Fermilab

Date: May 5, 2010

EXHIBIT B
Pressure Testing Permit*

Type of Test: [X]Hydrostatic - Water section
[X] Pneumatic- CF3I section

Test Pressure	51 –water section	psig	**Maximum Allowable Working Pressure**	34 PI-72 =0-60	Psig psig
Test Pressure	165 – CF3I section	psig	**Maximum Allowable Working Pressure**	150 psig PI-404 =0-160 psig	psig
Test Pressure	60 –sweep gas sect.	psig	**Maximum Allowable Working Pressure**	45 psig	psig

Items to be Tested
0.25" X 0.035" wall, 0.50" x 0.049" wall, type 316L stainless steel tubing. Water section contains some 0.25" OD polyethylene tubing and Liqui-Cel filters with 120 psig max. operating pressure limit.
Sweep gas section contains Liqui-Cel filters with a 70 psig max. operating pressure limit.

Location of Test DZERO ass'y building pit **Date and Time** Week of May 3, 2010

Hazards Involved
None, low pressures, well below rating of tubing.

Safety Precautions Taken
Pressures are limited to ratings of gauges. Operating source pressures are limited. Water supply pressure is 34 psig or less, Sweep gas is typically 22 psig, CF3I source is typically 90 psig.

Special Conditions or Requirements
NONE

Qualified Person and Test Coordinator Dept/Date RUSS RUCINSKI PPD/MD 5/5/10
ID#8351

Division/Section Safety Officer Dept/Date AD/ESH 5.5.10
ERIC McHUGH 13747

Results
PRESSURE TEST SUCCESSFUL. PRESSURES HELD FOR 10 MINUTE PERIODS WITH SOURCE GAS ISOLATED. PRESSURE TEST GAGE CALIBRATION IS BAD. NOT CONSISTENT WITH ON BOARD GAGES. ACTUAL TEST PRESSURES A LITTLE HIGHER.

DISTILLATION CART PRESSURE TEST.

Witness [signature] ID#8351 Dept/Date PPD/MD/DØ OPS 5/12/10
(Safety Officer or Designee)
[signature] 2972

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

WATER SYSTEM SECTION - ACTUAL TEST PRESSURE = 53 PSIG

ALSO PRESSURIZED TO 62 PSIG WITH SWEEP

SWEEP GAS SECTION - ACTUAL TEST PRESSURE = 62 PSIG

RECIRC. PUMP WATER SECTION = 38 PSIG.

CF_3I SECTION = 170 PSIG.

MAY 12, 2010

PRESSURE TEST OF DISTILLATION CART

RUSS RUCINSKI – TEST COORDINATOR, ENGINEER 10#8351
PETE SIMON – OPERATIONS SPECIALIST

8:30 – STARTING TEST PROCEDURE.
RAN WATER FROM DISTILLED WATER DRUM THRU MILLIPORE UNIT & OUT MV-749.

8:42 – CONNECTED GAS CYLINDER TO F-613. CLOSED MV-642, FI-620. OPENENED FI-611. CLOSED MV-619.
8:46 CHECKING GAGE READINGS.

PRESSURE TEST GAGE 0-200, 6" DIAL, 2 PSI INCREMENTS ±.5%
CALIBRATED 11/25/09 RKB. SERIAL # 091125-01 ±1 PSIG

PT GAGE = 52 PSIG ±0.5 PI-614 = 55 PSIG ±.25
(1 PSIG INCREMENTS)

SWEEP GAS PRESSURE IS COMMUNICATING WITH SHELL WATER SIDE VIA LIQUI-CEL UNITS. JUMPER IS NOT INSTALLED YET.

PI-614 = 56 PSIG
PI-742 = 58 PSIG
PT GAGE = 52.5 PSIG.

WATER SECTION

9:07 PT GAGE = 51 PSIG. PI-614 = 52.5 PI-742 = 54
SOURCE GAS VALVE CLOSED. JUMPER MV-619 TO EV-711 ON (OPEN)

9:12 PT GAGE = 51 PSIG. PI-614 = 52.5 PI-742 = 54 PSIG.
9:17 " 51 52.0 54 PSIG
HELD FOR 10 MINUTES, TEST GOOD.

SWEEP GAS SECTION

9:20 PT GAGE = 60 PSIG PI-614 & PI742 = PAST 60 PSIG. LIMIT ≈ 65 PSIG
MV-619 IS CLOSED BUT WE ARE COMMUNICATING FROM SWEEP GAS TO LIQUI-CEL WATER. SOURCE ISOLATED.

9:30 PT GAGE = 60 PSIG. PI-614 ≈ 64? PI-732 ≈ 65?
HELD FOR 10 MINUTES, TEST GOOD.

PRESSURE TEST OF DISTILLATION CART - CONTINUED

CLOSED MV-501, MV-104, MV-204, MV-107, MV-207

OPENED MV-744, MV-450, MV-452, MV-740

PRESSURE TESTING WATER PUMP SECTION TO 34 PSIG.

RECIRCULATION PUMP SECTION

9:38 PT GAGE = 34.5 PSIG PI-614 = 36.5 PSIG
PI-742 = 38.0 PSIG PT-406 = 38.3 PSIG
PI-404 = 38 PSIG ± 5 PSIG. SOURCE ISOLATED

I QUESTION ACCURACY OF THE TEST GAGE CALIBRATION. PERHAPS IT WAS CALIBRATED WITH THE BAD DEAD WEIGHT TESTER.

9:45 PT GAGE = 34.5 PI-614 = 36.5 PSIG
PI-742 = 38.0 PT-406 = 38.2 PSIG
PI-404 = 38. PSIG.

9:50 READINGS THE SAME. TEST CONCLUDED.

ADJUSTED RELIEF VALVE ON SOURCE GAS TO 165 PSIG
MOVED SOURCE GAS TO F-410 CONNECTION PORT.

CLOSED MV-450, MV-452, MV-740

CF_3I SECTION

10:13 PRESS. SOURCE SET TO 165 PSIG. OPENED MV-411
PT GAGE = 165 PSIG.
PT-406 = 170.3 PSIG.
PI-404 = 168 PSIG (PAST 160 RANGE)

10:20 PRESSURE TEST GAGE = 165 PSIG.
PT-406 = 170.0 PSIG
PI-404 = 170 PSIG.

10:26 PT GAGE 165 PSIG
PT-406 = 170. PSIG
PI-404 = 168 PSIG

PRESSURE HELD FOR 13 MINUTES
NO DROP. TEST GOOD.

END PRESSURE TEST.

5/12/10

(POST PRESSURE TEST) (3) 5/12/10 RUSS RUCINSKI

CALIBRATION CHECK OF PRESSURE GAGES

MV-744 CLOSED COMPARING DISTILLATION VESSEL GAGES & PT GAGE

PT 406	PI-511	PI-110	PI-210	PT GAGE	PI-404
5.1	4.8	5	5	3	
~~10.2~~ 9.8	9.5	10	10	8	
13.7	13.2	14	14	12	
30.8	N/A	30	30	28	30
50.1	N/A	50	50	48	50
60.0	N/A	60	60	58	60
70.1	N/A	70	70	≈67.8	70
85.0	N/A	85	85	82	85
100.0	N/A	100	100	97	100
119.0	N/A	119	119	116	119