Note:

ST = proportional ST = product of AS of each column
proportional STS (propSTS) = sum ST - 7; (since number of queries = 7)
actual STS = propSTS * file size (given in K pages)

WLS = actual STS + sum pcostn (WLS given in K pages)
file size = 900 K pages
where JOIN_DATE is large, AS = QS = 0.04

P1		column =	GENDER	AGE	CRED_LIM	JOIN_DATE		total pcostn			
		number of partitions =	2	14	8	large					
		pcostn=	0	102.6	123.2	0		225.8			
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	sum ST	propSTS	actual STS	WLS
			.5*.12=		.5*.237*.453=		.187*.288=			(K pages)	(K pages)
ST=	0.5000	0.2370	0.0600	0.0400	0.0537	0.2880	0.0539	1.2325	-5.7675	-5190.7	-4964.9

P2		column =	GENDER	AGE	CRED_LIM	JOIN_DATE		total pcostn			
		number of partitions =	2	14	8	10					
		pcostn=	0	102.6	123.2	0		225.8			
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	sum ST	propSTS	actual STS	WLS
			.5*.12=		.5*.237*.453=		.187*.288=			(K pages)	(K pages)
ST=	0.5000	0.2370	0.0600	0.1380	0.0537	0.2880	0.0539	1.3305	-5.6695	-5102.5	-4876.7

P3		column =	GENDER	AGE	CRED_LIM	JOIN_DATE		total pcostn			
		number of partitions =	2	10	7	10					
		pcostn=	0.0	71.0	105.6	0.0		176.6			
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	sum ST	propSTS	actual STS	WLS
			.5*.147=		.5*.264*.469=		.215*.306=			(K pages)	(K pages)
ST=	0.5000	0.2640	0.0735	0.1380	0.0619	0.3060	0.0658	1.4092	-5.5908	-5031.7	-4855.1

P4		column =	GENDER	AGE	CRED_LIM	JOIN_DATE		total pcostn			
		number of partitions =	2	21	11	large					
		pcostn=	0.0	157.8	176.0	0.0		333.8			
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	sum	propSTS	actual STS (K pages)	WLS (K pages)
			.5*.098=		.5*.214*.421=		.164*.257=				
ST=	0.5000	0.2140	0.0490	0.0400	0.0450	0.2570	0.0421	1.1472	-5.8528	-5267.5	-4933.7

P5		column =	GENDER	AGE	CRED_LIM	JOIN_DATE		total pcostn			
		number of partitions =	2	15	8	large					
		pcostn=	0	110.5	123.2	0		233.7			
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	sum	propSTS	actual STS (K pages)	WLS (K pages)
			.5*.116=		.5*.232*.453=		.183*.288=				
ST=	0.5000	0.2320	0.0580	0.0400	0.0525	0.2880	0.0527	1.2233	-5.7767	-5199.1	-4965.4

P6		column =	GENDER	AGE	CRED_LIM	JOIN_DATE		total pcostn			
		number of partitions =	2	14	9	large					
		pcostn=	0	102.6	140.8	0		243.4			
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	sum	propSTS	actual STS (K pages)	WLS (K pages)
			.5*.12=		.5*.237*.444=		.187*.274=				
ST=	0.5000	0.2370	0.0600	0.0400	0.0526	0.2740	0.0512	1.2149	-5.7851	-5206.6	-4963.2

maximum STS	assume infinitely large partitioning on all columns, ignore pcostn (=0)										
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	sum	propSTS	actual STS (K pages)	WLS (K pages)
			.5* .05=		.5*.167*.33		.117*.167=				
ST=	0.5000	0.1670	0.0250	0.0400	0.0276	0.1670	0.0195	0.9461	-6.0539	-5448.5	-5448.5

Table a4.2 Determination of WLS for different partitionings