flush and retained much of that water throughout the 15 weeks; with only one HCS-IN sample from Laboratory 3 coming close at 566 mL initially. The different column packing technique of Laboratory 1 could account for this water retention. Differences also indicate that collection of retained water volumes during a subsequent collection period (indicated by negative Volume Added – Volume Collected results) occurred across several laboratories through approximately Week 6, but most often through Week 3.

In evaluating the analytical results submitted during this study, it is assumed that the concentration of analytes measured is consistent throughout the aqueous phase within each column (i.e., the concentration of each analyte measured in the sample volume collected is representative of the concentration of the analyte in the water throughout the column). It is also assumed that analytes will continue to partition or dissolve into any water that is retained in the column. With these assumptions in mind, it is important to note that the amount of water that is added, collected, and retained in each column must be considered as a variable affecting sample discharges. This is true irrespective of the sample being evaluated. It is also important to note that evaluation of data in terms of weighted results (analyte concentration, multiplied by the volume of water collected and divided by total sample weight) will compensate for the volume of water collected and the sample weight, but will not compensate for the impact of water retained from a previous week or weeks.

Table 4.4a: Houchin Creek Shale Volume Differences

Sample ID: HCS-IN														
	Lab 1		Lab 2		Lab 3		Lab 4		Lab 5		Lab 6		Lab 7	
Sample Weight (grams)														
	2000	*2000*	*1298*	*1589*	*1521*	*1489*	*1487*	*1515*	*1482*	*1521*	*1361*	*1410*	*1412*	*1487*
Week	**Volume (mL) Remaining In Column (Volume of Water Added - Volume of Water Collected)**													
Initial	1098	1024	230	390	475	566	220	300	267	252	85	245	310	315
1	25	-41	-15	-45	54	-55	25	20	125	75	90	115	90	180
2	35	16	25	-55	81	93	30	20	56	95	-65	-40	140	10
3	17	31	-10	5	17	-115	25	50	54	123	35	65	284	160
4	28	20	25	20	52	107	70	55	76	50	45	50	120	190
5	71	52	5	0	102	26	35	35	58	49	-10	15	182	120
6	40	38	-5	5	58	75	40	25	69	82	65	80	240	172
7	28	33	10	50	125	194	50	40	57	78	10	5	246	240
8	25	46	15	10	131	27	55	60	84	100	20	10	210	210
9	60	64	15	5	28	10	65	60	90	73	10	80	85	100
10	82	14	10	5	73	42	60	40	80	84	40	65	85	120
11	35	40	10	20	34	37	45	55	60	55	25	55	70	110
12	84	62	5	15	28	24	55	60	75	88	35	20	125	75
13	-	-	5	10	14	-8	80	55	103	115	40	75	130	80
14	56	7	0	5	19	10	60	50	59	43	5	0	200	200
Net	**1684**	**1406**	**325**	**440**	**1291**	**1033**	**915**	**925**	**1313**	**1362**	**430**	**840**	**2517**	**2282**