From: "Smith, David" <dsmith4@entergy.com>
To: "'jdn@nrc.gov'" <jdn@nrc.gov>
Date: 10/17/05 12:12PM
Subject: Mass Balance: Boron SFP Loss Estimate

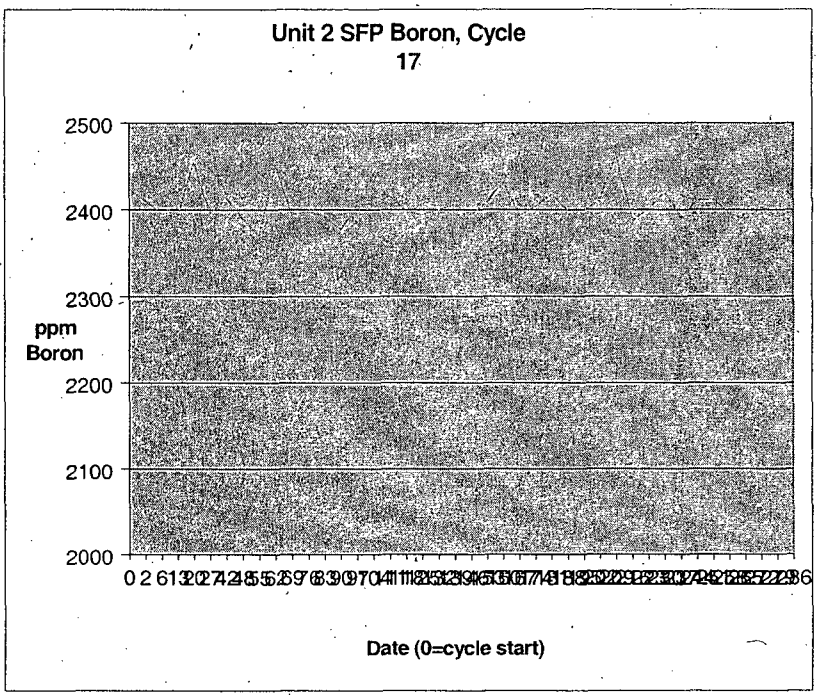
Jim, here is what I have as of today:
<<Fitter_LG.xls>>
About four more recent data points are included. No fuel/rack displacement volume is considered. Total boron loss over the cycle (about 7 ppm) is less than gaussian standard deviation of the pool boron measurements (18.7 ppm). Poisson S.D. would be about 50 ppm.

CC: "Jones, T. R." <tjones2@entergy.com>

-0.02020

slope	y-intercept	S.D. (ppm)
-0.02020	2407.42131	18.7
		S.E. of Mean
		2.7

#	X 47	Y 47	$(x_i y_i)$	$(x_i)^2$
1	0	2424	0	0
2	2	2410	4820	4
3	6	2395	14370	36
4	13	2392	31096	169
5	20	2456	49120	400
6	27	2396	64692	729
7	42	2413	101346	1764
8	48	2390	114720	2304
9	55	2370	130350	3025
10	62	2452	152024	3844
11	69	2394	165186	4761
12	76	2398	182248	5776
13	83	2392	198536	6889
14	90	2377	213930	8100
15	97	2406	233382	9409
16	104	2407	250328	10816
17	111	2416	268176	12321
18	118	2398	282964	13924
19	125	2394	299250	15625
20	132	2400	316800	17424
21	139	2406	334434	19321
22	146	2394	349524	21316
23	153	2409	368577	23409
24	160	2432	389120	25600
25	167	2393	399631	27889
26	174	2404	418296	30276
27	181	2417	437477	32761
28	188	2399	451012	35344
29	195	2399	467805	38025
30	202	2411	487022	40804
31	209	2464	514976	43681
32	216	2387	515592	46656
33	223	2401	535423	49729
34	230	2420	556600	52900
35	237	2390	566430	56169
36	244	2411	588284	59536
37	251	2412	605412	63001
38	258	2395	617910	66564
39	265	2389	633085	70225
40	272	2403	653616	73984
41	279	2392	667368	77841
42	286	2399	686114	81796
43	293	2379	697047	85849
44	296	2387	706552	87616
45	300	2403	720900	90000
46	307	2398	736186	94249
47	314	2424	761136	98596
48			0	0
49			0	0
50			0	0
51			0	0
52			0	0
53			0	0
54			0	0



[loss]

-2.6 gpd

fractional loss per day

dimensions (feet)

30.67 N to S
34 E to W
39 deep

estimate from SFP building general plan

55	0	0
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	0	0
65	0	0
66	0	0
67	0	0
68	0	0
69	0	0
70	0	0
71	0	0
72	0	0
73	0	0
74	0	0
75	0	0
76	0	0
77	0	0
78	0	0
79	0	0
80	0	0
81	0	0
82	0	0
83	0	0
84	0	0
85	0	0
86	0	0
87	0	0
88	0	0
89	0	0
90	0	0
91	0	0
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93	0	0
94	0	0
95	0	0
96	0	0
97	0	0
98	0	0
99	0	0
100	0	0
101	0	0
102	0	0
103	0	0
104	0	0
105	0	0
106	0	0
107	0	0
108	0	0
109	0	0
110	0	0
111	0	0
112	0	0

113	0	0
114	0	0
115	0	0
116	0	0
117	0	0
118	0	0
119	0	0
120	0	0
121	0	0
122	0	0
123	0	0
124	0	0
125	0	0
126	0	0
127	0	0
128	0	0
129	0	0
130	0	0
131	0	0
132	0	0
133	0	0
134	0	0
135	0	0
136	0	0
137	0	0
138	0	0
139	0	0
140	0	0
141	0	0
142	0	0
143	0	0
144	0	0
145	0	0
146	0	0
147	0	0
148	0	0
149	0	0
150	0	0
151	0	0
152	0	0
153	0	0
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155	0	0
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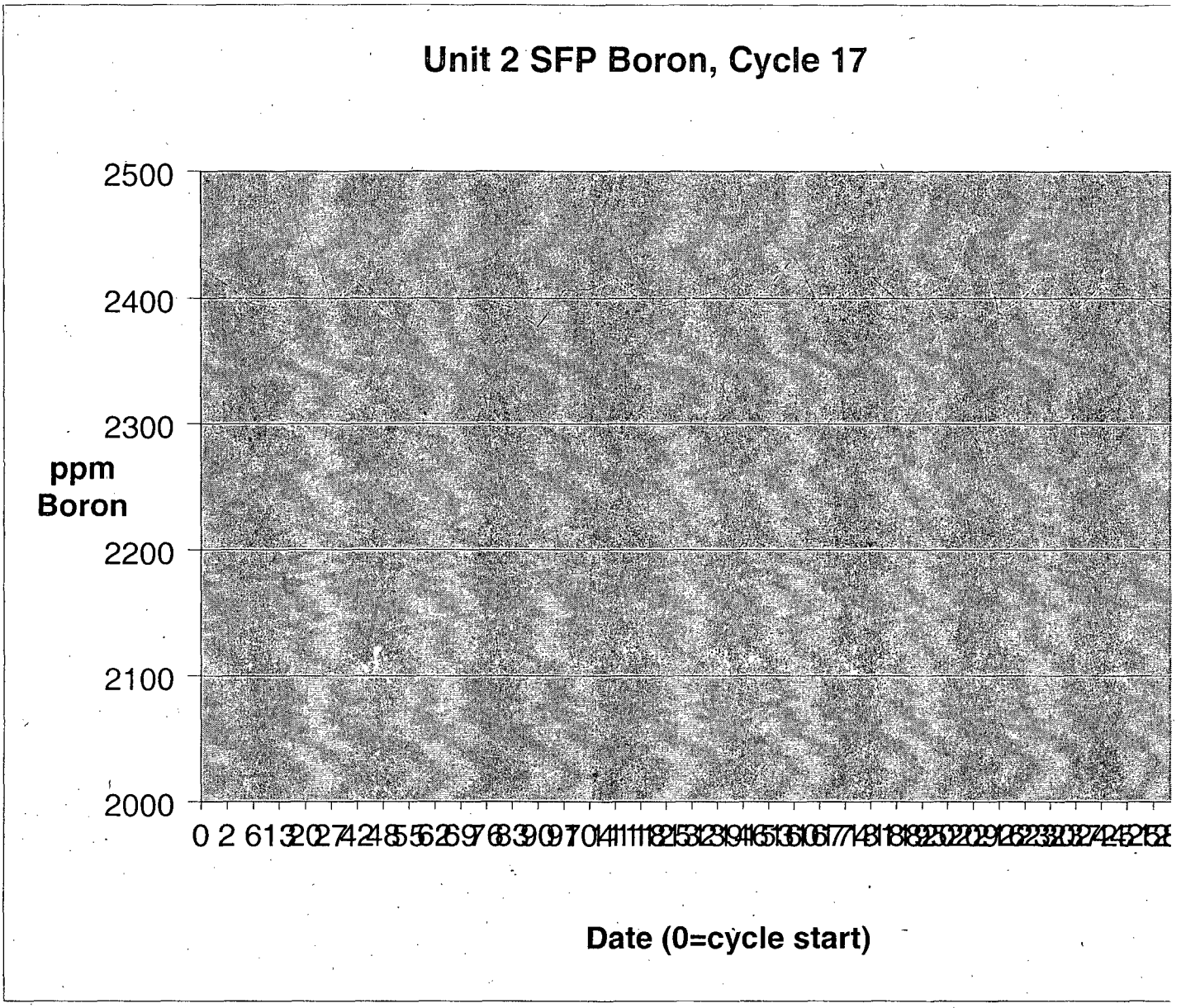
160	0	0
161	0	0
162	0	0
163	0	0
164	0	0
165	0	0
166	0	0
167	0	0
168	0	0
169	0	0
170	0	0

171	0	0
172	0	0
173	0	0
174	0	0
175	0	0
176	0	0
177	0	0
178	0	0
179	0	0
180	0	0
181	0	0
182	0	0
183	0	0
184	0	0
185	0	0
186	0	0
187	0	0
188	0	0
189	0	0
190	0	0
191	0	0
192	0	0
193	0	0
194	0	0
195	0	0
196	0	0
197	0	0
198	0	0
199	0	0
200	0	0
201	0	0

sum x_i	sum y_i		
7465	112998	17938867	1610457
x-bar	y-bar		sums:
159	2404		


Unit 2 SFP Boron, Cycle 17
2500
2400
2300
2200
2100
2000
ppm
Boron
Date (0=cycle start)