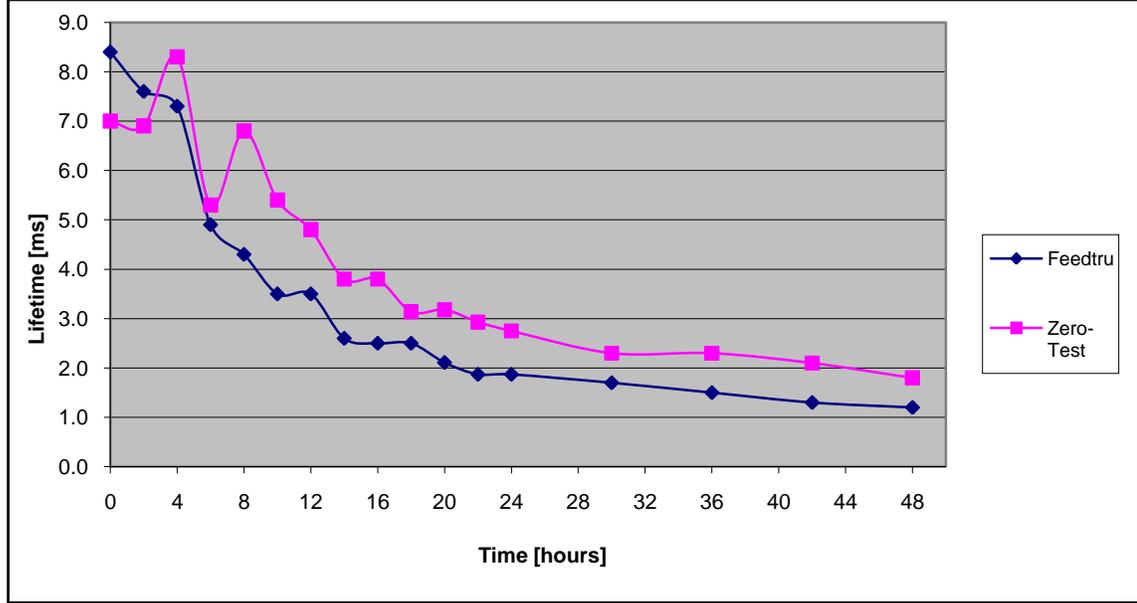


## ***PAB Materials Test System***

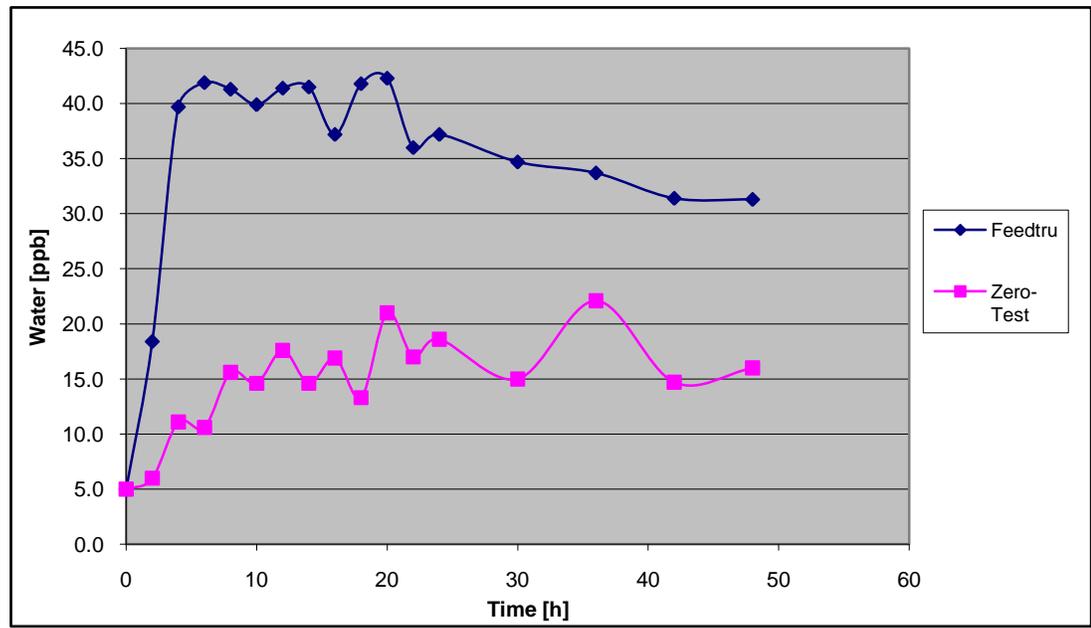
<b>Date of Receipt</b>	Nov.09
<b>Sample Name/Description</b>	962 Feedthrough Board V2 with 4 connectors
<b>Sample</b>	
<b>Composition:</b>	board :FR4 , connectors: glass filled nylon
<b>Picture Location:</b>	data base
<b>Density:</b>	x
<b>Weight:</b>	63.7g (board with 4 connectors)
<b>Dimensions/Area:</b>	board: 8cm x 9.3cm, connector: 7.6cm x 1cm x 0.7cm
<b>Source:</b>	Walter Jaskierny
<b>Preparation:</b>	cleaned with alcohol
<b>Submerging in LAr or LH2</b>	no
<b>Time in the airlock(hrs)</b>	app. 24 hours
<b>Purge:</b>	
<b>Vacuum:</b>	10/12/2009, app. 23.5h
<b>Vapor Test 1</b>	
<b>Start Time/Date, End Time/Date :</b>	10/13/09 2:30pm, 10/14/09 1:15pm
<b>PrM run # :</b>	6194
<b>Condenser state:</b>	on
<b>Filter state:</b>	on, heater time 1min, valve open 1min
<b>O2 reading:</b>	x
<b>H2O reading:</b>	4ppb to 16ppb
<b>Temperature:</b>	x
<b>Lifetime:</b>	8ms to 3.2ms
<b>Room Temperature Test 1</b>	Airlock purged with Luke vapor for 10min before gate valve open
<b>Start Time/Date, End Time/Date :</b>	10/14/09 3:15pm, 10/15/09 9:25pm
<b>PrM run # :</b>	6209
<b>Condenser state:</b>	on
<b>Filter state:</b>	on
<b>O2 reading:</b>	x
<b>H2O reading:</b>	16ppb to 85ppb
<b>Temperature:</b>	room
<b>Lifetime:</b>	4ms to 2ms
<b>Room Temperature Test 2</b>	Sample baked for 24hours at 80-100F,
	airlock evacuated for 0.5hour to 10E-6 Torr
<b>Start Time/Date, End Time/Date :</b>	10/16/09 10:30am , 10/21/09
<b>PrM run # :</b>	6228
<b>Condenser state:</b>	on
<b>Filter state/settings:</b>	off 10/16/09 to 10/19/09, on 10/19/09 to 10/22/09
<b>H2O reading:</b>	5ppb to 45ppb then stabilized at 25ppb
<b>Temperature:</b>	room
<b>Lifetime:</b>	8.5 ms to 5.3ms in 5h. to 1ms in 70hours
<b>Zero Test - room temperature</b>	airlock evacuated to 9E-6 Torr
<b>Start Time/Date, End Time/Date :</b>	10/22/2009, 10/26/09
<b>PrM run # :</b>	6290
<b>Condenser state:</b>	on
<b>Filter state/settings:</b>	off
<b>H2O reading:</b>	5ppb to 18ppb

	<b>Lifetime:</b> 7 ms to 1.3ms in 80hours
<b>Results &amp; Comments</b>	lifetime dropped to 12-30% due to big amount of water released.
	connectors and board need to be tested separately

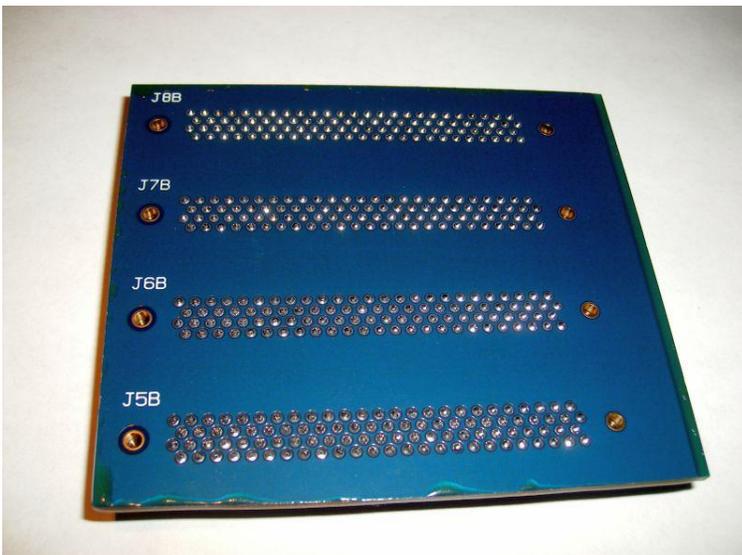
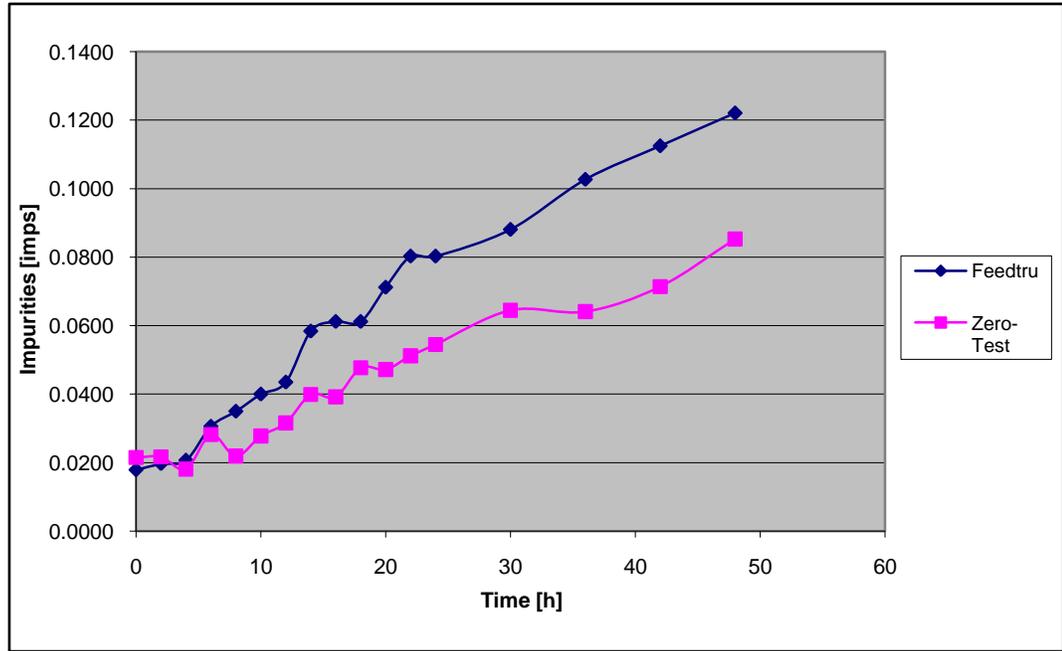
Time [h]	Lifetime [ms]	
	Feedtru	Zero-Test
0	8.4	7.0
2	7.6	6.9
4	7.3	8.3
6	4.9	5.3
8	4.3	6.8
10	3.5	5.4
12	3.5	4.8
14	2.6	3.8
16	2.5	3.8
18	2.5	3.1
20	2.1	3.2
22	1.9	2.9
24	1.9	2.8
30	1.7	2.3
36	1.5	2.3
42	1.3	2.1
48	1.2	1.8



Time [h]	Water [ppb]	
	Feedtru	Zero-Test
0	5.0	5.0
2	18.4	6.0
4	39.7	11.1
6	41.9	10.6
8	41.3	15.6
10	39.9	14.6
12	41.4	17.6
14	41.5	14.6
16	37.2	16.9
18	41.8	13.3
20	42.3	21.0
22	36.0	17.0
24	37.2	18.6
30	34.7	15.0
36	33.7	22.1
42	31.4	14.7
48	31.3	16.0



Time [h]	Impurities [imps]	
	Feedtru	Zero-Test
0	0.0179	0.0215
2	0.0197	0.0217
4	0.0207	0.0181
6	0.0306	0.0282
8	0.0350	0.0219
10	0.0400	0.0278
12	0.0435	0.0316
14	0.0584	0.0399
16	0.0612	0.0392
18	0.0612	0.0477
20	0.0712	0.0472
22	0.0803	0.0512
24	0.0803	0.0545
30	0.0881	0.0645
36	0.1027	0.0641
42	0.1125	0.0714
48	0.1221	0.0853





Below is Historical plot for testing 962 feedthru :

1. Before material test was started.

(10/7) Luke was filled to 31.5in.

Lazy Suzanne first at position 0-blank (lifetime drops from 8 ms to 1.5 ms).

(10/8) LS changed to position 2- Filter /mole.sieve.

(10/12) LS changed to position 3- Filter.

(10/12, 9pm) Internal filter turned on (lifetime increases from 3 to 8 ms).

2. 962 Feedthru test starts.

(10/13) Vapor test. Internal pump on. ( lifetime drops from 8 ms to 3 ms in 12 hours)

3. (10/14) Room temp.test. Internal pump on. (lifetime drops from 4 ms to 2 ms in 18 hours)

4. (10/16) Room temp.test .Baked feedthru. Internal pump off. (lifetime 8.5 ms to 1 ms in 70 hours)

5. (10/19) Room temp.test. Internal pump on. (10/20 problem with equalization valve, 10/21 solved)

6. (10/22) Zero test.(airlock was evacuated then gate valve opened). Internal pump off. (lifetime 7 ms to 1.3 ms in 80 hours)

