

Content of a Good Log Entry

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There are Many Types of Entries

- Automated
- QuickPic
- TaskList
- Follow-up
- Downtime
- Readme
- 'Non-routine'
- Etc.

There is No Perfect Log Entry

I acknowledge up front that realistically there is no perfect log entry and especially one that spans all log books and types of entries.

Gathering Data

I will attempt to describe what readers of the logs would like to see in mostly what the Accelerator Operations Directives calls 'Non-routine' entries.

- From the AOD

- These are entries that describe events as they unfold and should contain enough detail to describe: Who, What, When, Where, and Why.

- From group feedback

- Operators, Operability, Engineering, Software, CASA, Installation, and others.

Attributes of a Good Log Entry

Document in the correct location(s)

- Unless I miscounted there are 54 logbooks available from the “Jefferson Lab Electronic Logbook” page.
- Should the information be logged in a single place or multiple locations? Sending it to the correct location(s) will:
 - Get the attention of the correct person(s)
 - Likely generate a quicker response (sense of priority)
 - Make searching for repeat offenders easier
- Should it be a Down Time (DT) entry?

Attributes of a Good Log Entry (cont.)

Descriptive Keywords

Keywords must describe what is written in the body of the log. The first decision a reader must make is to:

Read this entry or not?

Important information can be skipped or time wasted by the reader based on poor Keywords.

In addition, Keywords are often used when searching for past problems that are similar. Poor Keywords can lead to missing the entry and possibly crucial information.

Text or Body of the Entry

Body should be sufficiently informative to enlighten the reader

- What preceded the problem, what process was running when the problem occurred, who was working on the problem, what workstation was being used, error messages, beam conditions, etc.
- Short text entries
 - Get to the point but don't leave out critical information that the reader will need.
- Long text entries
 - Sometimes it's necessary to write very long entries. When this is the case it's very helpful to put a summary statement at the top.
- Entries that include screen grabs
 - Entries typically capture the writers view or symptom when the reader is ultimately looking for the problem. Screen grabs are very helpful in this case (picture is worth a 1000 words).
- 'Educational entries'. Not all entries have to describe what went wrong or what problem was observed. The logbook can also be used to convey information that others can learn from.

Short Vs. Long Entries

- Entries *should* only be as long as necessary. Novels can be interesting but usually not as a log entry. While writing an entry try to take the perspective of the reader and give them what they need, nothing else.
- Not all entries can be short. Entries that must be long should start with a 1-2 line summary. This allows those interested, but not in the gory details, to get the bottom line quickly. Similar to Keywords: you may lose a critical reader if they lose interest solely due to the length of an entry.
- Long entries with lots of 'technical speak' can sometimes be improved by stating a conclusion for clarification.
- Entries should almost always stand alone. Too many references to other locations can get confusing.

Pretty Good Short Entry

COMMENT ON RF System Repair & Recovery

Log number:

Submitted by:

Last updated on:

Logbooks: ELOG RFLOG

External References: ATLis: *RF System Repair & Recovery (OK)

2L23-4 IFPWP Fault. Removed and replaced FCC.

References the
ATLis

Acronyms can be confusing to the casual reader. And this could benefit from an outcome (e.g., system checked good)

Poor Short Entry

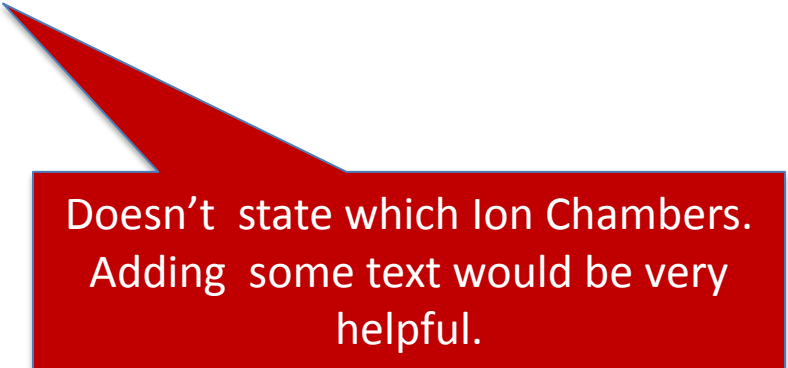
Keywords "Attempted CW to Hall D, Ion Chambers say "No""

Lognumber:

Last updated:

Logbooks: ELOG

Entry Makers:



Doesn't state which Ion Chambers.
Adding some text would be very
helpful.

Should Avoid

CW Beam to Hall D at 50 nA. x: -1mm y: -4mm

Lognumber:

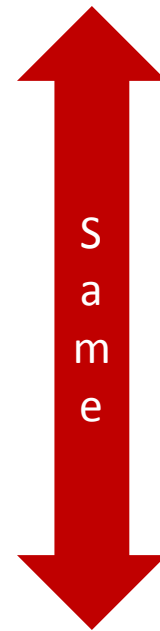
Submitted by:

Last updated:

Logbooks: ELOG HDLOG

Entry Makers:

CW Beam to Hall D at 50 nA. x: -1mm y: -4mm



Good Long Entry

No cryotargets this weekend - solid target running only

Lognumber:

Submitted by:

Logbooks: HALOG

References: XXXXX - No target cooldown today (Thursday)

Good Keywords



Good Summary

The issue with the Hall A cryotarget has been found and a fix is in progress. Unfortunately, investigation and correction of the problem required letting up the vacuum in the scattering chamber. By the time the vacuum would be good enough to try and cool down, it would be too late in the day on Friday.

The good news is that the scattering chamber vacuum should be good enough for us to begin to receive beam Friday evening. We will run solid targets until early next week, when we can hopefully try another cooldown.

Please note that even though we will not be running with cryogenic targets this weekend, we will still need someone on shift who is able to operate the target motion mechanism. After consulting with J-P, he said that this function could be handled by anyone who has sat through the classroom target training. So those collaborators who took the classroom target training today, but have not had the practical, should feel free to sign up for "target" shifts over the weekend.

Good Summary at the Top

HCO Complete to BSY Dump

Lognumber:

Submitted by:

Last updated on:

Logbooks: ELOG

Entry Makers:



Summary

HCO to BSY Dump (1 Pass) Complete

HCO to BSY Dump Complete :1 "Checked" Item pending run completion - LAM3C should be upgraded to "Ready" when run completed.

Document ID:

Group: HCO Committee

Subsystem: Acceptance

Author:

Submitted By:

Revision Number: 2

Revision Date:

Revision Comment: complete checklist



Much more to this entry

1. Verify there are no checklists missing from HCO (See Group Responsibility Report)

A

B

C

D

Etc., etc., etc.

Poor Educational Entry

Lognumber:

Submitted by:

Logbooks: ELOG POLOG

Entry Makers:

Good progress...

1. Joe Boxofdonuts did some magic and now QE Tool plots appear.
2. Tom Tiptoe found/repared bad ADC connection and now data is collected.
3. Verified good home/reset reproducibility w/ Spiricon
4. Verified 12000/12000 appears at usual location of Spiricon
5. Good QE scan, no signs of clipping or distress.

At least state what kind of magic (e.g., black)

Where was the connection?
What was the repair? Etc.

Good Educational Entry

Lognumber:

Submitted by:

Logbooks:

Entry Makers:

Joe Boxofdonuts has upgraded both the V-Wien and H-Wien filter DAC's to 16-bit resolution to improve upon beam steering and spin manipulation.

The old DAC range meant: 0-15,000V = 0-100 input value (numerically 10x the old low-res 10V DAC)

The new DAC range means: 0-15,000V = 0-65535 input value (numerically 16-bits of the new 10V DAC)

This means we'll enter values 655.35x larger than before to get the same effect, but we'll have better than 100x improved resolution. Pretty cool, eh?!

How does this affect us? Each of the two Wien filters uses a single DAC channel to determine its electric field. Fig. 1 shows the INJTWF spin controls screen. Each yellow box contains the new DAC; the blue box to the left of each shows the old DAC which SW will soon remove from the screen, as it is now defunct.

Entries With Variable Changes

Entries that state “Changed Y to Y+” yield very little useful information. You know what was done but not why.

- Example: Changed MBD0L07V from Y to Y+.
- A better more informative entry would be:
Observed orbit offset at IPM0L08 – IPM0L10 of about -1.5mm. Adjusting MBD0L07V from Y to Y+ removed the offset.
 - **Observation/Adjustment/Result**
 - Screen grabs of before and after could also be helpful.

Not as Good as it Could Be

QuickPic - RM05 Neutron dropped NL & INJ to Power Permit

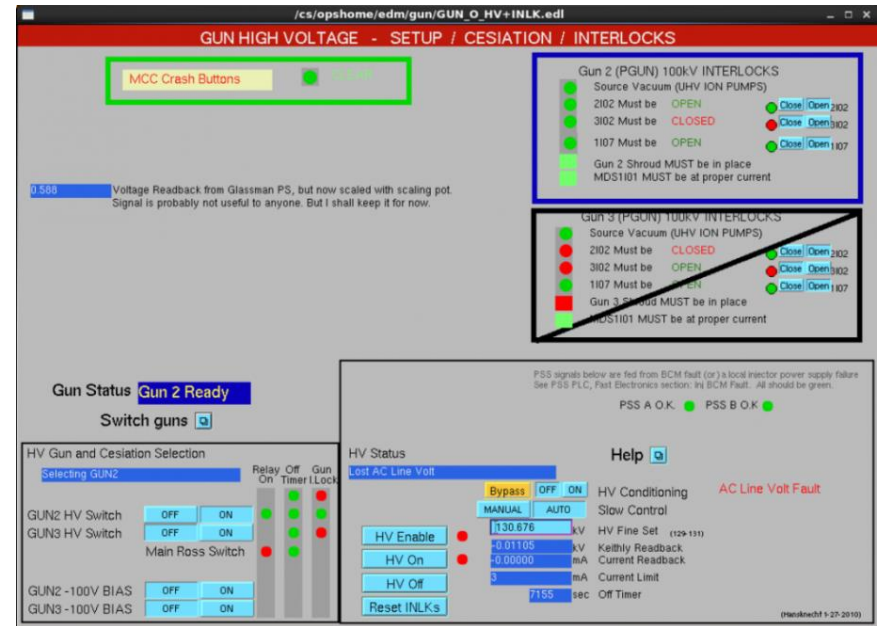
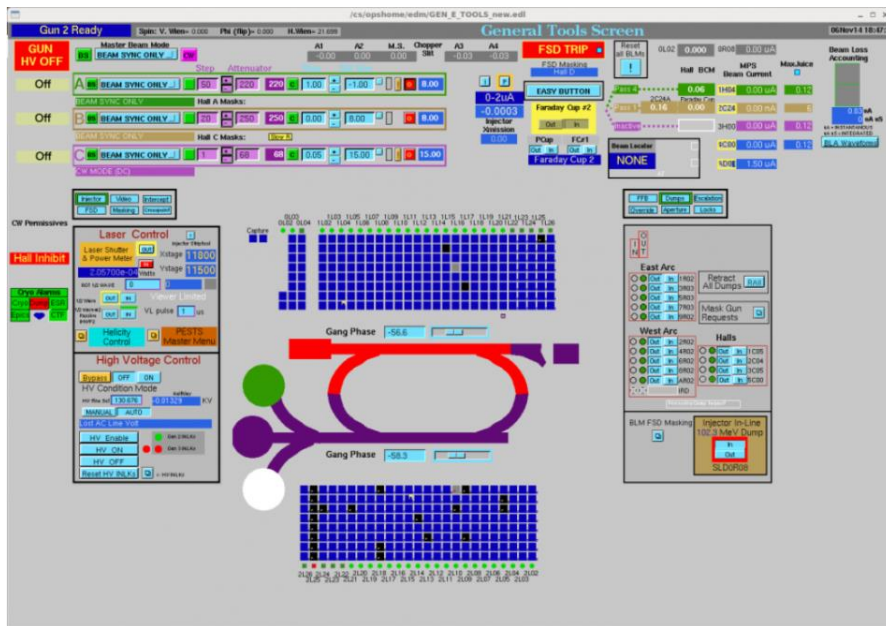
Log number:

Submitted by:

Last updated on:

Logbooks: ELOG

No text. Potentially lots of info for non-expert to dig through to get the beam conditions.



Downtime (DT) Entries

DT entries can lack key elements making troubleshooting difficult. DT entries generally benefit from one or more of the following symptoms

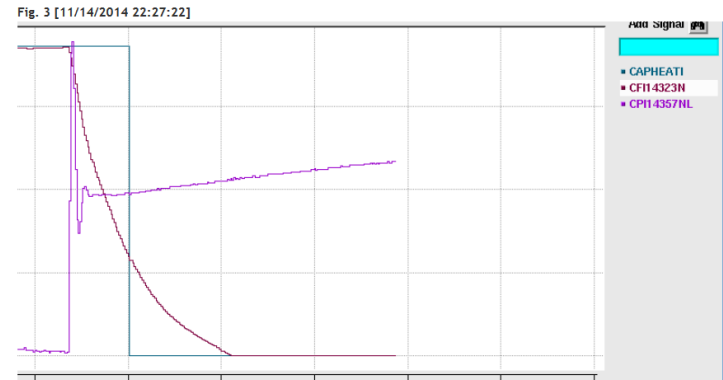
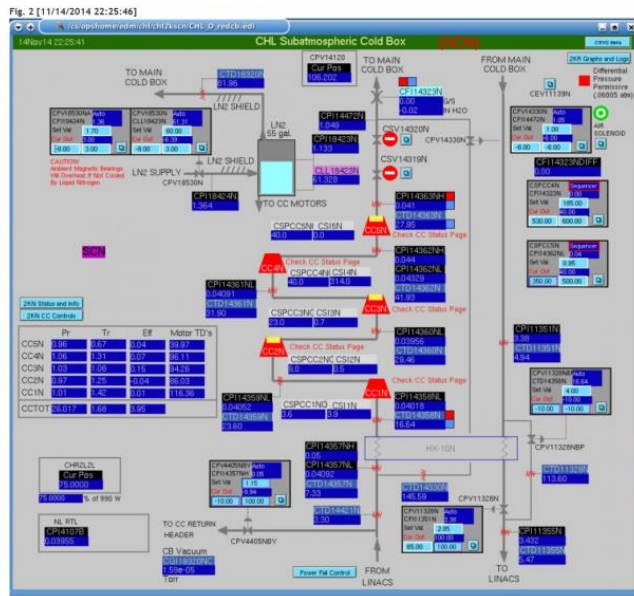
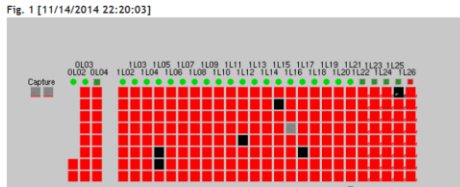
- Screen captures showing the faults, error messages, beam conditions, etc.
- References to other entries
- Timeline of what was tried
- What other operations were taking place at the time
- Who was called or is actively working the problem
- Additional data (files, etc.)

DT Entry to Diagnose a Problem

Figure 1 Shows that the RF for the Injector and North LINAC turned off.

Figure 2 shows the SCN Cold Box.

Figure 3 Shows a drop in flow and a rise in pressure (signals) for the NL.



Repairs Associated With a DT Entry

It's just as important to correctly document what was done to fix a problem. DT entries typically document a symptom. Addressing or closing a DT is the time to state the actual problem.

- Put enough information so that others can determine exactly what the repair was. Consider including the troubleshooting process.
- DT entries typically document to the chassis or board level but could benefit from detail as to what components were replaced. Doing so stores valuable information for possible future use.

Conclusions

- There is no single example of a good entry for all situations. Consider the reader when making an entry.
- Document in the correct log book(s) and use Keywords that describe the body of the log. Both are very important to the reader.
- Long entries benefit from having a summary at the top.
- When changing variables, state the observation, what was adjusted, and the result (include the before and after conditions).
- Screen grabs are often critical for DT entries. Details of the repair should be included in the entry as well.
- Entries are not always about what went wrong. They can also be used as educational tools.
- Entries should be capable of standing alone.
- Not discussed BUT be mindful of what you write as 'outsiders' may take you 100% seriously and come to incorrect conclusions.

Questions?

Other Log Considerations

- Running entries
- Plan for the day entries
- Keyword tips
- Naming conventions

Running Entries

- Running entries are a good way of displaying and tracking a timeline as events unfold during a problem.
- They do have a problem in that they are only viewable (**Check on this**) once the entry is logged.
 - Not sure how to fix this. Perhaps making entries every 30 minutes and link the entries.

Good 'Plan' Entry

Run plan for today and tomorrow

Lognumber:

Submitted by:

Last updated on:

Logbooks: HDLOG

Tags: ShiftSummary

Entry Makers:

Run plan for today and tomorrow:

- 1) x-collimator scan with the $2 \cdot 10^{-5}$ radiator and 50 nA of e- beam current. (30 min). Hovanes. Done
- 2) x-y beam scan with the $2 \cdot 10^{-5}$ radiator and 50 nA of e- beam current. (1:30h min). Shift Crew. Ongoing (it isn't now 1pm)
- 3) x-y beam scan with the 10^{-4} radiator and 50 nA of e- beam current. (1h30 min). Shift Crew.
- 4) x-collimator scan with the 10^{-4} radiator and 50 nA of e- beam current. (30 min). Hovanes.

In parallel to the above:

a) DAQ crash studies (40min) Sergey

b) TDC fix (2h) Benni

5) Pair Spec. commissioning, including runs without PS magnetic field (2h) Sacha

6) Trigger calibration (2h) Sacha

7a) Controlled access to install the triangle target, pointing UP (2h)

7b) x-scan with the collimator with 3 mm collimator hole and 5mm collimator hole. Once the target center is found, do a pair spec. harp scan (1h) Hovanes

7c) Controlled access to rotate the triangle target, now pointing DOWN (2h)

7d) x-scan with the collimator with 3 mm collimator hole and 5mm collimator hole. Once the target center is found, do a pair spec. harp scan (1h) Hovanes

Keyword Tips

- Using specific keywords when performing specific types of work makes searching much easier.
 - HCO
 - PM
 - Checklist
 - Location; SL, NL, Inj., Hall A, Hall B, etc.
 - System; ESR, CHL, CTF, etc.
 - Status update
 - Phone call
 - Tour
 - Etc.

Improper Use of Naming Conventions

Striptool showing MBLOR03 hysteresis cycle

Lognumber:

Last updated on:

Logbooks: ELOG

Entry Makers:

References:

Strip tool shows both **MBL0r03** and MBLOR04 chicane dipoles. MBLOR04 cycled normally but MBLOR03 did not.

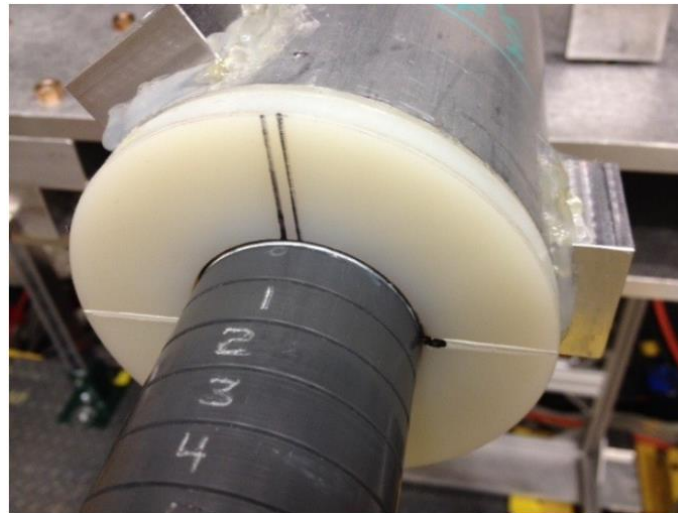
Good Entry

Logbooks: HDLOG HDTARGET

References: XXXXXX - 10mm Target installed

The target was installed with the holding tube at its nominal 0 angle. Although the target is a symmetric cylinder, this matters because the survey determined that the target is not perfectly centered on the beam line axis, see entry 3304514.

The attached photo (11/11/14, 11am) shows the orientation and z-value for the target.



Good Short Entry (text only)

Investigated Hall A PA not functioning correctly. Found out that it appears to be an amplifier overheating issue. Internal heat sinks have allot of dirt/dust on them. Plan to clean unit and retest.



Adding an ATLis number (if existing) would be helpful