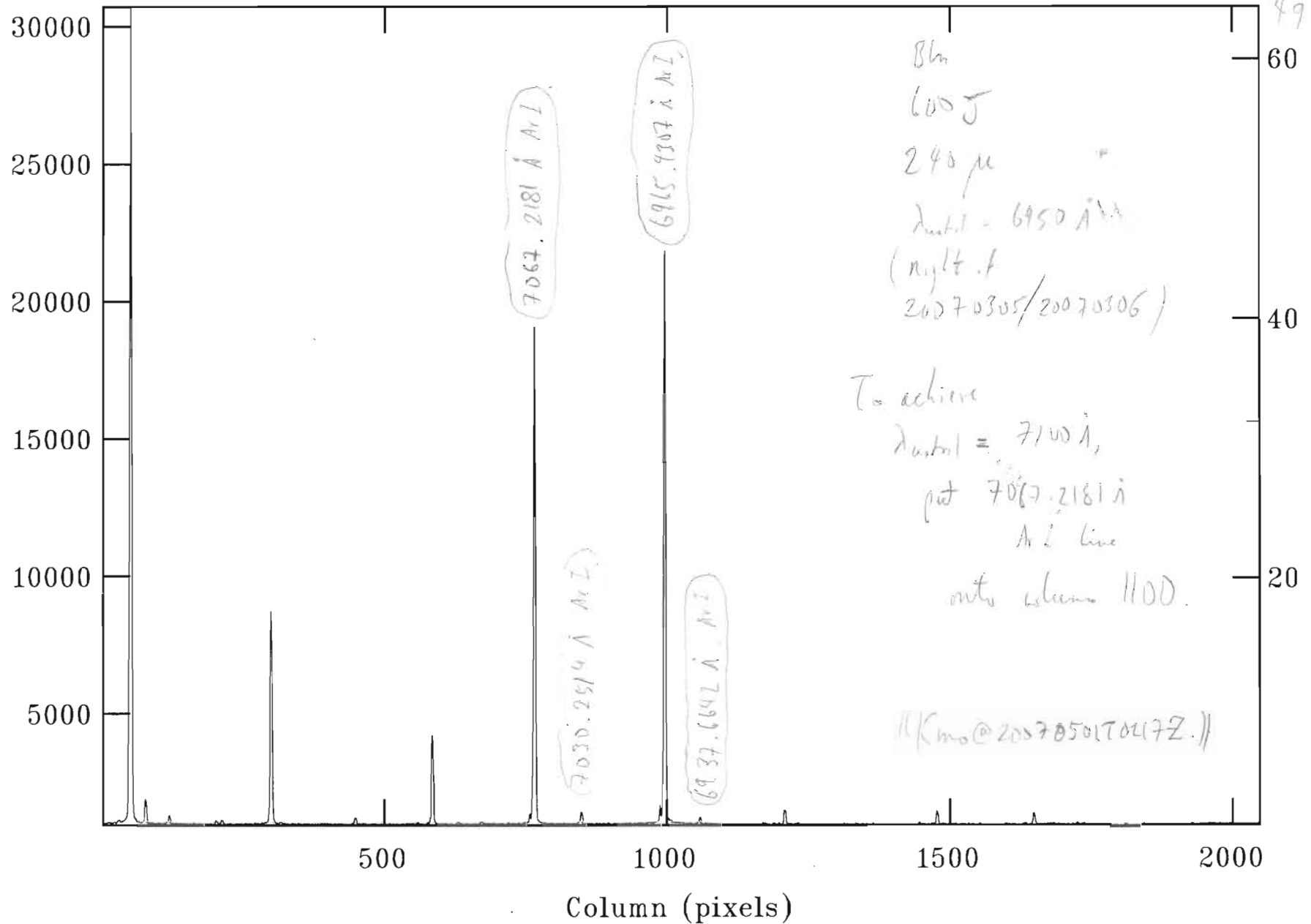
FeAr

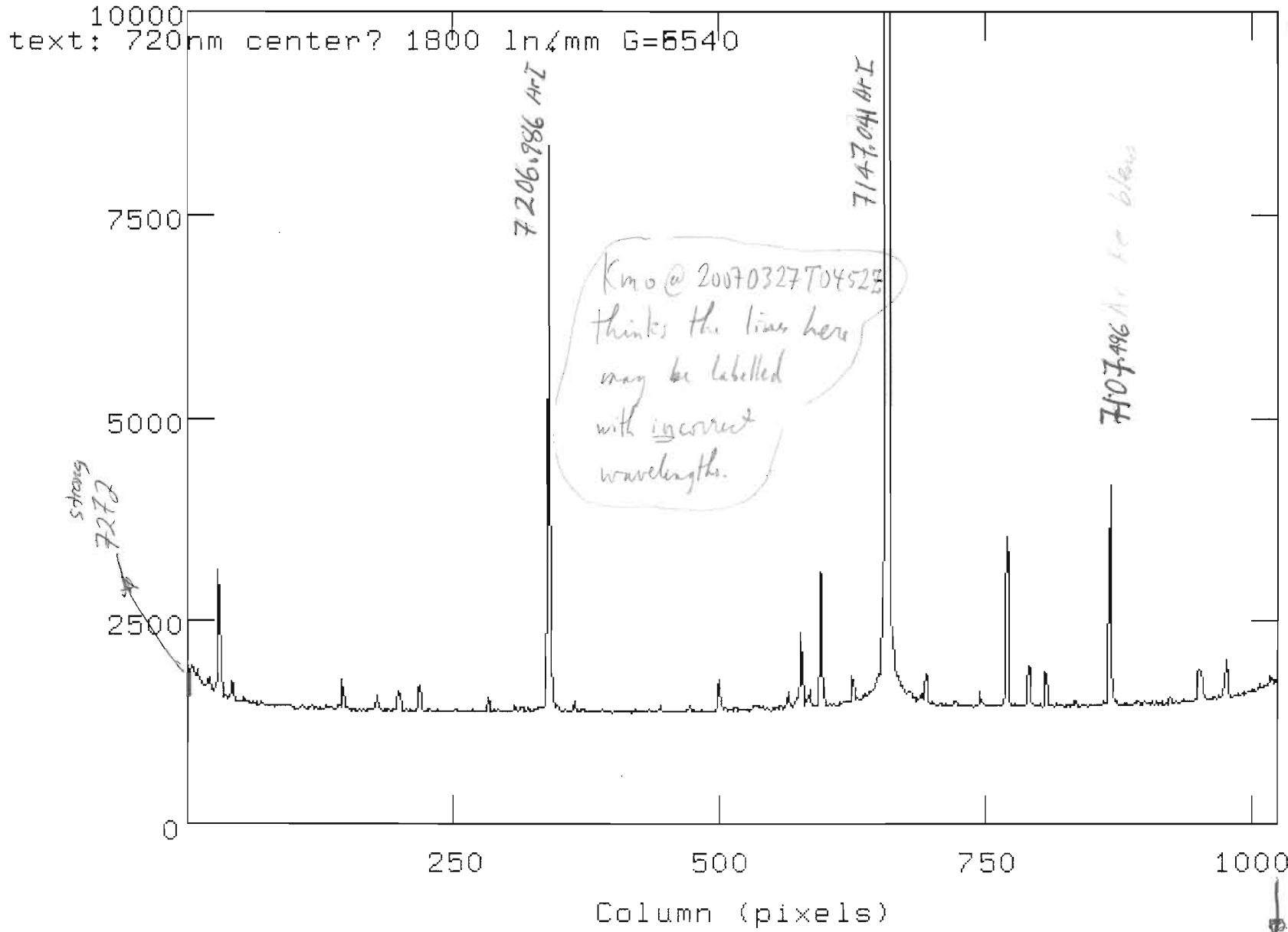


700nm center 1800 ln/mm G=6395

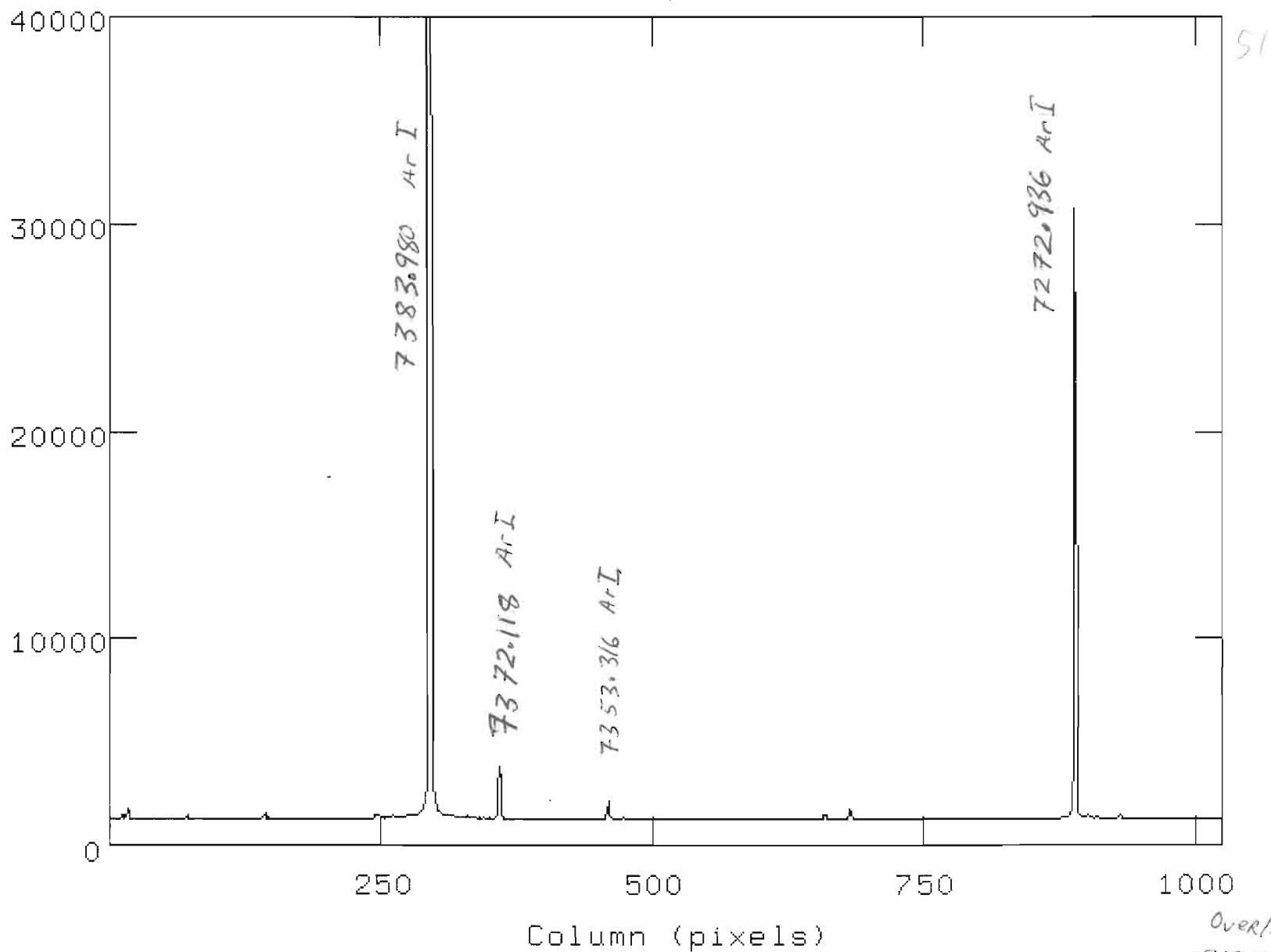
↑
Just overlaps very slightly with previous
Red end of 681nm center
FRAME.
40 pixel overlap.

FeAr





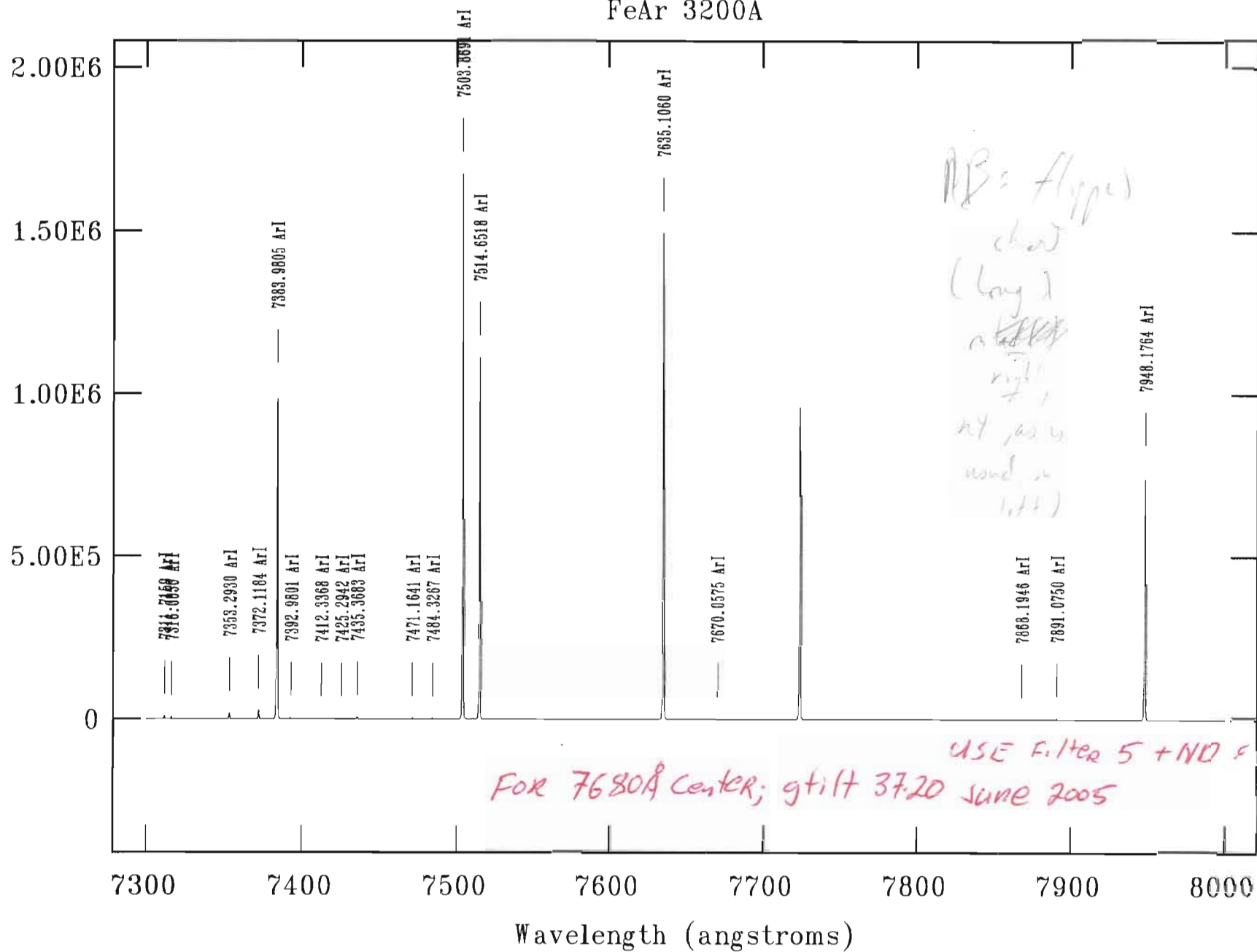
↓ overlap with red
end of previous 700nm
Frame = 90 pixels



740nm 1800ln/mm G=6680

Overlap with Red end
of 720nm = 120 pixels

FeAr 3200A



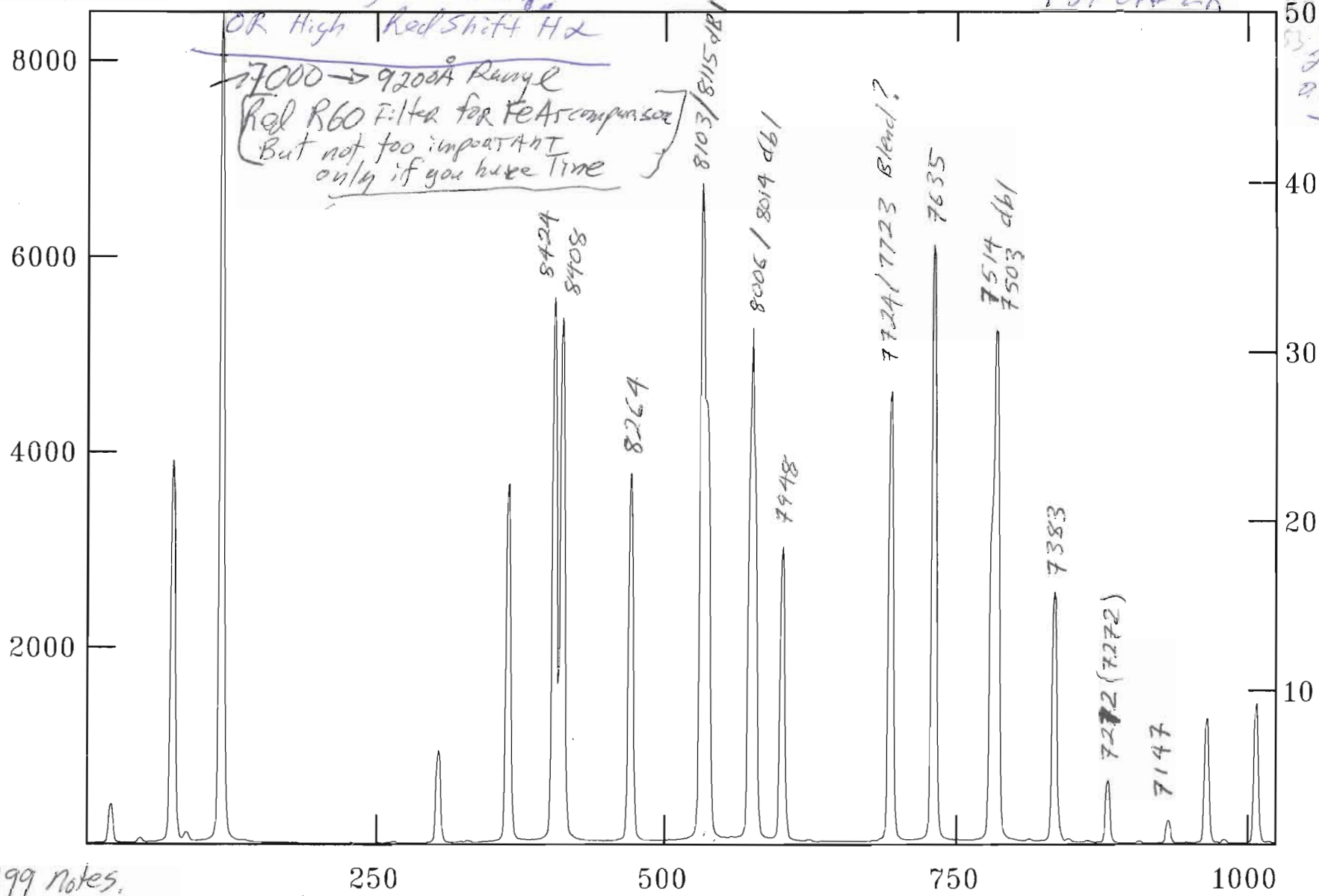
Average of columns 20 to 30 of cc63425

Setup for Gamma RAY BURSTS

FeAr 8158Å Center

150 In grating
1st ORDER

fgrating = 21.35



NOAO/IRAF detector@hydra Fri Mar 19 22:33:05 1999

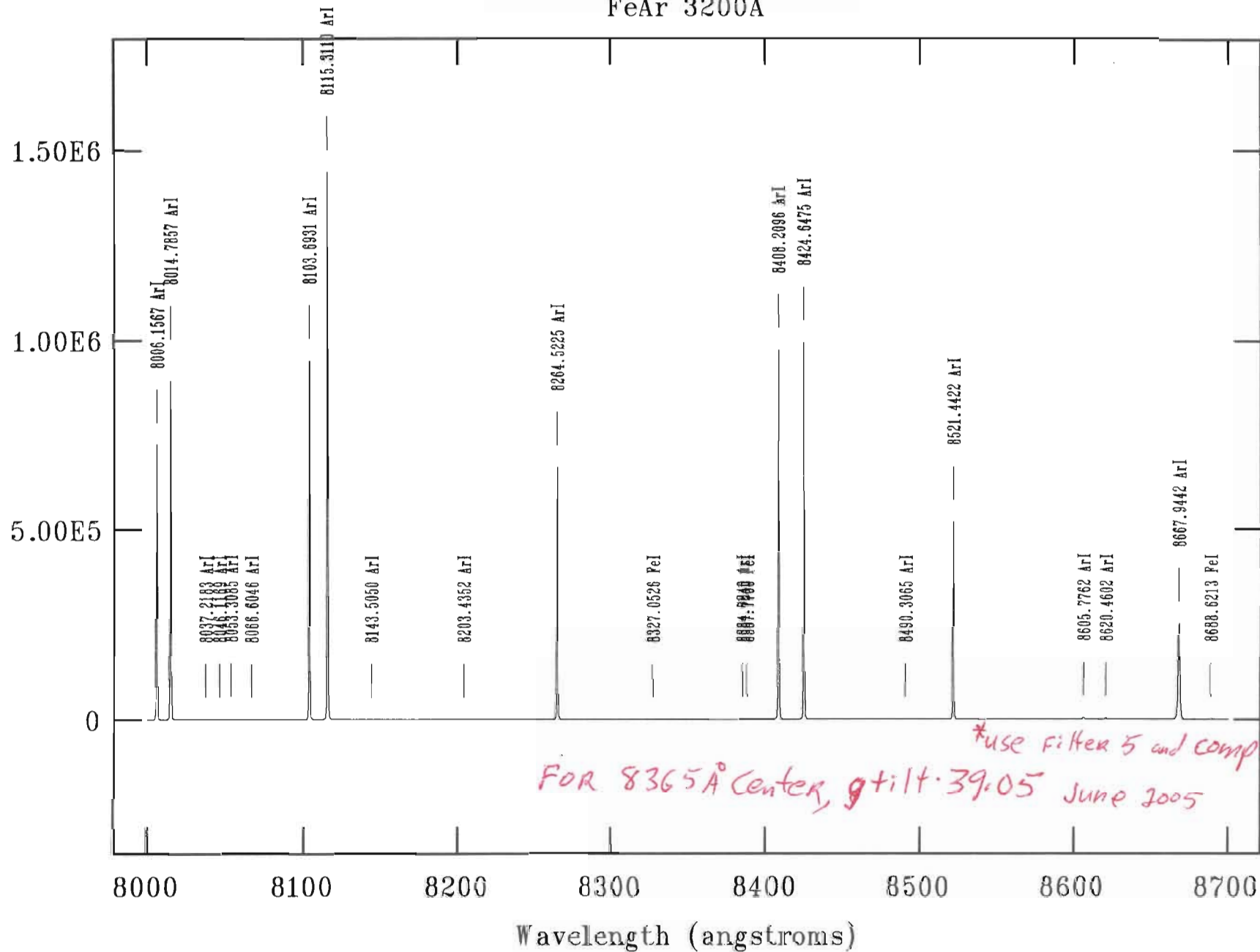
MAR 99 Notes.

Spectra Focus ± 4 units above 1800ln - Hd Focus # Line (pixels)

Y origin maybe ~ 420 , But sometimes as low as 330 origin Y

identify output26773 - Ap 1

FeAr 3200A

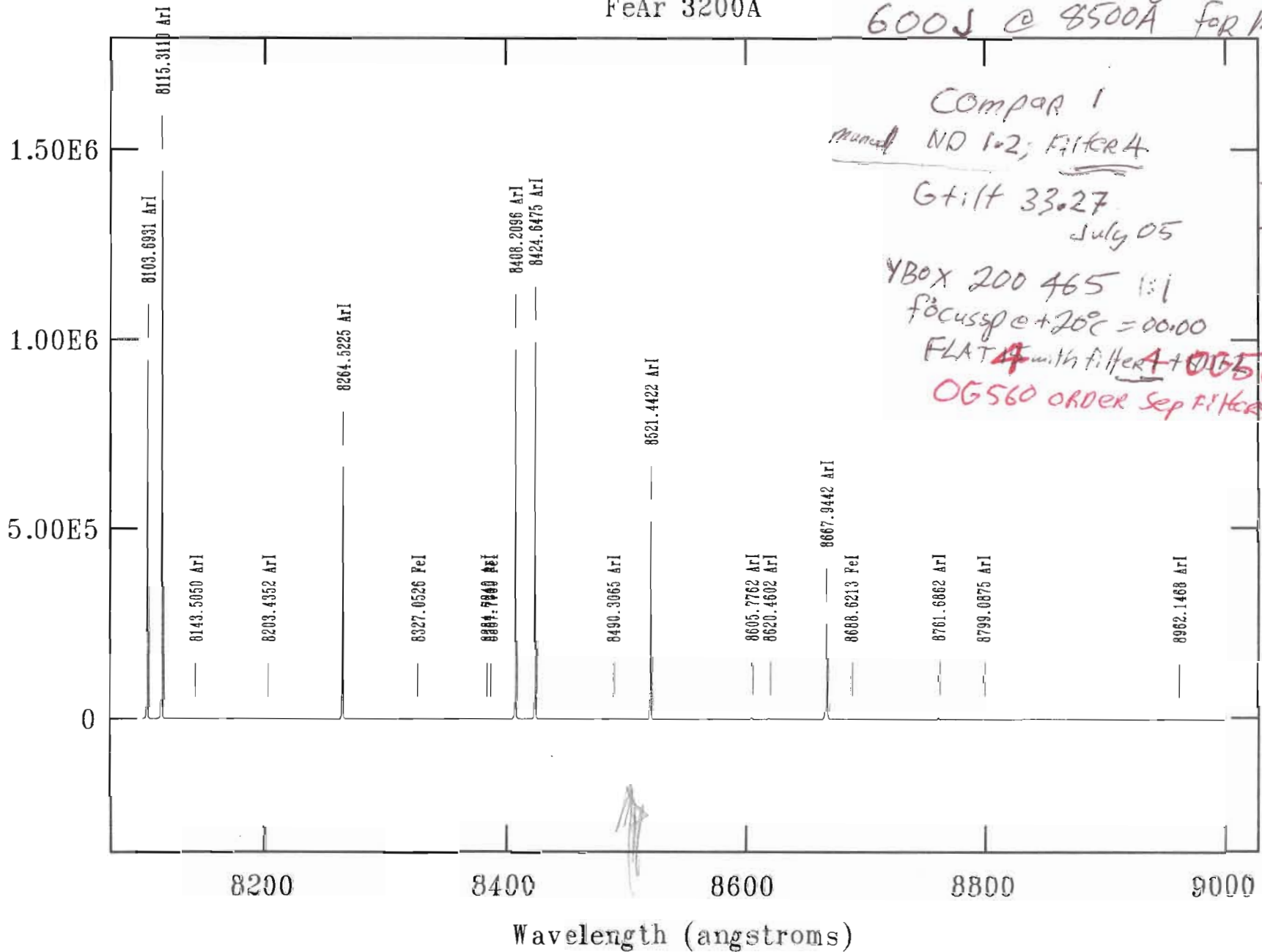


54

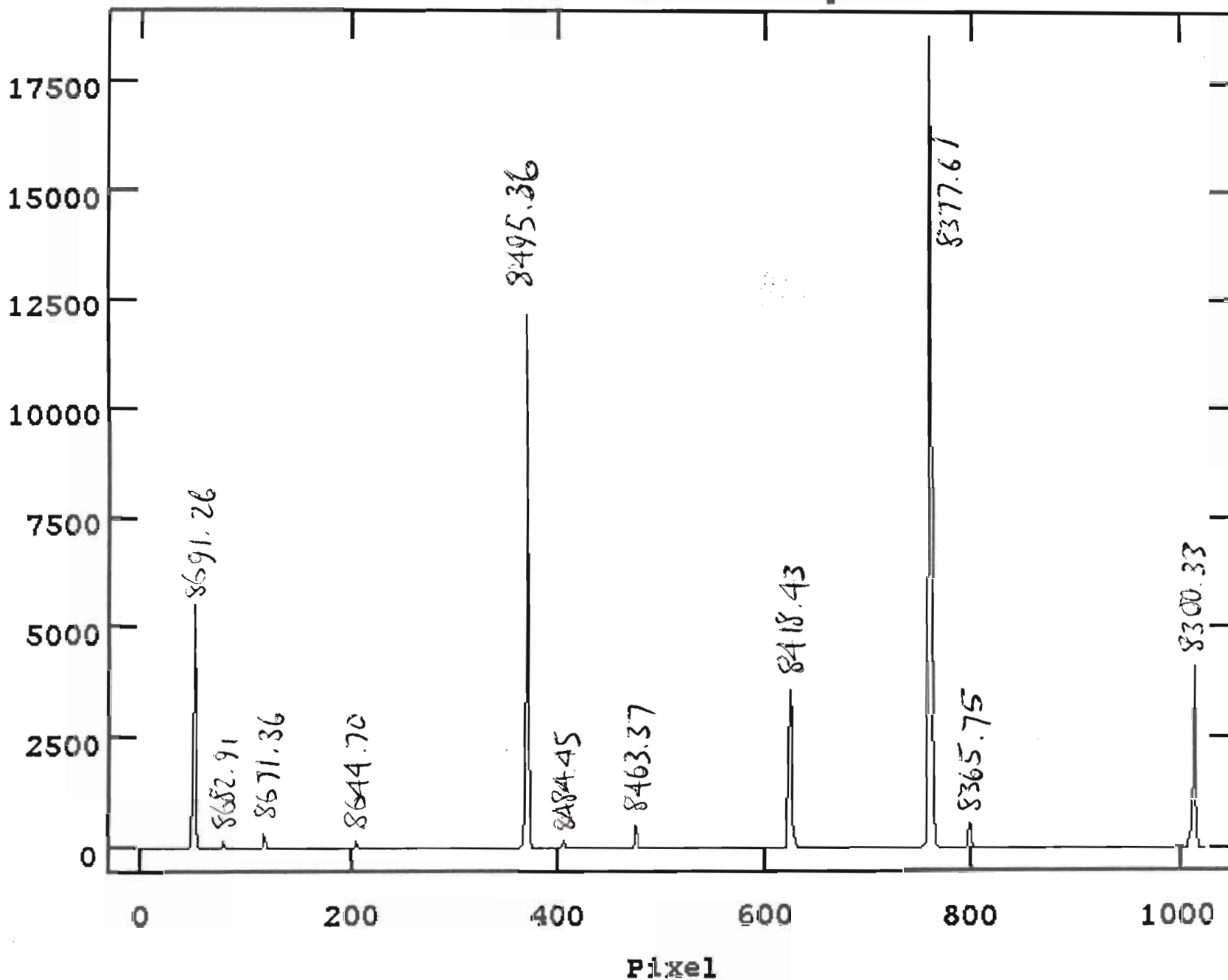
identify output89016 - Ap 1

FeAr 3200A

600J @ 8500Å for MKI

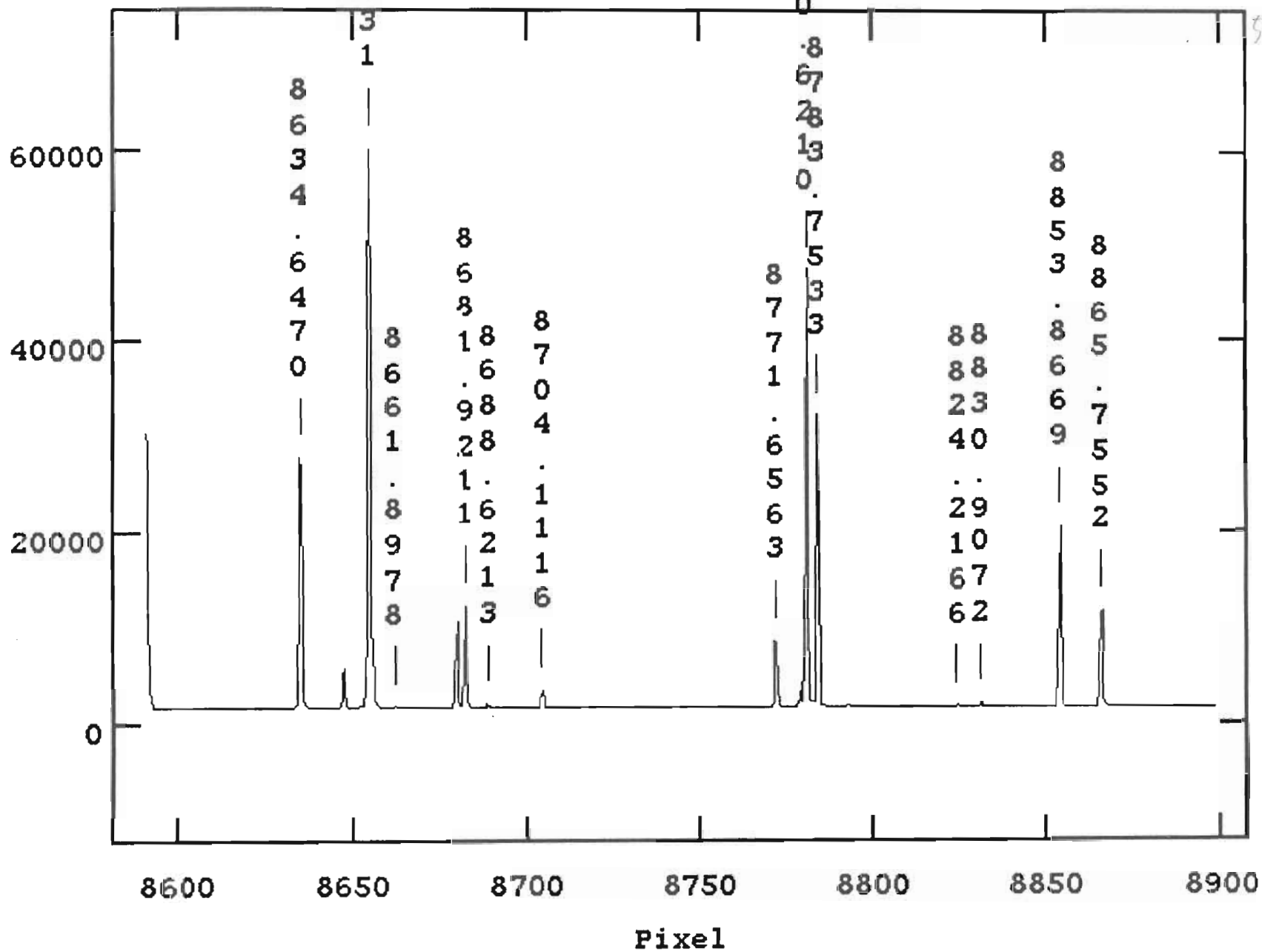


NOAO/IRAF V2.10EXPORT ccd@perseus Wed 21:15:45 07-Apr-93
[cc09244.ms]: FeNe 8.00s ap:1 beam:1



3 identify cc09230.ms - Ap 1

FeNe



CC04935.FIT

--	--	--	--	--	--	--	--

 comp_FeAr_7920A_

--	--	--	--	--	--	--	--

 DDOCCD Row 5

--	--	--	--	--	--	--	--	--	--

830 1/nm ≈ 378° Tilt

