Fermilab

Date: 7/8/08

EXHIBIT B
Pressure Testing Permit*

Type of Test: [ ]Hydrostatic [X] Pneumatic

Test Pressure 440 psig **Maximum Allowable Working Pressure** 400 psig

Items to be Tested
Test to be performed on the PAB liquid argon transfer line to "Bo." Refer to attached sketch. Section to be tested is highlighted in red.

Location of Test PAB **Date and Time** TBD 7.25.08 9AM

Hazards Involved
Remote possibility of pipe or component failure releasing the energy of compressed nitrogen. Argon piping has a pressure rating of 2568 to 3487 psi for the stainless steel sections and 1113 psi for the copper sections. Component ratings are in sketch. Most of the piping is inside a vacuum jacket which would act as containment for a failure. All system valves are Swagelock meta bellows valves rated for 1000 psig.

Safety Precautions Taken
Test area will be roped off. Test administrators will wear eye protection.

Special Conditions or Requirements

Qualified Person and Test Coordinator Dept/Date Terry Tope Also witnessed the test. PPD/

Division/Section Safety Officer Dept/Date Wayne Schmitt - Authorized Jim Tweed per the attached email. PPD/

Results

No Leak Were found. Held 440 psi for 10 minute'

Witness James E Tweed PPD **Dept/Date** 7/25/08
(Safety Officer or Designee)

* Must be signed by division/section safety officer prior to conducting test. It is the responsibility of the test coordinator to obtain signatures.

Terry Tope
5.14.08

Pressure Test Procedures for PAB "Bo" Argon Transfer Line.

1. CLOSE MV-379-Ar, MV-239-Ar, MV-480-HAr, MV-208-Ar, and MV-244-Ar.

2. OPEN MV-365-V.

3. Plug the exhaust of relief valve PSV-250-Ar.

4. Connect a 1/4" copper tube MV-365-V

5. Run the tube to the safe location inside PAB.

6. Connect tube to test manifold.

7. Evacuate the piping and back fill with bottle argon three times. Pressurizing the system to 10 psig each time.

8. Pressurize system to 25 psi. Valve off supply and observe test pressure gauge. If pressure holds at 25 psi for 10 minutes, proceed to next step. If leaks occur at this step, fix the leaks. Then resume testing at step 7. Monitor insulating vacuum pressures during entire test.

9. Gradually increase the pressure to 150 PSI. Valve supply off and make sure pressure does not fall. Fixing any leak above 25 PSI requires the system to be depressurized and the procedure resumed at step 7.

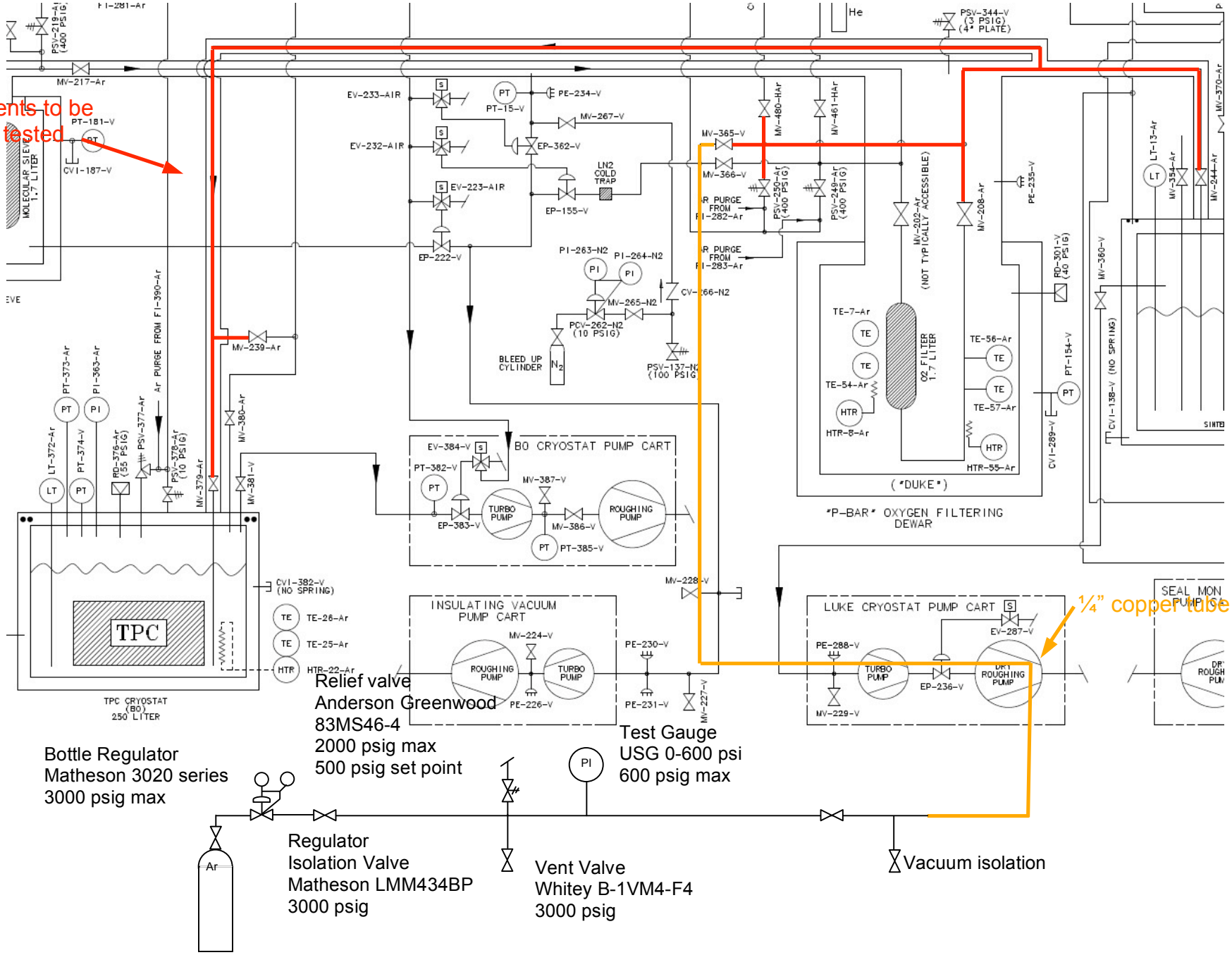
10. Gradually increase the pressure in increments of 50 PSI up to 440 PSI. Pause for 2 minutes at each increment and valve off the supply to make sure the pressure does not fall and indicate a leak. If leaks are found, depressurize system and fix the leaks. Then repeat steps 7 thru 11

11. At 440 PSI, hold the pressure for 10 minutes.

12. If leaks are found, depressurize system and fix the leaks. Then repeat steps 7 thru 11. If no leaks are found, depressurize system and disconnect test apparatus.

Schematic and component ratings for pressure test of PAB “Bo” LAr transfer line.

Terry Tope
7.8.08



From: Wayne Schmitt <wschmitt@fnal.gov>
Subject: **RE: pressure test**
Date: July 24, 2008 3:03:54 PM CDT
To: 'Terry Tope' <tope@fnal.gov>, 'Jim Tweed' <calibrationshop@fnal.gov>
Cc: 'Cary Kendziora' <clk@fnal.gov>

Hi Terry,

As long as Cary agrees, I think it's reasonable to allow Jim to act as the official Safety Officer designee in this case, so he is hereby authorized. When convenient, please send me a copy of the completed Pressure Testing Permit.

-Wayne

> -----Original Message-----
> **From:** Terry Tope [mailto:tope@fnal.gov]
> **Sent:** Thursday, July 24, 2008 11:27 AM
> **To:** wschmitt@fnal.gov; Jim Tweed
> **Cc:** Cary Kendziora
> **Subject:** Fwd: pressure test
>
> Wayne - We need to perform this piping pressure test you witnessed (with me) again. For the 3rd time. Documentation attached as before. Please decide if you need to witness it or Jim Tweed can be your designee.
>
> Regards,
>
> Terry
>
> Begin forwarded message:
>
> From: Terry Tope <tope@fnal.gov>
>
> > Date: July 8, 2008 9:38:23 AM CDT
> > To: wschmitt@fnal.gov
> > Subject: pressure test
> >
> > Hey Wayne - Attached is some documentation for a pressure test I need to perform soon. Martha witnessed this test back in May when Jim Tweed performed it for me. We made a small change to the piping, so now it has to be re-tested. In the past Martha made Jim Tweed her designee for tests that were repeated or similar to something she or Eric had already witnessed. I'll contact you when I'm prepared for the test so we can make the arrangements.
> >
> > Regards,
> >
> > Terry E Tope
> > Fermi National Accelerator Laboratory
> > PO Box 500 MS 219
> > Batavia IL 60510

p630.840.2666
f630.840.3694
tope@fnal.gov

Regards,

Terry E Tope
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