Mitman, Jeffrey

From:	Mitman, Jeffrey
Sent:	Tuesday, November 09, 2010 9:04 PM
To:	Ferrante, Fernando
Subject:	Jocassee inflow calc
Attachments:	Reservoir Volumes (2).xlsx

Fernando, attached is my revised spreadsheet.

With the additional data at the elevations of interest (1106 to 1125) I've re-plotted just this portion of the basin curve. According to Excel the curve is linear in this region. Let me know what you think.

I've also plotted the surface area based on the available data.

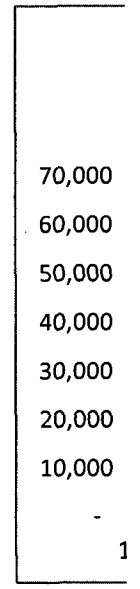
I've tried to reproduce the max inflow (inflow + rain water) equal to 522,000 using the HEC1 detailed output. But I cannot get the 378,282 cfs plus the 0.53 in./hr. near the known total of 522,000. If you've got time to kill, you can look at "Sheet2" of the spreadsheet to see my attempts.

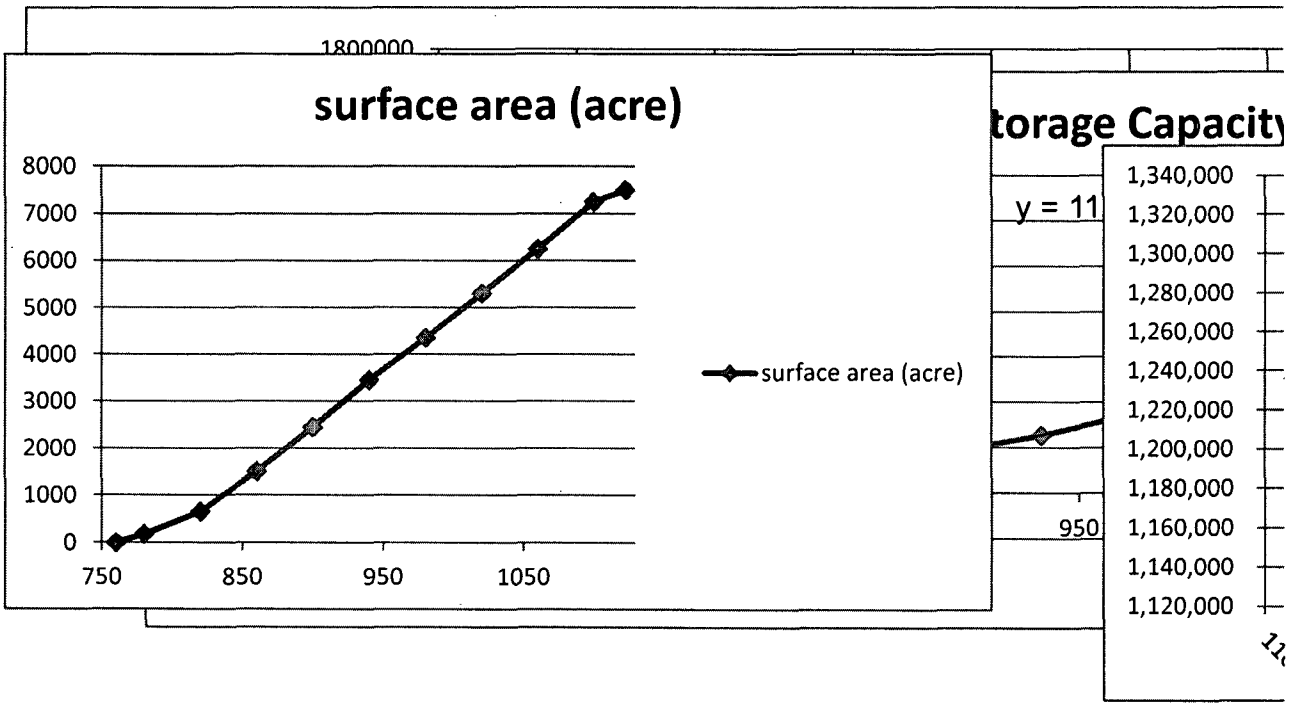
However, looking through the output, I have found the composite parts. The HEC1 flood routing output shows a max total inflow of 522,734 (at time 40.33) with a max total routing of 378,282 (at time 40.50) and a max direct (rain) of 157,680 (at time 40.17), or: 378,282 + 157,680 = 535,962. This is close enough for me to the stated value of 522,734. I attribute the discrepancy to the difference in the times of the various maximums.

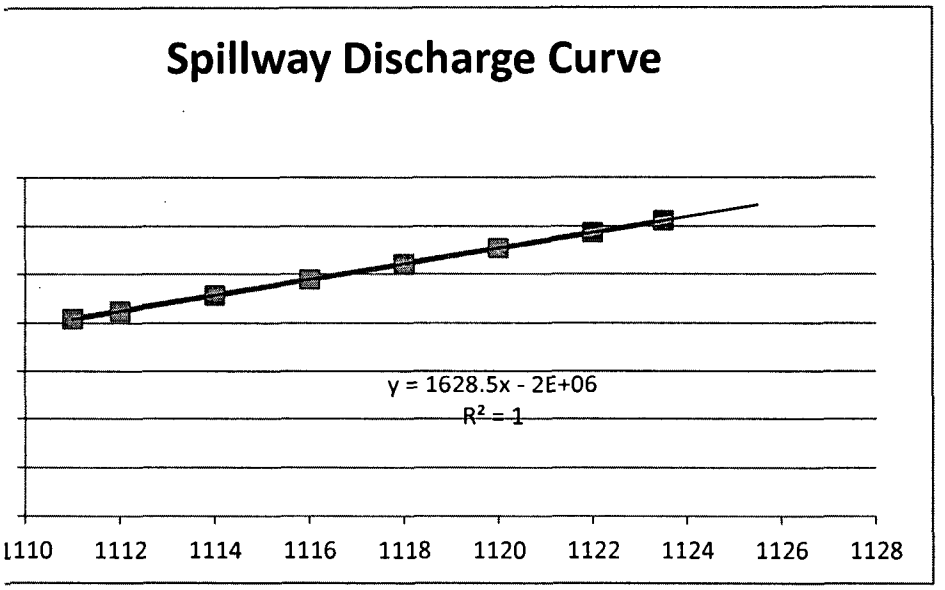
Jeff

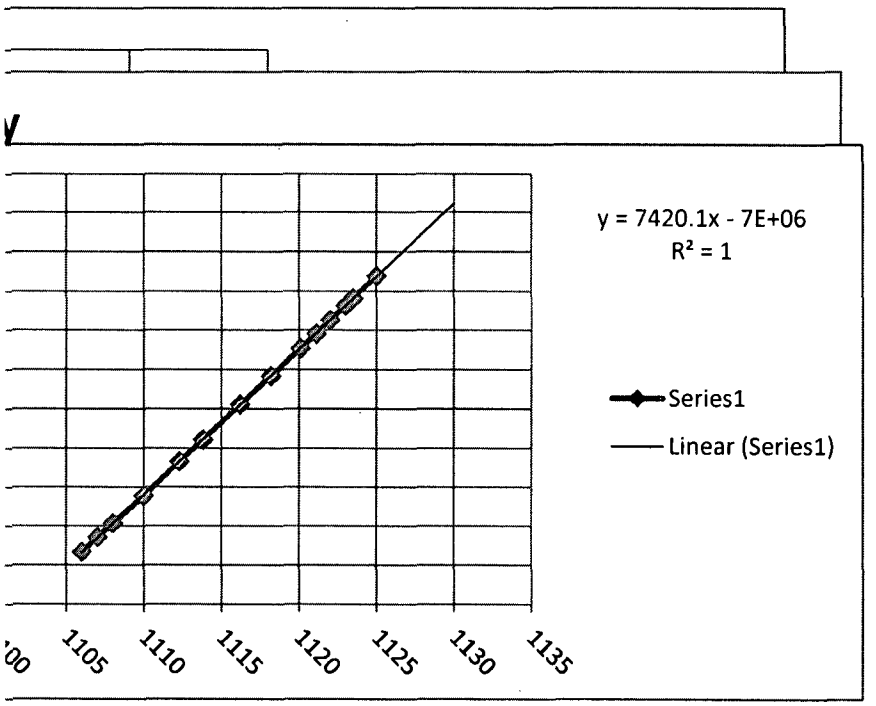
B-129

	se	sa		sq	se	
	elevation (ft. MSL)	surface area (acre)	Computed Storage Volume (acre ft)	total discharge (SCFM)		discharge from spillway
1	760	0	-	0	1080	
2	780	180	1,200	0	1105.99	
3	820	650	16,827	26,600	1106	0
4	860	1500	58,660	26,600	1110.99	0
5	900	2450	136,887	67,475	1111	40,875
6	940	3450	254,318	69,074	1112	42,474
7	980	4350	409,970	72,295	1114	45,695
8	1020	5300	602,658	75,539	1116	48,939
9	1060	6250	833,397	78,801	1118	52,201
10	1100	7250	1,103,150	82,076	1120	55,476
11	1123	7500	1,272,767	85,359	1122	58,759
12	1123.5		1,276,518	87,822	1123.5	61,222









Elevation	Storage Capacity
760	-
780	1,200
820	16,827
860	58,660
900	136,887
940	254,318
980	409,970
1020	602,658
1060	833,397
1100	1,103,150
1106	1,146,702
1107	1,154,291
1108	1,161,495
1110	1,175,589
1112.3	1,193,240
1113.8	1,204,254
1116.2	1,222,252
1118.2	1,236,900
1120.1	1,250,912
1121.1	1,258,243
1122	1,265,310
1123	1,272,767
1123.5	1,276,518
1125	1,287,788
1130	
1125.5	
1126	

Excel	Mitman	Fernando	
(152,147)	9,863	13,240	
(161,305)	705	2,460	105.00%
(152,073)	9,937	8,860	-47.35%
(106,111)	55,899	52,540	-10.43%
(23,420)	138,590	133,500	-2.47%
96,001	258,011	251,740	-1.01%
252,151	414,161	407,260	-0.66%
445,031	607,041	600,060	-0.43%
674,641	836,651	830,140	-0.39%
940,980	1,102,990	1,097,500	-0.51%
984,099	1,146,109	1,140,819	-0.51%
991,366	1,153,376	1,148,121	-0.53%
998,655	1,160,665	1,155,446	-0.52%
1,013,304	1,175,314	1,170,165	-0.46%
1,030,263	1,192,273	1,187,208	-0.51%
1,041,389	1,203,399	1,198,389	-0.49%
1,059,297	1,221,307	1,216,387	-0.48%
1,074,322	1,236,332	1,231,489	-0.44%
1,088,681	1,250,691	1,245,922	-0.40%
1,096,271	1,258,281	1,253,552	-0.37%
1,103,123	1,265,133	1,260,439	-0.38%
1,110,757	1,272,767	1,268,113	-0.37%
1,114,582	1,276,592	1,271,959	-0.36%
1,126,094	1,288,104	1,283,531	-0.33%
1,164,838	1,326,848	1,322,485	
1,129,942	1,291,952	1,287,400	
1,133,797	1,295,807	1,291,275	