APPENDIXES

Appendix A. Chemical characteristics of and constituents in water from selected wells in undeveloped and agricultural land-use areas, Kirkwood-Cohansey aquifer system, Atlantic, Burlington, Camden, Gloucester, and Salem Counties, New Jersey

[ft, feet; µS/cm, microsiemens per centimeter at 25 degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; ag, agricultural; und, undeveloped; NO_2, nitrite; NO_3, nitrate; N, nitrogen; $CaCO_3$, calcium carbonate; <, less than; --, not determined]

U.S. Geological Survey well number[1]	Depth below land surface (ft)	pH (units)	Specific conductance (µS/cm)	Dissolved oxygen (mg/L)	Dissolved calcium (mg/L)	Dissolved magnesium (mg/L)	Dissolved sodium (mg/L)	Dissolved potassium (mg/L)
				Undeveloped				
010349	150	4.4	67	0.7	.64	.52	2.6	1.1
010352	25	4.5	72	--	1.3	.48	4.5	.40
050019	25	4.9	31	8.2	.76	.69	2.5	.30
050024	35	4.8	38	10.7	.96	1.4	1.5	.60
050482	25	4.3	80	9.1	.98	.75	5.4	.4
050511	250	--	32	.2	.33	.31	2.0	1.7
050512	50	4.4	56	.2	.33	.31	2.0	.40
050608	160	4.9	20	6.8	.15	.20	1.6	.20
050609	45	5.0	36	--	1.3	1.2	1.9	.40
050612	272	5.4	26	--	.90	.27	1.7	.30
050613	35	4.9	26	--	.49	.34	1.6	.20
070430	120	5.0	28	--	.36	.44	1.7	.50
150566	128	4.3	135	7.8	4.3	4.9	7.7	2.7
150619	98	4.2	36	5.8	1.1	.86	2.2	1.3
				Agricultural				
150048	120	4.6	140	7.4	11	5.2	2.4	3.0
150726	62	5.0	255	6.5	26	7.8	3.2	8.6
150729	80	4.3	155	6.6	9.1	3.9	6.5	2.7
150732	89	4.7	159	8.5	6.1	8.3	3.6	4.1
150801	85	4.9	57	7.4	3.3	1.4	3.3	1.0
150829	29	5.2	256	6.6	28	11	2.4	1.3
151016	60	4.8	47	6.8	2.5	1.5	2.8	.9
330463	74	4.4	262	7.7	25	6.9	4.1	3.2
330464	58	4.8	225	8.9	9.0	15	3.3	3.7
330466	65	5.1	492	9.2	27	19	7.9	7.4

[1]Well numbers begin with a two-digit code for the county in which the wells are located; these are 01, Atlantic County; 05, Burlington County; 07, Camden County; 15, Gloucester County; and 33, Salem County, New Jersey.

Appendix A. Chemical characteristics of and constituents in water from selected wells in undeveloped and agricultural land-use areas, Kirkwood-Cohansey aquifer system, Atlantic, Burlington, Camden, Gloucester, and Salem Counties, New Jersey--Continued

U.S. Geological Survey well number[1]	Dissolved chloride (mg/L)	Dissolved sulfate (mg/L)	Dissolved $NO_2 + NO_3$ (mg/L as N)	Total alkalinity (mg/L as $CaCO_3$)	Dissolved barium (µg/L)	Dissolved strontium (µg/L)
Undeveloped						
010349	3.5	12	<.1	<1	24	8
010352	6.3	13	--	<1	49	12
050019	4.4	5.6	<.1	<1	30	12
050024	3.0	8.5	<.1	1	26	17
050482	9.0	14	<.1	<1	130	18
050511	3.0	5.6	<.1	5	54	8
050512	3.2	13	<.1	<1	57	8
050608	3.0	<1.0	<.1	2.5	10	3
050609	3.2	7.2	<.1	2.3	19	16
050612	3.2	2.7	--	<1	17	6
050613	2.8	3.2	--	2	31	6
070430	2.9	2.2	--	1	37	5
150566	12	<.20	5.0	1	180	46
150619	4.3	3.9	1.1	<1	37	11
Agricultural						
150048	9.4	21	6.4	3	120	61
150726	13	56	9.9	5	84	82
150729	12	1.4	10	<1	220	35
150732	16	.60	11	2	250	67
150801	4.1	<.20	4.4	2	49	17
150829	17	60	5.0	9	120	45
151016	4.2	.50	2.8	3	64	15
330463	21	1.2	21	<1	190	90
330464	23	3.8	16	5	120	140
330466	38	34	22	7	140	260

APPENDIX B--Sampling Protocols, Analytical Methods, and Raw Analytical Data

Soil and Aquifer Sediment Sampling

Samples of sediment from the Cohansey Sand and the Bridgeton Formation were collected at the Triboro Sand and Gravel[1] quarry in West Berlin, Camden County, New Jersey, for use in batch equilibrium sorption and column experiments. A stainless-steel trowel used for sample collection was cleaned with deionized water before each sample was collected. The samples were collected from a vertical face of the quarry by removing about 9 in. of surficial material and trenching into the face to obtain unweathered sediments, which were placed in polyethylene bags.

Borehole and Well Sampling

In order to determine the distribution of mercury in ground water with depth, 2 of the 34 sites identified in the previous study were chosen for water-quality sampling at discrete intervals through the Kirkwood-Cohansey aquifer system. Site 10 in Franklin Township, Gloucester County, and site 6 in Hammonton Town, Atlantic County, were chosen for installation of boreholes and collection of incremental water-quality samples (see fig. 6). The boreholes were installed by using a 4-in.-diameter auger with a 1-ft screen. The screened auger and auger flights were steam-cleaned prior to use at each site.

At the Gloucester County site, water samples were collected at 36, 56, 66, 76, 86, 96, and 106 ft below land surface. Because silty lenses at the Atlantic County site precluded sampling in similar increments, water samples there were collected at 30 and 60 ft. Water samples also were collected from an adjacent monitoring well screened at 85 to 90 ft below land surface at the Atlantic County site.

Three types of water samples were collected at the two sites. Samples for general water-quality analysis (major ions, trace elements, and dissolved organic carbon) were collected, filtered, and processed using ultraclean techniques (described below). The samples were collected through a plastic hose that was washed in dilute nitric acid and copiously rinsed with deionized water prior to use. A new hose attached to a hose splitter on the submersible pump was used for each sample collected. Samples for tritium/helium dating also were collected through this hose. Samples for CFC dating were collected through copper tubing that was attached to the hose splitter because these samples can be contaminated by organic compounds in a plastic hose. Sample vials were purged with nitrogen before the samples for CFC dating were collected. The pump was thoroughly rinsed with deionized water between sites.

Because the samples for CFC dating can be contaminated by plastic tubing, and the samples for metal analysis can be contaminated by metal tubing, the outlet of a Grundfos stainless-steel submersible pump was fitted with a stainless-steel connector that was attached to a zinc hose splitter. Acid-washed polyethylene tubing was inserted inside one arm of the hose splitter, which was connected to an acid-washed 5/8-in. plastic garden hose. At the end of the garden hose, a second splitter of polyvinyl chloride (PVC) was attached to two lengths of polyethylene tubing, one for waste water and the other for sampling. A second PVC splitter was attached to the sampling tube. One polyethylene tube from this splitter was used to collect water-quality samples; the other was used to collect samples for tritium/helium analysis. The hose and tubing were changed between samples. The other arm of the zinc hose splitter was connected to 1/4-in.-diameter copper tubing by step-down (reducing) connectors. Samples for CFC dating passed through the copper tubing and were collected in 620-mL borosilicate glass ampules that had been purged

[1] The use of brand and firm names is for identification purposes only and does not constitute endorsement by the U.S. Government.

with nitrogen. The connection between tubing and ampule was airtight, and the water flowing through the tube was checked for air bubbles as it passed through a glass tube with a valve. The ampules were promptly sealed with a propane torch (see Busenberg and Plummer, 1992, for details).

Water samples were collected using ultraclean field techniques designed for low-level trace-element sampling by Horowitz and others (1994). A dedicated field vehicle and pump were used. Field equipment was acid-washed with 5-percent hydrochloric acid and rinsed copiously with deionized water. After removing at least two borehole volumes of water, a Hydrolab was connected to the sampling line, and measurements of pH, specific conductance, and dissolved oxygen were monitored until three sets of stable readings were obtained. Following this, water samples were collected. Where filtering was required, the water samples were filtered through disposable 0.45-µm pore-size filters by field personnel attired in clean laboratory coats and disposable PVC gloves. Samples were processed in a disposable glove-bag chamber that was changed between samples. Disposable gloves were changed before each sample was filtered and preserved. Samples for analysis of major cations and trace elements were preserved with ultrapure nitric acid; those for analysis of mercury were preserved with ultrapure potassium dichromate and nitric acid. Bottles were then placed in polyethylene zip-closure bags. Mercury samples were stored in a clean cooler with ice; other samples preserved with acid were stored in a separate, clean cooler with ice. Samples with no preservative (anions and nutrients) were stored in separate coolers with ice. All samples were shipped within 24 hours to the USGS National Water Quality Laboratory (NWQL) in Arvada, Colorado, or transported to the Princeton University Geology Department laboratory in Princeton, New Jersey.

Water samples also were collected from selected wells at sites 1, 4, and 10 for analysis for major ions, nutrients, and selected trace elements, as well as mercury. Five wells were sampled at site 1, four at site 4, and 12 at site 10. Samples collected for analysis for major ions, nutrients, and trace elements were passed through 0.45-µm filters.

Water-Quality Analyses and Age-Dating Methods

Field measurements of pH, specific conductance, and dissolved oxygen were made on water samples collected at boreholes 1 and 2, and at domestic, school, and observation wells at sites 1, 4, and 10. Analyses for water-quality constituents were performed at the USGS NWQL and at the Princeton University Geology Department laboratory. The NWQL performed analyses for major cations, anions, and trace elements in samples from the boreholes and from sites 1 and 4; descriptions of the methods can be found in Fishman and Friedman (1989). Analyses for mercury in samples from sites 1, 4, and 10 were performed at Princeton University by using the cold vapor atomic absorption method described by Hatch and Ott (1968). Raw data resulting from these analyses are presented in Barringer and others (1997, app. 2g and 2h). To avoid mercury-sample contamination, mercuric chloride preservative was not used in the nutrient samples collected during this study; therefore, nutrient (and other anion) concentrations were determined by ion chromatography at Princeton University because the NWQL could not accommodate unpreserved samples at the time the samples were collected. Nutrient samples were preserved by chilling and were analyzed immediately after collection. Raw data for anions (borehole samples) are presented in table B-1. Major ions and trace elements in water samples from site 10 were determined by inductively coupled plasma spectroscopy and ion chromatography at Princeton University.

Analyses of water samples for CFCs were performed at the USGS laboratory in Reston, Virginia, by using a purge-and-trap gas chromatograph with an electron-capture detector. Analyses for tritium were performed at the USGS laboratory in Reston by using electrolytic enrichment and analysis by scintillation counting, following procedures modified from Thatcher and others (1977). Helium analyses (^{4}He concentration and ratio of ^{3}He to ^{4}He) were performed at Lamont-Doherty Earth Observatory of Columbia University in Palisades, New York, by using mass spectrometry. Details of the method are presented in Szabo and others (1996).

Table B-1. Ion chromatography peak areas and concentration data for analysis for fluoride, chloride, nitrate, and sulfate in samples from borehole 1 (site 10) and borehole 2 (site 6), September 1993

[Std, standard; F, fluoride; Cl, chloride; NO_3, nitrate; SO_4, sulfate; mg/L, milligrams per liter; nd, not detected; only NO_3 data are reported in tables 3 and 4 in report text; Cl and SO_4 data from USGS National Water Quality Laboratory are reported in tables 3 and 4]

Constituent	Std 1 value (mg/L)	Std 2 value (mg/L)	Std 3 value (mg/L)
F	0.400	0	2.000
Cl	0.600	1	3.000
NO_3	2.000	4	10.000
SO_4	3.000	6	15.000

Curve--Set 1

F=(peak area-660.9231)/2.076655e6 rsquare=0.998
Cl=(peak area-6.950485e4)/1.245786e6 rsquare=0.998
NO_3=(peak area+5.369968e5)/6.960045e5 rsquare=0.990
SO4=(peak area+3.319349e5)/9.266686e5 rsquare=0.999

Curve--Set 2

F=(peak area-5.100036e5)/1.630928e6 rsquare=0.999
Cl=(peak area-4.678508e5)/1.089879e6 rsquare=0.992
NO_3=(peak area+5.605629e5)/6.001657e5 rsquare=0.999
SO4=(peak area+3.064254e5)/8.507441e5 rsquare=0.999

Sample number and dilution ratio		Fluoride Concentration (mg/L)	Fluoride Peak area	Chloride Concentration (mg/L)	Chloride Peak area	Nitrate Concentration (mg/L)	Nitrate Peak area	Sulfate Concentration (mg/L)	Sulfate Peak area
					Set 1				
Std 3		2.020	4177581	2.984	3787514	10.036	6447961	14.940	13512187
Std 2		0.758	1567548	1.262	1641848	3.857	2147371	6.241	5451706
Std 1		0.436	902151	0.553	758927	2.107	929750	2.819	2280349
Blank		nd	nd	nd	nd	nd	nd	nd	nd
Rainwater		0.779	1619274	0.533	733110	3.560	1941009	5.333	4609622
1-3	1/1	0.333	692239	8.532	10698968	30.519	20703999	nd	nd
2-2	1/4	0.150	312455	2.655	3377075	7.718	4834550	0.574	200126
2-1	1/4	0.137	285029	5.095	6416758	14.367	9462891	1.510	1067248
2-3	1/4	0.135	279985	2.030	2598815	10.325	6649121	nd	nd
1-7	1/4	0.166	345499	2.347	2993620	11.896	7742288	0.844	450741
1-6	1/4	0.193	401961	2.563	3262124	7.117	4416187	nd	nd
1-5	1/4	nd	nd	3.070	3894472	5.239	3108838	nd	nd
1-4	1/4	0.301	624861	3.092	3922622	13.524	8875674	nd	nd
1-3	1/4	0.770	1599657	4.558	5747829	14.198	9344605	0.537	166386
1-2	1/4	nd	nd	2.495	3178120	9.044	5757572	nd	nd
2-2	1/1	0.797	1655958	6.723	8445042	16.265	10783273	0.743	356738
2-1	1/1	nd	nd	9.764	12233559	28.906	19581625	2.487	1972857
2-3	1/1	nd	nd	4.754	5991386	25.470	17190500	nd	nd
1-7	1/1	nd	nd	5.027	6332622	24.795	16719807	1.034	626671
1-6	1/1	0.775	1610856	6.318	7939491	14.459	9527057	nd	nd
1-5	1/1	0.244	508115	6.297	7914067	11.126	7206446	nd	nd
1-4	1/1	0.315	654655	6.993	8781111	29.168	19764169	nd	nd
1-3	1/1	0.181	439267	9.472	10700832	32.894	20078580	nd	nd
1-3	1/1	0.434	899772	9.863	11143274	33.111	20214342	1.011	247633
1-2	1/1	nd	nd	6.973	7878047	20.114	12066735	nd	nd
1-1		nd	nd	5.671	6406362	5.457	2878909	6.109	4995763
Std 1		0.392	810927	0.481	668209	2.019	868294	2.832	2292411
					Set 2				
Std 3		1.999	3770705	2.968	3703090	10.026	5456968	15.012	12464660
Std 2		0.803	1819366	1.326	1913298	3.894	1776603	5.953	4758343
Std 1		0.398	1158910	0.505	1018584	2.079	687391	3.035	2275579
Blank		nd	nd	nd	nd	nd	nd	nd	nd
Std 3		1.989	3753913	2.972	3706939	9.934	5401571	15.019	12470803
2-1	1/10	nd	nd	1.866	2501943	6.376	3266062	0.839	407415
2-2	1/4	nd	nd	2.913	3643131	9.374	5065071	0.763	343040
2-1	1/4	nd	nd	5.819	6810035	16.396	9279301	1.648	1095967
2-3	1/4	nd	nd	2.092	2747588	12.267	6801607	0.613	215266
1-7	1/4	nd	nd	2.573	3272063	13.831	7740373	1.073	606312
1-6	1/4	nd	nd	2.901	3629297	8.315	4429909	0.611	213827
1-5	1/4	0.227	880946	3.422	4196729	6.089	3093875	0.749	330491
1-4	1/4	0.158	766950	3.264	4025765	15.118	8512732	0.603	206422
1-3	1/4	0.083	645522	4.887	5794486	17.658	10036903	nd	nd
1-2	1/4	0.061	609768	2.889	3616788	10.065	5479729	nd	nd
1-2	1/4	0.111	588582	3.164	3399345	10.592	5181010	nd	nd
Std 3		2.071	3887072	3.072	3816261	10.233	5580756	15.654	13012845
Std 2		0.782	1785171	1.640	2255640	3.479	1527035	6.382	5122873

APPENDIX C--Sediment-Size Analysis and Raw and Calculated Data for Mercury-Adsorption Experiments

Sediment-Size Analysis

Sediment-size analysis was performed at the Princeton University Geology Department laboratory. The sediments from the Cohansey Sand and the Bridgeton Formation were dried at 110 °C in a drying oven and sieved with a mechanical sieve. The dry soil was weighed to determine the total mass (Peterson, 1993). The sediment-size distribution was determined by using a standard sieve analysis method (Blatt and others, 1980). The screen sizes used were 10, 18, 40, 60, 120, 200, and 400 mesh; these were used to determine the grain size of the sediment from coarse, granular material to silt- and clay-size sediment. The sieving was performed by placing a set of screens with 100 to 110 g of sediment in the top screen on a Ro-Tap for 15 minutes. After 15 minutes the mass in each of the size fractions was determined and the percentage of the total mass calculated (Peterson, 1993).

The mineralogy of the fine-grained size fractions of the Cohansey Sand and the Bridgeton Formation were determined using X-ray diffraction. Each sample was mounted on filter paper and was subjected to a continuous scan while spinning, with 2Θ angles ranging from 2 to 90°, with a Scintag X-ray diffractometer. The cation-exchange capacity of the sediments was measured by Peterson (1993) by using the ammonium acetate method of Thomas (1982).

Adsorption Experiment Procedures

Approximately 5 g of aquifer sediment was placed in acid-washed 50-mL polypropylene centrifuge tubes. The tubes were weighed before the sediment was added, after the sediment was added, and after approximately 25 mL of mercury solution was added. Mercury-containing solutions (elemental mercury dissolved in 0.1-percent nitric acid, mercuric chloride, and phenylmercuric acetate (PMA)) were prepared with mercury concentrations of 10 ppb (parts per billion--equivalent in dilute solutions to micrograms per liter), 20 ppb, 50 ppb, 70 or 80 ppb, and 100 ppb.

Control solutions were prepared and placed in tubes containing no sediment to measure mercury loss from solution. A set of blanks also was prepared. Experiments using Cohansey Sand were performed at pH 3.5, 4.5, and 5.5; experiments using Bridgeton Formation sediment were performed at pH 4.0, 5.0, and 6.0. The pH of the solutions was maintained with 0.1 M HNO_3 or 0.1 M NaOH (Peterson, 1993).

Samples were placed on an arm shaker and allowed to shake continuously until equilibrium was reached. For dissolved mercury (Hg^o), this was determined to be 15 hours; for mercuric chloride ($HgCl_2$), 36 hours was needed. The test tubes were centrifuged at 3,000 rpm (revolutions per minute) for 30 minutes for the dissolved mercury and mercuric chloride batch experiments, and at 3,800 rpm for 24 minutes for the PMA batch experiments. The solutions were decanted into a graduated cylinder, diluted to 100 mL, and analyzed for mercury. Sample digestion for mercury analysis was done using the method of Hatch and Ott (1968), in which mercury in solution is converted to the elemental state using potassium permanganate, concentrated nitric acid, hydroxylamine hydrochloride, and stannous chloride. Mercury analysis was performed by using a Perkin-Elmer Atomic Absorption spectrophotometer set up for use in the cold-vapor flameless mode. Standard curves were prepared using commercially obtained atomic-absorption standards for mercury, in the range of 0.2 to 50.0 µg/L of mercury. The curves were split between end points of 0.2 to 5.0 µg/L, 1.0 to 10.0 µg/L, and 5.0 to 50.0 µg/L mercury. All of the experiments were performed in triplicate. Concentrations used in this report were calculated from the raw data presented in Peterson (1993) (see below).

Adsorption Experiment Calculations

The concentration of mercury adsorbed to the sediments was determined by using the following calculations, in which the masses of tube, sediment, and liquid, where available, were used to determine the actual amount of inoculant added (generally about 0.025 L). The authors assumed that 1 g of liquid is equivalent to 1 mL. The equation used is

$$Cs = (Mi - Mf) / (Mss/1{,}000).$$

The parameters and calculations that result in values of the variables in the equation are

T = mass of centrifuge tube, in grams;

T+S = mass of tube and sediment, in grams;

T+S+L = mass of tube, sediment, and liquid, in grams;

C* = concentration of mercury in decanted liquid, volume brought to 100 mL, in micrograms per liter;

Ci = concentration of mercury in initial liquid, in micrograms per liter;

Vi = initial volume of liquid, in liters-- [⟨(T+S+L(g)) - (T+S(g))⟩ x 1 mL/1 g]/1,000 mL/L;

Mi = mass of mercury (initial) in volume of liquid added, in micrograms-- Ci (µg/L) x Vi (L);

Mf = mass of mercury (final) in liquid decanted and brought to 100 mL (or 0.1 L), in micrograms-- C* (µg/L) x 0.1 L;

Mss = mass of sediment, in grams-- (T+S) - T;

Ms = mass of mercury adsorbed, in micrograms-- Mi - Mf;

Cs = concentration of mercury adsorbed, in micrograms per kilogram-- Ms (µg)/(Mss (g) x 1 kg/1,000 g); and

Ps = percent mercury adsorbed-- (Ms/Mi) x 100.

Because data for T, T+S, and T+S+L were not available for three of the experiments, calculations were done using an estimated value of 0.0248 for Vi. The masses of tube and sediment after the liquid was decanted were slightly greater than the initial masses of tube and sediment; therefore, some liquid must have remained in the sediment pores after the sample was centrifuged and decanted. Consequently, a correction for this pore liquid was made. Tables C-1 through C-17 contain uncorrected data; the corrected data are listed in tables C18 through C-33.

Table C-1. Measured and calculated values for adsorption of dissolved mercury to Bridgeton Formation sediment, pH 4.0

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
10	0.0248	0.2477	0.7400	0.0740	5.6910	0.1737	30.5219	70.1252
10	0.0248	0.2477	0.6600	0.0660	5.0030	0.1817	36.3182	73.3549
10	0.0248	0.2477	0.5800	0.0580	5.8170	0.1897	32.6113	76.5846
20	0.0248	0.4954	1.000	0.1000	5.3760	0.3954	73.5491	79.8143
20	0.0248	0.4954	1.0400	0.1040	5.0580	0.3914	77.3824	79.0069
20	0.0248	0.4954	1.0800	0.1080	6.8230	0.3874	56.7785	78.1994
50	0.0248	1.2385	2.0700	0.2070	5.7410	1.0315	179.6725	83.2862
50	0.0248	1.2385	2.1500	0.2150	5.4040	1.0235	189.3967	82.6403
50	0.0248	1.2385	2.1500	0.2150	5.6930	1.0235	179.7822	82.6403
70	0.0248	1.7339	2.8400	0.2840	5.2390	1.4499	276.7513	83.6207
70	0.0248	1.7339	2.6900	0.2690	6.0160	1.4649	243.5007	84.4858
70	0.0248	1.7339	2.8000	0.2800	5.2020	1.4539	279.4886	83.8514
100	0.0248	2.4770	4.0600	0.4060	6.3960	2.0710	323.7961	83.6092
100	0.0248	2.4770	4.0600	0.4060	5.8600	2.0710	353.4130	83.6092
100	0.0248	2.4770	4.7900	0.4790	5.9610	1.9980	335.1786	80.6621

Table C-2. Measured and calculated values for adsorption of dissolved mercury to Bridgeton Formation sediment, pH 5.0

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.3550	18.4440	43.3700	10	0.0249	0.2493	0.5500	0.0550	5.0890	0.1943	38.1725	77.9347
13.1840	18.5440	43.4300	10	0.0249	0.2489	0.5800	0.0580	5.3600	0.1909	35.6082	76.6937
12.9730	18.1570	43.0700	10	0.0249	0.2491	0.3900	0.0390	5.1840	0.2101	40.5343	84.3455
13.3350	18.5130	43.3800	20	0.0249	0.4973	0.7400	0.0740	5.1780	0.4233	81.7574	85.1208
13.3680	18.9960	43.7000	20	0.0247	0.4941	0.8100	0.0810	5.6280	0.4131	73.3973	83.6059
13.0790	18.8010	43.6600	20	0.0249	0.4972	0.8100	0.0810	5.7220	0.4162	72.7333	83.7081
13.2440	19.0270	43.8900	50	0.0249	1.2431	1.1200	0.1120	5.7830	1.1312	195.5992	90.9906
12.9650	19.3740	44.2200	50	0.0248	1.2423	1.2300	0.1230	6.4090	1.1193	174.6450	90.0990
13.2730	19.3840	44.2200	50	0.0248	1.2418	1.3500	0.1350	6.1110	1.1068	181.1160	89.1287
13.2880	19.3050	44.1000	70	0.0248	1.7356	1.3500	0.1350	6.0170	1.6006	266.0212	92.2219
13.2020	19.3850	44.1900	70	0.0248	1.7363	1.4200	0.1420	6.1830	1.5943	257.8602	91.8219
13.0270	18.8130	43.6800	70	0.0249	1.7407	1.5800	0.1580	5.7860	1.5827	273.5379	90.9231
13.2470	19.1200	42.1600	100	0.0230	2.3040	2.1900	0.2190	5.8730	2.0850	355.0144	90.4948
12.2370	17.7210	42.5300	100	0.0248	2.4809	2.0400	0.2040	5.4840	2.2769	415.1896	91.7772
12.1220	17.3570	43.9400	100	0.0266	2.6583	2.0400	0.2040	5.2350	2.4543	468.8251	92.3259

Table C-3. Measured and calculated values for adsorption of dissolved mercury to Bridgeton Formation sediment, pH 6.0

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
12.9700	20.0300	44.8800	10.0000	0.0248	0.2485	0.4000	0.0400	7.0600	0.2085	29.5326	83.9034
13.2900	19.4900	44.3600	10.0000	0.0249	0.2487	0.3300	0.0330	6.2000	0.2157	34.7903	86.7310
13.0300	19.6700	44.5400	10.0000	0.0249	0.2487	0.2900	0.0290	6.6400	0.2197	33.0873	88.3394
13.3700	19.6500	44.4700	20.0000	0.0248	0.4964	0.6600	0.0660	6.2800	0.4304	68.5350	86.7043
13.2900	19.5600	44.3900	20.0000	0.0248	0.4966	0.6200	0.0620	6.2700	0.4346	69.3142	87.5151
13.0400	18.9800	43.8100	20.0000	0.0248	0.4966	0.6600	0.0660	5.9400	0.4306	72.4916	86.7096
13.2600	20.0800	44.8700	50.0000	0.0248	1.2395	0.7400	0.0740	6.8200	1.1655	170.8944	94.0299
13.0200	19.9300	44.7400	50.0000	0.0248	1.2405	1.0300	0.1030	6.9100	1.1375	164.6165	91.6969
12.9600	18.5700	43.3600	50.0000	0.0248	1.2395	0.7000	0.0700	5.6100	1.1695	208.4670	94.3526
13.2600	20.3100	45.1200	70.0000	0.0248	1.7367	1.1800	0.1180	7.0500	1.6187	229.6029	93.2055
12.9700	19.9900	44.7900	70.0000	0.0248	1.7360	0.8800	0.0880	7.0200	1.6480	234.7579	94.9309
13.3000	20.3300	44.1100	70.0000	0.0238	1.6646	0.9600	0.0960	7.0300	1.5686	223.1295	94.2328
12.3400	19.6500	44.1400	100.0000	0.0245	2.4490	0.9200	0.0920	7.3100	2.3570	322.4351	96.2434
13.3500	19.9900	44.7600	100.0000	0.0248	2.4770	1.1400	0.1140	6.6400	2.3630	355.8735	95.3977
12.9900	19.6700	44.4400	100.0000	0.0248	2.4770	1.0300	0.1030	6.6800	2.3740	355.3892	95.8418

Table C-4. Measured and calculated values for adsorption of dissolved mercury to Cohansey Sand, pH 3.5

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.6490	16.6640	44.9700	10.0000	0.0283	0.2831	0.7450	0.0745	3.0150	0.2086	69.1741	73.6805
13.7520	17.4740	46.1000	10.0000	0.0286	0.2863	0.6430	0.0643	3.7220	0.2220	59.6346	77.5379
13.7340	16.2290	45.4500	10.0000	0.0292	0.2922	0.4900	0.0490	2.4950	0.2432	97.4790	83.2312
13.8910	17.1840	46.5300	20.0000	0.0293	0.5869	1.4610	0.1461	3.2930	0.4408	133.8658	75.1073
13.5750	17.0850	45.1200	20.0000	0.0280	0.5607	1.3580	0.1358	3.5100	0.4249	121.0542	75.7803
13.6830	17.2890	46.2000	20.0000	0.0289	0.5782	1.4090	0.1409	3.6060	0.4373	121.2757	75.6321
13.7500	17.3380	53.7800	60.0000	0.0364	2.1865	7.1330	0.7133	3.5880	1.4732	410.5965	67.3774
13.7810	17.3340	45.7000	60.0000	0.0284	1.7020	4.9360	0.4936	3.5530	1.2084	340.0958	70.9981
13.7840	18.0030	46.7500	60.0000	0.0287	1.7248	3.9650	0.3965	4.2190	1.3283	314.8424	77.0121
13.6910	17.1400	46.1300	80.0000	0.0290	2.3192	11.2210	1.1221	3.4490	1.1971	347.0863	51.6169
13.6710	17.6310	45.4100	80.0000	0.0278	2.2223	11.0170	1.1017	3.9600	1.1206	282.9848	50.4257
13.6690	18.3320	47.3100	80.0000	0.0290	2.3182	8.0530	0.8053	4.6630	1.5129	324.4563	65.2624
13.7020	17.7560	46.2600	100.0000	0.0285	2.8504	8.6660	0.8666	4.0540	1.9838	489.3437	69.5972
13.5940	17.5380	46.2800	100.0000	0.0287	2.8742	8.9730	0.8973	3.9440	1.9769	501.2423	68.7809
13.7840	19.3400	49.1300	100.0000	0.0298	2.9790	7.3370	0.7337	5.5560	2.2453	404.1217	75.3709

Table C-5. Measured and calculated values for adsorption of dissolved mercury to Cohansey Sand, pH 4.5

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.7460	16.4620	45.8900	10.0000	0.0294	0.2943	-0.0730	-0.0073	2.7160	0.3016	111.0383	102.4806
13.7150	16.0170	45.6800	10.0000	0.0297	0.2966	0.3360	0.0336	2.3020	0.2630	114.2615	88.6728
13.7490	16.5330	46.7900	10.0000	0.0303	0.3026	0.3870	0.0387	2.7840	0.2639	94.7808	87.2096
13.7060	15.8880	44.5900	20.0000	0.0287	0.5740	0.6430	0.0643	2.1820	0.5097	233.6115	88.7987
13.7030	15.5540	44.7200	20.0000	0.0292	0.5833	1.5120	0.1512	1.8510	0.4321	233.4522	74.0794
13.7290	16.6820	46.2800	20.0000	0.0296	0.5920	4.4250	0.4425	2.9530	0.1495	50.6129	25.2483
13.7740	18.7170	46.8800	60.0000	0.0282	1.6898	3.3000	0.3300	4.9430	1.3598	275.0921	80.4708
13.5400	18.1660	46.0500	60.0000	0.0279	1.6730	5.0380	0.5038	4.6260	1.1692	252.7540	69.8871
13.6640	18.7290	46.8200	60.0000	0.0281	1.6855	3.8110	0.3811	5.0650	1.3044	257.5241	77.3890
13.8100	17.3390	46.0400	80.0000	0.0287	2.2961	6.1620	0.6162	3.5290	1.6799	476.0215	73.1630
13.5250	16.9200	46.1700	80.0000	0.0292	2.3400	15.6670	1.5667	3.3950	0.7733	227.7761	33.0470
13.7840	16.9780	45.6500	80.0000	0.0287	2.2938	6.0090	0.6009	3.1940	1.6929	530.0125	73.8028
13.7880	17.6400	45.5400	100.0000	0.0279	2.7900	7.0820	0.7082	3.8520	2.0818	540.4467	74.6165
13.8320	17.9720	46.5000	100.0000	0.0285	2.8528	8.1040	0.8104	4.1400	2.0424	493.3333	71.5928
13.6630	17.2060	45.2300	100.0000	0.0280	2.8024	6.1620	0.6162	3.5430	2.1862	617.0479	78.0117

Table C-6. Measured and calculated values for adsorption of dissolved mercury to Cohansey Sand, pH 5.5

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.6700	17.6400	45.3000	10.0000	0.0277	0.2766	1.2050	0.1205	3.9700	0.1561	39.3199	56.4353
13.7210	17.8860	47.2600	10.0000	0.0294	0.2937	1.3070	0.1307	4.1650	0.1630	39.1452	55.5049
13.7800	17.7280	45.4400	10.0000	0.0277	0.2771	1.3580	0.1358	3.9480	0.1413	35.7953	50.9960
13.8110	17.4040	45.8600	20.0000	0.0285	0.5691	2.8910	0.2891	3.5930	0.2800	77.9349	49.2023
13.7580	16.9080	44.9200	20.0000	0.0280	0.5602	2.9430	0.2943	3.1500	0.2659	84.4253	47.4689
13.7590	17.1950	46.6400	20.0000	0.0294	0.5889	2.7380	0.2738	3.4360	0.3151	91.7055	53.5065
13.7650	18.4630	47.6500	60.0000	0.0292	1.7512	6.2640	0.6264	4.6980	1.1248	239.4254	64.2307
13.7050	17.2580	47.8800	60.0000	0.0306	1.8373	6.9800	0.6980	3.5530	1.1393	320.6643	62.0099
13.7040	17.7600	46.3000	60.0000	0.0285	1.7124	6.4690	0.6469	4.0560	1.0655	262.6973	62.2226
13.7550	17.1220	45.4800	80.0000	0.0284	2.2686	12.1410	1.2141	3.3670	1.0545	313.1987	46.4834
13.7950	16.6850	46.7600	80.0000	0.0301	2.4060	13.1120	1.3112	2.8900	1.0948	378.8236	45.5029
13.7900	16.5810	48.2100	80.0000	0.0316	2.5303	15.4120	1.5412	2.7910	0.9891	354.3963	39.0907
13.7400	18.0970	46.2200	100.0000	0.0281	2.8123	12.5500	1.2550	4.3570	1.5573	357.4248	55.3746
13.7950	17.3600	46.2500	100.0000	0.0289	2.8890	11.8340	1.1834	3.5650	1.7056	478.4290	59.0377
13.8400	18.1270	47.1500	100.0000	0.0290	2.9023	12.8050	1.2805	4.2870	1.6218	378.3065	55.8798

Table C-7. Measured and calculated values for adsorption of mercuric chloride to Bridgeton Formation sediment, pH 4.0

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
10.0000	0.0248	0.2477	0.5100	0.0510	5.1170	0.1967	38.4405	79.4106
10.0000	0.0248	0.2477	0.2600	0.0260	6.5410	0.2217	33.8939	89.5034
10.0000	0.0248	0.2477	0.1300	0.0130	6.7650	0.2347	34.6933	94.7517
20.0000	0.0248	0.4954	1.9600	0.1960	5.7470	0.2994	52.0967	60.4360
20.0000	0.0248	0.4954	1.7900	0.1790	5.9710	0.3164	52.9894	63.8676
20.0000	0.0248	0.4954	2.2500	0.2250	5.7800	0.2704	46.7820	54.5822
50.0000	0.0248	1.2385	4.2000	0.4200	5.2910	0.8185	154.6967	66.0880
50.0000	0.0248	1.2385	4.3700	0.4370	5.7060	0.8015	140.4662	64.7154
50.0000	0.0248	1.2385	4.2900	0.4290	6.0010	0.8095	134.8942	65.3613
70.0000	0.0248	1.7339	5.7300	0.5730	6.0040	1.1609	193.3544	66.9531
70.0000	0.0248	1.7339	6.5400	0.6540	6.1280	1.0799	176.2239	62.2816
70.0000	0.0248	1.7339	5.8200	0.5820	6.4280	1.1519	179.2004	66.4341
100.0000	0.0248	2.4770	7.9400	0.7940	6.0510	1.6830	278.1358	67.9451
100.0000	0.0248	2.4770	7.1700	0.7170	5.9200	1.7600	297.2973	71.0537
100.0000	0.0248	2.4770	7.1300	0.7130	5.7370	1.7640	307.4778	71.2152

Table C-8. Measured and calculated values for adsorption of mercuric chloride to Bridgeton Formation sediment, pH 5.0

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.18	19.3400	42.9300	10.0000	0.0236	0.2359	0.3600	0.0360	6.1600	0.1999	32.4513	84.7393
13.33	18.2900	43.2000	10.0000	0.0249	0.2491	0.3200	0.0320	4.9600	0.2171	43.7701	87.1537
13.28	18.6300	43.5200	10.0000	0.0249	0.2489	0.3200	0.0320	5.3500	0.2169	40.5421	87.1434
13.37	19.1000	43.9200	20.0000	0.0248	0.4964	0.4000	0.0400	5.7300	0.4564	79.6509	91.9420
13.25	18.4000	43.2100	20.0000	0.0248	0.4962	1.0000	0.1000	5.1500	0.3962	76.9320	79.8468
12.9	18.5000	43.3500	20.0000	0.0248	0.4970	0.6800	0.0680	5.6000	0.4290	76.6071	86.3179
13.36	19.0000	43.8700	50.0000	0.0249	1.2435	3.5600	0.3560	5.6400	0.8875	157.3581	71.3711
12.96	18.8800	43.7100	50.0000	0.0248	1.2415	2.0800	0.2080	5.9200	1.0335	174.5777	83.2461
13.26	18.5000	43.3500	50.0000	0.0248	1.2425	4.2000	0.4200	5.2400	0.8225	156.9657	66.1972
13.24	19.1900	44.0300	70.0000	0.0248	1.7388	4.5200	0.4520	5.9500	1.2868	216.2689	74.0051
12.98	18.6200	43.4700	70.0000	0.0248	1.7395	4.6800	0.4680	5.6400	1.2715	225.4432	73.0957
13.28	19.5500	44.4000	70.0000	0.0249	1.7395	5.5200	0.5520	6.2700	1.1875	189.3940	68.2667
13.03	18.3900	43.0900	100.0000	0.0247	2.4700	7.2400	0.7240	5.3600	1.7460	325.7463	70.6883
13.29	18.5100	43.3400	100.0000	0.0248	2.4830	7.3600	0.7360	5.2200	1.7470	334.6743	70.3584
13.32	18.7600	43.4400	100.0000	0.0247	2.4680	5.7600	0.5760	5.4400	1.8920	347.7940	76.6613

Table C-9. Measured and calculated values for adsorption of mercuric chloride to Bridgeton Formation sediment, pH 6.0

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
10.0000	0.0248	0.2477	0.3400	0.0340	5.4120	0.2137	39.4863	86.2737
10.0000	0.0248	0.2477	0.2900	0.0290	5.7260	0.2187	38.1942	88.2923
10.0000	0.0248	0.2477	0.3400	0.0340	5.6240	0.2137	37.9979	86.2737
20.0000	0.0248	0.4954	0.5800	0.0580	4.9200	0.4374	88.9024	88.2923
20.0000	0.0248	0.4954	0.6700	0.0670	5.0040	0.4284	85.6115	86.4756
20.0000	0.0248	0.4954	0.6300	0.0630	5.1340	0.4324	84.2228	87.2830
50.0000	0.0248	1.2385	1.0100	0.1010	5.3550	1.1375	212.4183	91.8450
50.0000	0.0248	1.2385	1.0500	0.1050	5.3550	1.1335	211.6713	91.5220
50.0000	0.0248	1.2385	1.0500	0.1050	5.6780	1.1335	199.6302	91.5220
70.0000	0.0248	1.7339	1.2900	0.1290	5.0790	1.6049	315.9874	92.5601
70.0000	0.0248	1.7339	1.2000	0.1200	5.3750	1.6139	300.2604	93.0792
70.0000	0.0248	1.7339	1.1000	0.1100	5.7460	1.6239	282.6140	93.6559
100.0000	0.0248	2.4770	1.8200	0.1820	5.2370	2.2950	438.2280	92.6524
100.0000	0.0248	2.4770	1.7200	0.1720	5.8550	2.3050	393.6806	93.0561
100.0000	0.0248	2.4770	1.6200	0.1620	5.0780	2.3150	455.8882	93.4598

Table C-10. Measured and calculated values for adsorption of mercuric chloride to Cohansey Sand, pH 3.5

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.8100	19.1820	44.0500	10.0000	0.0249	0.2487	1.1000	0.1100	5.3720	0.1387	25.8153	55.7664
13.7610	19.6300	44.5100	10.0000	0.0249	0.2488	0.8600	0.0860	5.8690	0.1628	27.7390	65.4341
13.7680	19.7600	44.6400	10.0000	0.0249	0.2488	0.8200	0.0820	5.9920	0.1668	27.8371	67.0418
13.8660	20.3000	45.1000	20.0000	0.0248	0.4960	1.2600	0.1260	6.4340	0.3700	57.5070	74.5968
13.8520	20.2700	45.0600	20.0000	0.0248	0.4958	1.2600	0.1260	6.4180	0.3698	57.6192	74.5865
13.7910	19.1020	43.9300	20.0000	0.0248	0.4966	1.3000	0.1300	5.3110	0.3666	69.0190	73.8199
13.7530	19.3130	44.0900	50.0000	0.0248	1.2388	2.2100	0.2210	5.5600	1.0179	183.0666	82.1609
13.7470	19.4540	44.2300	50.0000	0.0248	1.2388	2.2500	0.2250	5.7070	1.0138	177.6415	81.8373
13.7010	19.1580	43.9700	50.0000	0.0248	1.2406	2.4100	0.2410	5.4570	0.9996	183.1775	80.5739
13.7080	19.5350	44.3400	70.0000	0.0248	1.7364	2.8100	0.2810	5.8270	1.4554	249.7598	83.8166
13.7800	19.2300	44.0500	70.0000	0.0248	1.7374	3.0500	0.3050	5.4500	1.4324	262.8257	82.4450
13.7250	20.2700	45.0600	70.0000	0.0248	1.7353	2.8900	0.2890	6.5450	1.4463	220.9778	83.3458
13.7520	19.5100	44.3400	100.0000	0.0248	2.4830	4.4900	0.4490	5.7580	2.0340	353.2477	81.9170
13.7820	19.1850	43.9400	100.0000	0.0248	2.4755	4.4500	0.4450	5.4030	2.0305	375.8097	82.0238
13.7620	20.3300	45.1000	100.0000	0.0248	2.4770	4.5700	0.4570	6.5680	2.0200	307.5518	81.5503

Table C-11. Measured and calculated values for adsorption of mercuric chloride to Cohansey Sand, pH 5.5

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.8000	19.4170	44.2800	10.0000	0.0249	0.2486	0.5800	0.0580	5.6170	0.1906	33.9380	76.6722
13.7040	18.6430	43.5000	10.0000	0.0249	0.2486	0.4300	0.0430	4.9390	0.2056	41.6218	82.7010
13.7220	19.4360	44.3300	10.0000	0.0249	0.2489	0.3900	0.0390	5.7140	0.2099	36.7413	84.3336
13.7060	18.6710	43.4800	20.0000	0.0248	0.4962	0.7300	0.0730	4.9650	0.4232	85.2326	85.2876
13.7880	18.8930	43.6900	20.0000	0.0248	0.4959	0.7300	0.0730	5.1050	0.4229	82.8482	85.2805
13.7920	18.6000	43.4200	20.0000	0.0248	0.4964	0.7300	0.0730	4.8080	0.4234	88.0615	85.2941
13.7930	19.6350	44.4100	50.0000	0.0248	1.2387	1.4600	0.1460	5.8420	1.0927	187.0507	88.2139
13.7170	18.8460	43.6000	50.0000	0.0248	1.2377	1.4300	0.1430	5.1290	1.0947	213.4333	88.4463
13.7570	18.9220	43.7300	50.0000	0.0248	1.2404	1.3500	0.1350	5.1650	1.1054	214.0174	89.1164
13.7300	19.6400	44.4300	70.0000	0.0248	1.7353	1.8900	0.1890	5.9100	1.5463	261.6413	89.1085
13.8150	18.7170	43.4900	70.0000	0.0248	1.7341	1.9600	0.1960	4.9020	1.5381	313.7720	88.6974
13.8360	19.0930	43.8800	70.0000	0.0248	1.7351	1.8100	0.1810	5.2570	1.5541	295.6230	89.5683
13.6900	19.2720	44.1000	100.0000	0.0248	2.4828	2.8500	0.2850	5.5820	2.1978	393.7298	88.5210
13.7560	19.3510	44.1300	100.0000	0.0248	2.4779	2.5400	0.2540	5.5950	2.2239	397.4799	89.7494
13.8710	20.5900	45.3800	100.0000	0.0248	2.4790	2.3500	0.2350	6.7190	2.2440	333.9783	90.5204

Table C-12. Measured and calculated values for adsorption of phenylmercuric acetate to Bridgeton Formation sediment, pH 4.0

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.7330	20.8100	48.2600	10.0000	0.0274	0.2745	0.4380	0.0438	7.0770	0.2307	32.5986	84.0437
13.6890	18.7020	47.1400	10.0000	0.0284	0.2844	0.7960	0.0796	5.0130	0.2048	40.8498	72.0093
13.3690	17.5420	46.3500	10.0000	0.0288	0.2881	1.2050	0.1205	4.1730	0.1676	40.1582	58.1713
12.0360	16.6230	45.3200	20.0000	0.0287	0.5739	2.4830	0.2483	4.5870	0.3256	70.9920	56.7376
13.7380	19.1220	48.8500	20.0000	0.0297	0.5946	2.1760	0.2176	5.3840	0.3770	70.0149	63.4015
13.7540	17.7220	46.6600	20.0000	0.0289	0.5788	2.3800	0.2380	3.9680	0.3408	85.8770	58.8776
13.8180	19.0440	47.8200	50.0000	0.0288	1.4388	6.4690	0.6469	5.2260	0.7919	151.5308	55.0389
13.7390	18.5530	47.4500	50.0000	0.0289	1.4448	6.4690	0.6469	4.8140	0.7979	165.7561	55.2272
13.7140	19.0120	47.1000	50.0000	0.0281	1.4044	6.8260	0.6826	5.2980	0.7218	136.2401	51.3956
13.7430	19.3780	47.8200	80.0000	0.0284	2.2754	9.3300	0.9330	5.6350	1.3424	238.2182	58.9955
13.8340	19.3300	48.7000	80.0000	0.0294	2.3496	10.0460	1.0046	5.4960	1.3450	244.7234	57.2438
13.7020	20.0100	48.4700	80.0000	0.0285	2.2768	10.1990	1.0199	6.3080	1.2569	199.2549	55.2047
13.7090	19.8150	47.5300	100.0000	0.0277	2.7715	11.2210	1.1221	6.1060	1.6494	270.1277	59.5129
13.1810	17.9400	47.5300	100.0000	0.0296	2.9590	13.8280	1.3828	4.7590	1.5762	331.2039	53.2680
13.7750	19.6820	48.9400	100.0000	0.0293	2.9258	11.3750	1.1375	5.9070	1.7883	302.7425	61.1217

Table C-13. Measured and calculated values for adsorption of phenylmercuric acetate to Bridgeton Formation sediment, pH 5.0

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.6980	17.1740	45.5300	10.0000	0.0284	0.2836	0.0810	0.0081	3.4760	0.2755	79.2463	97.1435
13.7190	17.3240	45.5500	10.0000	0.0282	0.2823	0.0810	0.0081	3.6050	0.2742	76.0499	97.1303
13.7330	17.2630	46.0200	10.0000	0.0288	0.2876	0.1320	0.0132	3.5300	0.2744	77.7252	95.4098
13.8080	17.0000	45.7800	20.0000	0.0288	0.5756	0.5410	0.0541	3.1920	0.5215	163.3772	90.6011
13.6600	16.9800	45.9800	20.0000	0.0290	0.5800	0.3870	0.0387	3.3200	0.5413	163.0422	93.3276
13.7460	17.8810	47.0100	20.0000	0.0291	0.5826	0.4900	0.0490	4.1350	0.5336	129.0399	91.5891
12.0670	15.8660	47.6700	50.0000	0.0318	1.5902	1.5630	0.1563	3.7990	1.4339	377.4414	90.1710
13.7090	17.3250	47.1000	50.0000	0.0298	1.4887	1.6650	0.1665	3.6160	1.3222	365.6663	88.8161
13.5490	18.1990	48.0200	50.0000	0.0298	1.4911	1.3580	0.1358	4.6500	1.3553	291.4516	90.8923
13.7630	19.4770	47.7300	80.0000	0.0283	2.2602	1.8690	0.1869	5.7140	2.0733	362.8527	91.7310
13.7290	17.6090	47.4700	80.0000	0.0299	2.3889	2.0740	0.2074	3.8800	2.1815	562.2372	91.3181
13.7120	18.5190	47.5400	80.0000	0.0290	2.3217	2.2270	0.2227	4.8070	2.0990	436.6508	90.4078
13.6810	18.2260	47.0800	100.0000	0.0289	2.8854	2.4310	0.2431	4.5450	2.6423	581.3641	91.5748
13.6770	17.7420	47.7300	100.0000	0.0300	2.9988	2.5340	0.2534	4.0650	2.7454	675.3750	91.5499
13.7420	18.9570	48.2300	100.0000	0.0293	2.9273	2.8400	0.2840	5.2150	2.6433	506.8647	90.2982

Table C-14. Measured and calculated values for adsorption of phenylmercuric acetate to Bridgeton Formation sediment, pH 6.0

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.7240	20.5000	48.6800	10.0000	0.0282	0.2818	0.0000	0.0000	6.7760	0.2818	41.5880	100.0000
13.6680	18.3010	47.0200	10.0000	0.0287	0.2872	0.0000	0.0000	4.6330	0.2872	61.9879	100.0000
13.6750	17.8270	46.2200	10.0000	0.0284	0.2839	0.0000	0.0000	4.1520	0.2839	68.3839	100.0000
13.7460	18.7230	48.2000	20.0000	0.0295	0.5895	0.0810	0.0081	4.9770	0.5814	116.8254	98.6261
13.7910	17.9440	47.4200	20.0000	0.0295	0.5895	0.0300	0.0030	4.1530	0.5865	141.2280	99.4911
13.6700	18.0800	46.8200	20.0000	0.0287	0.5748	0.0300	0.0030	4.4100	0.5718	129.6599	99.4781
13.6550	18.5040	47.3500	50.0000	0.0288	1.4423	0.5410	0.0541	4.8490	1.3882	286.2858	96.2490
13.8680	18.9170	46.5200	50.0000	0.0276	1.3802	0.4900	0.0490	5.0490	1.3312	263.6463	96.4497
13.7870	19.8520	48.0000	50.0000	0.0281	1.4074	0.3870	0.0387	6.0650	1.3687	225.6719	97.2502
13.7310	18.2590	47.3600	80.0000	0.0291	2.3281	0.8470	0.0847	4.5280	2.2434	495.4460	96.3618
13.7410	19.7000	48.1000	80.0000	0.0284	2.2720	0.6940	0.0694	5.9590	2.2026	369.6257	96.9454
13.7900	17.8830	47.1000	80.0000	0.0292	2.3374	0.8470	0.0847	4.0930	2.2527	550.3690	96.3762
13.7080	20.0000	48.8700	100.0000	0.0289	2.8870	1.1540	0.1154	6.2920	2.7716	440.4958	96.0028
13.7440	19.2740	46.7700	100.0000	0.0275	2.7496	1.4610	0.1461	5.5300	2.6035	470.7957	94.6865
13.6550	18.7310	47.2900	100.0000	0.0286	2.8559	1.2050	0.1205	5.0760	2.7354	538.8887	95.7807

Table C-15. Measured and calculated values for adsorption of phenylmercuric acetate to Cohansey Sand, pH 3.5

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.6600	18.4190	48.1800	10.0000	0.0298	0.2976	1.4090	0.1409	4.7590	0.1567	32.9292	52.6562
13.4730	17.8370	45.6900	10.0000	0.0279	0.2785	1.4610	0.1461	4.3640	0.1324	30.3460	47.5460
13.7130	20.6800	48.5200	10.0000	0.0278	0.2784	1.2050	0.1205	6.9670	0.1579	22.6640	56.7170
13.7320	17.7800	46.4300	20.0000	0.0286	0.5730	3.6070	0.3607	4.0480	0.2123	52.4456	37.0506
13.7650	17.1220	46.1400	20.0000	0.0290	0.5804	2.6870	0.2687	3.3570	0.3117	92.8389	53.7011
13.7590	18.1180	47.1900	20.0000	0.0291	0.5814	2.7380	0.2738	4.3590	0.3076	70.5758	52.9100
13.7900	19.2340	46.3400	50.0000	0.0271	1.3553	9.6370	0.9637	5.4440	0.3916	71.9324	28.8940
13.7080	18.0670	46.8700	50.0000	0.0288	1.4402	10.3010	1.0301	4.3590	0.4101	94.0698	28.4727
13.7450	18.9090	47.5400	50.0000	0.0286	1.4316	9.3300	0.9330	5.1640	0.4985	96.5434	34.8259
12.0100	17.2060	46.4500	80.0000	0.0292	2.3395	17.0470	1.7047	5.1960	0.6348	122.1748	27.1346
13.7310	17.8730	47.4000	80.0000	0.0295	2.3622	12.2940	1.2294	4.1420	1.1328	273.4815	47.9544
13.7530	18.8000	47.1000	80.0000	0.0283	2.2640	15.8210	1.5821	5.0470	0.6819	135.1100	30.1193
13.7190	18.2450	45.4900	100.0000	0.0272	2.7245	19.7040	1.9704	4.5260	0.7541	166.6151	27.6785
13.7210	18.1290	46.9600	100.0000	0.0288	2.8831	16.4340	1.6434	4.4080	1.2397	281.2386	42.9989
13.7950	17.7630	46.2000	100.0000	0.0284	2.8437	16.7400	1.6740	3.9680	1.1697	294.7832	41.1330

Table C-16. Measured and calculated values for adsorption of phenylmercuric acetate to Cohansey Sand, pH 4.5

[Hg, mercury; µg/L, micrograms per liter; L, liter; µg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.6780	19.1610	42.2800	10.0000	0.0231	0.2312	0.2340	0.0234	5.4830	0.2078	37.8971	89.8785
13.6790	17.6640	46.8600	10.0000	0.0292	0.2920	0.1830	0.0183	3.9850	0.2737	68.6725	93.7320
13.6730	17.6460	47.5600	10.0000	0.0299	0.2991	0.1830	0.0183	3.9730	0.2808	70.6871	93.8825
13.7080	18.5460	46.1300	20.0000	0.0276	0.5517	0.3360	0.0336	4.8380	0.5181	107.0856	93.9095
13.7590	17.3410	45.5500	20.0000	0.0282	0.5642	0.6430	0.0643	3.5820	0.4999	139.5533	88.6029
13.6800	19.2850	47.3500	20.0000	0.0281	0.5613	0.5410	0.0541	5.6050	0.5072	90.4906	90.3617
13.6930	18.0810	47.0300	50.0000	0.0289	1.4475	2.0230	0.2023	4.3880	1.2452	283.7626	86.0237
13.6940	19.7200	48.2900	50.0000	0.0286	1.4285	1.5120	0.1512	6.0260	1.2773	211.9649	89.4155
13.7710	18.7410	47.8700	50.0000	0.0291	1.4564	2.0740	0.2074	4.9700	1.2491	251.3179	85.7599
13.7300	18.9980	47.4800	80.0000	0.0285	2.2786	2.5850	0.2585	5.2680	2.0201	383.4586	88.6551
13.7880	18.2360	48.2800	80.0000	0.0300	2.4035	2.2780	0.2278	4.4480	2.1757	489.1456	90.5222
13.7800	17.8440	46.7300	80.0000	0.0289	2.3109	4.6800	0.4680	4.0640	1.8429	453.4645	79.7480
13.7780	19.5000	47.8300	100.0000	0.0283	2.8330	2.6870	0.2687	5.7220	2.5643	448.1475	90.5153
13.7170	17.4190	45.7600	100.0000	0.0283	2.8341	3.1980	0.3198	3.7020	2.5143	679.1733	88.7160
12.1380	17.9480	46.8600	100.0000	0.0289	2.8912	3.1980	0.3198	5.8100	2.5714	442.5818	88.9389

Table C-17. Measured and calculated values for adsorption of phenylmercuric acetate to Cohansey Sand, pH 5.5

[Hg, mercury; mg/L, micrograms per liter; L, liter; mg, micrograms; g, grams; T, mass of tube; T+S, mass of tube + sediment; T+S+L, mass of tube + sediment + inoculant liquid; Ci, initial Hg concentration; Vi, initial volume; Mi, initial Hg mass; C*, Hg concentration in decanted liquid; Mf, final Hg mass; Mss, mass of sediment; Ms, mass of Hg adsorbed; Cs, concentration of Hg adsorbed; Ps, percent Hg adsorbed]

T (g)	T+S (g)	T+S+L (g)	Ci (µg/L)	Vi (L)	Mi (µg)	C* (µg/L)	Mf (µg)	Mss (g)	Ms (µg)	Cs (µg/L)	Ps
13.7100	18.0200	47.3700	10.0000	0.0293	0.2935	0.0300	0.0030	4.3100	0.2905	67.4014	98.9779
13.7880	17.3470	45.9900	10.0000	0.0286	0.2864	0.0300	0.0030	3.5590	0.2834	79.6375	98.9526
13.6620	17.4650	46.9800	10.0000	0.0295	0.2952	0.0300	0.0030	3.8030	0.2922	76.8209	98.9836
13.8280	17.7850	46.3900	20.0000	0.0286	0.5721	0.1830	0.0183	3.9570	0.5538	139.9545	96.8013
13.6660	17.0590	45.8200	20.0000	0.0288	0.5752	0.1320	0.0132	3.3930	0.5620	165.6411	97.7052
13.7390	17.0320	46.0700	20.0000	0.0290	0.5808	0.1830	0.0183	3.2930	0.5625	170.8048	96.8490
13.7400	18.8140	48.7300	50.0000	0.0299	1.4958	1.3580	0.1358	5.0740	1.3600	268.0331	90.9212
13.4890	19.6700	47.5500	50.0000	0.0279	1.3940	1.3580	0.1358	6.1810	1.2582	203.5593	90.2583
13.7920	20.1600	48.8300	50.0000	0.0287	1.4335	1.0010	0.1001	6.3680	1.3334	209.3907	93.0171
13.6700	19.4300	46.9800	80.0000	0.0275	2.2040	1.2050	0.1205	5.7600	2.0835	361.7188	94.5327
13.8990	19.0560	46.7000	80.0000	0.0276	2.2115	1.1540	0.1154	5.1570	2.0961	406.4612	94.7819
13.7910	17.8440	46.6100	80.0000	0.0288	2.3013	1.4610	0.1461	4.0530	2.1552	531.7494	93.6514
13.6620	17.0600	45.8600	100.0000	0.0288	2.8800	1.6140	0.1614	3.3980	2.7186	800.0590	94.3958
13.7000	17.2780	46.4800	100.0000	0.0292	2.9202	1.4610	0.1461	3.5780	2.7741	775.3214	94.9969
13.5640	18.9580	47.2000	100.0000	0.0282	2.8242	1.5630	0.1563	5.3940	2.6679	494.6051	94.4657

Table C-18. Measured and calculated values for adsorption of dissolved mercury to Bridgeton Formation sediment, pH 4.0, corrected for liquid in pore spaces

[Hg, mercury; mL, milliliters; µg, micrograms; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; mL, milliliter]

C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Msc (µg)	Mss (g)	Csc (µg/kg)	Psc
0.7400	4.3370	3.2094	0.0019	0.0061	0.0740	0.0801	0.2477	0.1676	5.6910	29.4504	67.6634
0.6600	4.3050	2.8413	0.0019	0.0054	0.0660	0.0714	0.2477	0.1763	5.0030	35.2392	71.1754
0.5800	4.3670	2.5329	0.0019	0.0048	0.0580	0.0628	0.2477	0.1849	5.8170	31.7840	74.6417
1.0000	4.3250	4.3250	0.0019	0.0082	0.1000	0.1082	0.4954	0.3872	5.3760	72.0206	78.1555
1.0400	4.1200	4.2848	0.0019	0.0081	0.1040	0.1121	0.4954	0.3833	5.0580	75.7728	77.3635
1.0800	4.3940	4.7455	0.0019	0.0090	0.1080	0.1170	0.4954	0.3784	6.8230	55.4571	76.3794
2.0700	4.2020	8.6981	0.0019	0.0165	0.2070	0.2235	1.2385	1.0150	5.7410	176.7939	81.9518
2.1500	4.3370	9.3246	0.0019	0.0177	0.2150	0.2327	1.2385	1.0058	5.4040	186.1183	81.2098
2.1500	4.3630	9.3805	0.0019	0.0178	0.2150	0.2328	1.2385	1.0057	5.6930	176.6515	81.2012
2.8400	4.3340	12.3086	0.0019	0.0234	0.2840	0.3074	1.7339	1.4265	5.2390	272.2874	82.2720
2.6900	4.3760	11.7714	0.0019	0.0224	0.2690	0.2914	1.7339	1.4425	6.0160	239.7829	83.1959
2.8000	4.3330	12.1324	0.0019	0.0231	0.2800	0.3031	1.7339	1.4308	5.2020	275.0573	82.5220
4.0600	4.4050	17.8843	0.0019	0.0340	0.4060	0.4400	2.4770	2.0370	6.3960	318.4834	82.2374
4.0600	4.3690	17.7381	0.0019	0.0337	0.4060	0.4397	2.4770	2.0373	5.8600	347.6617	82.2486
4.7900	4.3710	20.9371	0.0019	0.0398	0.4790	0.5188	2.4770	1.9582	5.9610	328.5052	79.0561

Corrections for liquid in the sediment pore spaces could be applied precisely for all but three experiments: adsorption of dissolved mercury on Bridgeton Formation sediment at pH 4.0, and adsorption of mercuric chloride on Bridgeton Formation sediment at pH 4.0 and pH 6.0. For these three experiments, lacking mass data for tube, sediment, and liquid, an average volume remaining in the pores (Vr) of 0.0019 L was used in the calculations.

New parameters used in the correction calculations are

T + Sde= mass of tube and sediment after liquid was decanted, in grams;

DF = dilution factor (dimensionless)--100/[(T+S+L(g))-(T+Sde(g))];

C = concentration of mercury in actual volume decanted, corrected for dilution, in micrograms per liter-- C* x DF;

Vr = volume remaining in pores after decanting, in liters-- [⟨(T+Sde(g)) - (T+S(g))⟩ x 1mL/l g]/1,000 mL/L;

Mp = mass of mercury in liquid remaining in pores after decanting, in micrograms-- C x Vr;

Mfc = mass of mercury in liquid, in micrograms, corrected for mass in liquid in pores-- Mp + Mf;

Msc = mass of mercury adsorbed, in micrograms, after correction for liquid in pores-- Mi-Mfc;

Csc = concentration of mercury adsorbed, in micrograms per kilogram, corrected for liquid in pores--Msc(µg)/(Mss(g) x 1 kg/1,000g); and

Psc = percent mercury adsorbed corrected for liquid in pores--(Msc/Mi) x 100.

A comparison of the percent adsorbed and the corrected percent adsorbed indicates that the corrected percent adsorbed is a smaller value by about 1.9 to 3.5 percent.

Table C-19. Measured and calculated values for adsorption of dissolved mercury to Bridgeton Formation sediment, pH 5.0, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; g, grams; L, liter; ml, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
18.4440	20.1900	0.5500	4.3140	2.3727	0.0017	0.0041	0.0550	0.0591	0.2493	5.0890	0.1901	37.3585	76.2727
18.5440	20.3700	0.5800	4.3370	2.5155	0.0018	0.0046	0.0580	0.0626	0.2489	5.3600	0.1863	34.7513	74.8480
18.1570	19.8400	0.3900	4.3050	1.6789	0.0017	0.0028	0.0390	0.0418	0.2491	5.1840	0.2073	39.9893	83.2113
18.5130	20.1800	0.7400	4.3100	3.1894	0.0017	0.0053	0.0740	0.0793	0.4973	5.1780	0.4180	80.7306	84.0518
18.9960	20.7400	0.8100	4.3550	3.5275	0.0017	0.0062	0.0810	0.0872	0.4941	5.6280	0.4069	72.3042	82.3607
18.8010	20.9600	0.8100	4.4050	3.5681	0.0022	0.0077	0.0810	0.0887	0.4972	5.7220	0.4085	71.3870	82.1587
19.0270	21.0200	1.1200	4.3730	4.8978	0.0020	0.0098	0.1120	0.1218	1.2431	5.7830	1.1214	193.9113	90.2054
19.3740	21.5200	1.2300	4.4050	5.4182	0.0021	0.0116	0.1230	0.1346	1.2423	6.4090	1.1077	172.8308	89.1631
19.3840	21.4500	1.3500	4.3920	5.9292	0.0021	0.0122	0.1350	0.1472	1.2418	6.1110	1.0946	179.1115	88.1422
19.3050	21.3100	1.3500	4.3880	5.9238	0.0020	0.0119	0.1350	0.1469	1.7356	6.0170	1.5888	264.0473	91.5376
19.3850	21.6000	1.4200	4.4270	6.2863	0.0022	0.0139	0.1420	0.1559	1.7363	6.1830	1.5804	255.6082	91.0200
18.8130	20.7600	1.5800	4.3630	6.8935	0.0019	0.0134	0.1580	0.1714	1.7407	5.7860	1.5693	271.2182	90.1521
19.1200	19.2800	2.1900	4.3710	9.5725	0.0002	0.0015	0.2190	0.2205	2.3040	5.8730	2.0835	354.7536	90.4283
17.7210	19.5900	2.0400	4.3590	8.8924	0.0019	0.0166	0.2040	0.2206	2.4809	5.4840	2.2603	412.1590	91.1073
17.3570	21.1100	2.0400	4.3800	8.9352	0.0038	0.0335	0.2040	0.2375	2.6583	5.2350	2.4208	462.4195	91.0644

Table C-20. Measured and calculated values for adsorption of dissolved mercury to Bridgeton Formation sediment, pH 6.0, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; g, grams; L, liter; ml, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
20.0300	22.1600	0.4000	4.4010	1.7604	0.0021	0.0037	0.0400	0.0437	0.2485	7.0600	0.2048	29.0015	82.3945
19.4900	21.4600	0.3300	4.3670	1.4411	0.0020	0.0028	0.0330	0.0358	0.2487	6.2000	0.2129	34.3324	85.5895
19.6700	21.7400	0.2900	4.3860	1.2719	0.0021	0.0026	0.0290	0.0316	0.2487	6.6400	0.2171	32.6908	87.2807
19.6500	21.6900	0.6600	4.3900	2.8974	0.0020	0.0059	0.0660	0.0719	0.4964	6.2800	0.4245	67.5938	85.5136
19.5600	21.2700	0.6200	4.3250	2.6815	0.0017	0.0046	0.0620	0.0666	0.4966	6.2700	0.4300	68.5829	86.5918
18.9800	20.9800	0.6600	4.3800	2.8908	0.0020	0.0058	0.0660	0.0718	0.4966	5.9400	0.4248	71.5183	85.5454
20.0800	22.2500	0.7400	4.4210	3.2715	0.0022	0.0071	0.0740	0.0811	1.2395	6.8200	1.1584	169.8535	93.4571
19.9300	22.1500	1.0300	4.4270	4.5598	0.0022	0.0101	0.1030	0.1131	1.2405	6.9100	1.1274	163.1516	90.8809
18.5700	20.3500	0.7000	4.3460	3.0422	0.0018	0.0054	0.0700	0.0754	1.2395	5.6100	1.1641	207.5018	93.9157
20.3100	22.5100	1.1800	4.4230	5.2191	0.0022	0.0115	0.1180	0.1295	1.7367	7.0500	1.6072	227.9742	92.5443
19.9900	22.1700	0.8800	4.4210	3.8905	0.0022	0.0085	0.0880	0.0965	1.7360	7.0200	1.6395	233.5497	94.4423
20.3300	22.4600	0.9600	4.4150	4.2384	0.0021	0.0090	0.0960	0.1050	1.6646	7.0300	1.5596	221.8453	93.6905
19.6500	21.3800	0.9200	4.3940	4.0425	0.0017	0.0070	0.0920	0.0990	2.4490	7.3100	2.3500	321.4784	95.9578
19.9900	21.9400	1.1400	4.3820	4.9955	0.0020	0.0097	0.1140	0.1237	2.4770	6.6400	2.3533	354.4065	95.0044
19.6700	21.6500	1.0300	4.3880	4.5196	0.0020	0.0089	0.1030	0.1119	2.4770	6.6800	2.3651	354.0495	95.4805

Table C-21. Measured and calculated values for adsorption of dissolved mercury to Cohansey Sand, pH 3.5, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
16.6640	17.8460	0.7450	3.6870	2.7468	0.0012	0.0032	0.0745	0.0777	0.2831	3.0150	0.2053	68.0973	72.5335
17.4740	18.8790	0.6430	3.6740	2.3624	0.0014	0.0033	0.0643	0.0676	0.2863	3.7220	0.2186	58.7428	76.3784
16.2290	17.2790	0.4900	3.5500	1.7395	0.0010	0.0018	0.0490	0.0508	0.2922	2.4950	0.2414	96.7469	82.6062
17.1840	18.4130	1.4610	3.5570	5.1968	0.0012	0.0064	0.1461	0.1525	0.5869	3.2930	0.4344	131.9262	74.0191
17.0850	18.4410	1.3580	3.7480	5.0898	0.0014	0.0069	0.1358	0.1427	0.5607	3.5100	0.4180	119.0878	74.5494
17.2890	18.7030	1.4090	3.6370	5.1245	0.0014	0.0072	0.1409	0.1481	0.5782	3.6060	0.4301	119.2662	74.3789
17.3380	18.6700	7.1330	2.8480	20.3148	0.0013	0.0271	0.7133	0.7404	2.1865	3.5880	1.4462	403.0549	66.1398
17.3340	18.5900	4.9360	3.6890	18.2089	0.0013	0.0229	0.4936	0.5165	1.7020	3.5530	1.1855	333.6588	69.6544
18.0030	19.5000	3.9650	3.6700	14.5515	0.0015	0.0218	0.3965	0.4183	1.7248	4.2190	1.3065	309.6792	75.7491
17.1400	18.4300	11.2210	3.6100	40.5078	0.0013	0.0523	1.1221	1.1744	2.3192	3.4490	1.1448	331.9354	49.3638
17.6310	18.9780	11.0170	3.7830	41.6773	0.0013	0.0561	1.1017	1.1578	2.2223	3.9600	1.0645	268.8082	47.8995
18.3320	19.9300	8.0530	3.6520	29.4096	0.0016	0.0470	0.8053	0.8523	2.3182	4.6630	1.4659	314.3777	63.2352
17.7560	19.0800	8.6660	3.6790	31.8822	0.0013	0.0422	0.8666	0.9088	2.8504	4.0540	1.9416	478.9312	68.1163
17.5380	18.9500	8.9730	3.6590	32.8322	0.0014	0.0464	0.8973	0.9437	2.8742	3.9440	1.9305	489.4880	67.1679
19.3400	21.4200	7.3370	3.6090	26.4792	0.0021	0.0551	0.7337	0.7888	2.9790	5.5560	2.1902	394.2086	73.5221

Table C-22. Measured and calculated values for adsorption of dissolved mercury to Cohansey Sand, pH 5.0, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
16.4620	17.4870	0.0730	3.5210	-0.2570	0.0010	-0.0003	-0.0073	-0.0076	0.2943	2.7160	0.3018	111.1353	102.5702
16.0170	17.0300	0.3360	3.4900	1.1726	0.0010	0.0012	0.0336	0.0348	0.2966	2.3020	0.2618	113.7455	88.2723
16.5330	17.6240	0.3870	3.4290	1.3270	0.0011	0.0014	0.0387	0.0401	0.3026	2.7840	0.2624	94.2608	86.7311
15.8880	16.6670	0.6430	3.5810	2.3026	0.0008	0.0018	0.0643	0.0661	0.5740	2.1820	0.5079	232.7894	88.4862
15.5540	16.2960	1.5120	3.5180	5.3192	0.0007	0.0039	0.1512	0.1551	0.5833	1.8510	0.4282	231.3199	73.4028
16.6820	17.6730	4.4250	3.4960	15.4698	0.0010	0.0153	0.4425	0.4578	0.5920	2.9530	0.1341	45.4214	22.6585
18.7170	20.4800	3.3000	3.7880	12.5004	0.0018	0.0220	0.3300	0.3520	1.6898	4.9430	1.3377	270.6336	79.1666
18.1660	19.8500	5.0380	3.8170	19.2300	0.0017	0.0324	0.5038	0.5362	1.6730	4.6260	1.1369	245.7537	67.9515
18.7290	20.5100	3.8110	3.8010	14.4856	0.0018	0.0258	0.3811	0.4069	1.6855	5.0650	1.2786	252.4306	75.8583
17.3390	18.7120	6.1620	3.6590	22.5468	0.0014	0.0310	0.6162	0.6472	2.2961	3.5290	1.6489	467.2494	71.8147
16.9200	18.2130	15.6670	3.5770	56.0409	0.0013	0.0725	1.5667	1.6392	2.3400	3.3950	0.7008	206.4327	29.9504
16.9780	18.2260	6.0090	3.6460	21.9088	0.0012	0.0273	0.6009	0.6282	2.2938	3.1940	1.6655	521.4520	72.6108
17.6400	18.9600	7.0820	3.7620	26.6425	0.0013	0.0352	0.7082	0.7434	2.7900	3.8520	2.0466	531.3169	73.3560
17.9720	19.4800	8.1040	3.7010	29.9929	0.0015	0.0452	0.8104	0.8556	2.8528	4.1400	1.9972	482.4083	70.0074
17.2060	18.4800	6.1620	3.7380	23.0336	0.0013	0.0293	0.6162	0.6455	2.8024	3.5430	2.1569	608.7654	76.9646

Table C-23. Measured and calculated values for adsorption of dissolved mercury to Cohansey Sand, pH 5.5, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
17.6400	18.5160	1.2050	3.7340	4.4995	0.0009	0.0039	0.1205	0.1244	0.2766	3.9700	0.1522	38.3271	55.0103
17.8860	19.1710	1.3070	3.5600	4.6529	0.0013	0.0060	0.1307	0.1367	0.2937	4.1650	0.1571	37.7097	53.4694
17.7280	18.9180	1.3580	3.7700	5.1197	0.0012	0.0061	0.1358	0.1419	0.2771	3.9480	0.1352	34.2522	48.7975
17.4040	18.5200	2.8910	3.6580	10.5753	0.0011	0.0118	0.2891	0.3009	0.5691	3.5930	0.2682	74.6502	47.1285
16.9080	17.9430	2.9430	3.7070	10.9097	0.0010	0.0113	0.2943	0.3056	0.5602	3.1500	0.2546	80.8407	45.4534
17.1950	18.2710	2.7380	3.5250	9.6515	0.0011	0.0104	0.2738	0.2842	0.5889	3.4360	0.3047	88.6831	51.7431
18.4630	19.8000	6.2640	3.5910	22.4940	0.0013	0.0301	0.6264	0.6565	1.7512	4.6980	1.0947	233.0238	62.5133
17.2580	18.3860	6.9800	3.3910	23.6692	0.0011	0.0267	0.6980	0.7247	1.8373	3.5530	1.1126	313.1499	60.5567
17.7600	18.9400	6.4690	3.6550	23.6442	0.0012	0.0279	0.6469	0.6748	1.7124	4.0560	1.0376	255.8185	60.5933
17.1220	18.1670	12.1410	3.6610	44.4482	0.0010	0.0464	1.2141	1.2605	2.2686	3.3670	1.0081	299.4036	44.4359
16.6850	17.5600	13.1120	3.4250	44.9086	0.0009	0.0393	1.3112	1.3505	2.4060	2.8900	1.0555	365.2266	43.8697
16.5810	17.5200	15.4120	3.2580	50.2123	0.0009	0.0471	1.5412	1.5883	2.5303	2.7910	0.9420	337.5029	37.2273
18.0970	19.3100	12.5500	3.7160	46.6358	0.0012	0.0566	1.2550	1.3116	2.8123	4.3570	1.5007	344.4413	53.3631
17.3600	18.5700	11.8340	3.7040	43.8331	0.0012	0.0530	1.1834	1.2364	2.8890	3.5650	1.6526	463.5517	57.2019
18.1270	19.0900	12.8050	3.5640	45.6370	0.0010	0.0439	1.2805	1.3244	2.9023	4.2870	1.5779	368.0549	54.3656

Table C-24. Measured and calculated values for adsorption of mercuric chloride to Bridgeton Formation sediment, pH 4.0, corrected for liquid in pore spaces

[Hg, mercury; mL, milliliters; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Msc (µg)	Mss (g)	Csc (µg/kg)	Psc
0.5100	4.2940	2.1899	0.0019	0.0042	0.0510	0.0552	0.2477	0.1925	5.1170	37.6273	77.7308
0.2600	4.3570	1.1328	0.0019	0.0022	0.0260	0.0282	0.2477	0.2195	6.5410	33.5648	88.6345
0.1300	4.3780	0.5691	0.0019	0.0011	0.0130	0.0141	0.2477	0.2336	6.7650	34.5334	94.3152
1.9600	4.3200	8.4672	0.0019	0.0161	0.1960	0.2121	0.4954	0.2833	5.7470	49.2974	57.1886
1.7900	4.3380	7.7650	0.0019	0.0148	0.1790	0.1938	0.4954	0.3016	5.9710	50.5186	60.8895
2.2500	4.3460	9.7785	0.0019	0.0186	0.2250	0.2436	0.4954	0.2518	5.7800	43.5676	50.8318
4.2000	4.3440	18.2448	0.0019	0.0347	0.4200	0.4547	1.2385	0.7838	5.2910	148.1450	63.2891
4.3700	4.3500	19.0095	0.0019	0.0361	0.4370	0.4731	1.2385	0.7654	5.7060	134.1363	61.7991
4.2900	4.3520	18.6701	0.0019	0.0355	0.4290	0.4645	1.2385	0.7740	6.0010	128.9830	62.4971
5.7300	4.3370	24.8510	0.0019	0.0472	0.5730	0.6202	1.7339	1.1137	6.0040	185.4902	64.2299
6.5400	4.3690	28.5733	0.0019	0.0543	0.6540	0.7083	1.7339	1.0256	6.1280	167.3647	59.1505
5.8200	4.4370	25.8233	0.0019	0.0491	0.5820	0.6311	1.7339	1.1028	6.4280	171.5675	63.6043
7.9400	4.3710	34.7057	0.0019	0.0659	0.7940	0.8599	2.4770	1.6171	6.0510	267.2383	65.2830
7.1700	4.3100	30.9027	0.0019	0.0587	0.7170	0.7757	2.4770	1.7013	5.9200	287.3792	68.6833
7.1300	4.2940	30.6162	0.0019	0.0582	0.7130	0.7712	2.4770	1.7058	5.7370	297.3382	68.8667

TableC- 25. Measured and calculated values for adsorption of mercuric chloride to Bridgeton Formation sediment, pH 5.0, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
19.3400	21.3000	0.3600	4.6230	1.6643	0.0020	0.0033	0.0360	0.0393	0.2359	6.1600	0.1966	31.9218	83.3565
18.2900	19.9500	0.3200	4.3010	1.3763	0.0017	0.0023	0.0320	0.0343	0.2491	4.9600	0.2148	43.3095	86.2366
18.6300	20.4900	0.3200	4.3420	1.3894	0.0019	0.0026	0.0320	0.0346	0.2489	5.3500	0.2143	40.0590	86.1051
19.1000	21.0200	0.4000	4.3670	1.7468	0.0019	0.0034	0.0400	0.0434	0.4964	5.7300	0.4530	79.0656	91.2663
18.4000	20.1200	1.0000	4.3310	4.3310	0.0017	0.0074	0.1000	0.1074	0.4962	5.1500	0.3888	75.4856	78.3456
18.5000	20.3800	0.6800	4.3540	2.9607	0.0019	0.0056	0.0680	0.0736	0.4970	5.6000	0.4234	75.6132	85.1980
19.0000	20.8900	3.5600	4.3520	15.4931	0.0019	0.0293	0.3560	0.3853	1.2435	5.6400	0.8582	152.1663	69.0163
18.8800	20.7900	2.0800	4.3630	9.0750	0.0019	0.0173	0.2080	0.2253	1.2415	5.9200	1.0162	171.6498	81.8499
18.5000	20.3100	4.2000	4.3400	18.2280	0.0018	0.0330	0.4200	0.4530	1.2425	5.2400	0.7895	150.6693	63.5418
19.1900	21.2600	4.5200	4.3730	19.7660	0.0021	0.0409	0.4520	0.4929	1.7388	5.9500	1.2459	209.3923	71.6520
18.6200	20.5600	4.6800	4.3650	20.4282	0.0019	0.0396	0.4680	0.5076	1.7395	5.6400	1.2319	218.4165	70.8174
19.5500	21.4900	5.5200	4.3650	24.0948	0.0019	0.0467	0.5520	0.5987	1.7395	6.2700	1.1408	181.9388	65.5795
18.3900	20.0000	7.2400	4.3310	31.3564	0.0016	0.0505	0.7240	0.7745	2.4700	5.3600	1.6955	316.3277	68.6444
18.5100	19.9700	7.3600	4.2790	31.4934	0.0015	0.0460	0.7360	0.7820	2.4830	5.2200	1.7010	325.8658	68.5066
18.7600	20.5300	5.7600	4.3650	25.1424	0.0018	0.0445	0.5760	0.6205	2.4680	5.4400	1.8475	339.6135	74.8581

Table C-26. Measured and calculated values for adsorption of mercuric chloride to Bridgeton Formation sediment, pH 6.0, corrected for liquid in pore spaces

[Hg, mercury; mL, milliliters; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	MFc (µg)	Mi (µg)	Msc (µg)	Mss (g)	Csc (µg/kg)	Psc
0.3400	4.3030	1.4630	0.0019	0.0028	0.0340	0.0368	0.2477	0.2109	5.4120	38.9727	85.1515
0.2900	4.3350	1.2571	0.0019	0.0024	0.0290	0.0314	0.2477	0.2163	5.7260	37.7771	87.3280
0.3400	4.3290	1.4719	0.0019	0.0028	0.0340	0.0368	0.2477	0.2109	5.6240	37.5006	85.1447
0.5800	4.3140	2.5021	0.0019	0.0048	0.0580	0.0628	0.4954	0.4326	4.9200	87.9362	87.3327
0.6700	4.2990	2.8803	0.0019	0.0055	0.0670	0.0725	0.4954	0.4229	5.0040	84.5179	85.3709
0.6300	4.2860	2.7002	0.0019	0.0051	0.0630	0.0681	0.4954	0.4273	5.1340	83.2235	86.2474
1.0100	4.3250	4.3682	0.0019	0.0083	0.1010	0.1093	1.2385	1.1292	5.3550	210.8684	91.1748
1.0500	4.3200	4.5360	0.0019	0.0086	0.1050	0.1136	1.2385	1.1249	5.3550	210.0619	90.8261
1.0500	4.3370	4.5538	0.0019	0.0087	0.1050	0.1137	1.2385	1.1248	5.6780	198.1063	90.8234
1.2900	4.2970	5.5431	0.0019	0.0105	0.1290	0.1395	1.7339	1.5944	5.0790	313.9138	91.9527
1.2000	4.3140	5.1768	0.0019	0.0098	0.1200	0.1298	1.7339	1.6041	5.3750	298.4305	92.5119
1.1000	4.2970	4.7267	0.0019	0.0090	0.1100	0.1190	1.7339	1.6149	5.7460	281.0510	93.1380
1.8200	4.3480	7.9134	0.0019	0.0150	0.1820	0.1970	2.4770	2.2800	5.2370	435.3570	92.0454
1.7200	4.3100	7.4132	0.0019	0.0141	0.1720	0.1861	2.4770	2.2909	5.8550	391.2750	92.4875
1.6200	4.3440	7.0373	0.0019	0.0134	0.1620	0.1754	2.4770	2.3016	5.0780	453.2550	92.9200

Table C-27. Measured and calculated values for adsorption of mercuric chloride to Cohansey Sand, pH 3.5, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
19.1820	20.7800	1.1000	4.2970	4.7267	0.0016	0.0076	0.1100	0.1176	0.2487	5.3720	0.1311	24.4093	52.7291
19.6300	21.4300	0.8600	4.3330	3.7264	0.0018	0.0067	0.0860	0.0927	0.2488	5.8690	0.1561	26.5961	62.7381
19.7600	21.5700	0.8200	4.3350	3.5547	0.0018	0.0064	0.0820	0.0884	0.2488	5.9920	0.1604	26.7633	64.4558
20.3000	22.2700	1.2600	4.3800	5.5188	0.0020	0.0109	0.1260	0.1369	0.4960	6.4340	0.3591	55.8172	72.4048
20.2700	22.1200	1.2600	4.3590	5.4923	0.0019	0.0102	0.1260	0.1362	0.4958	6.4180	0.3596	56.0360	72.5371
19.1020	20.7900	1.3000	4.3220	5.6186	0.0017	0.0095	0.1300	0.1395	0.4966	5.3110	0.3571	67.2333	71.9099
19.3130	21.1000	2.2100	4.3500	9.6135	0.0018	0.0172	0.2210	0.2382	1.2388	5.5600	1.0007	179.9768	80.7742
19.4540	21.2000	2.2500	4.3420	9.7695	0.0017	0.0171	0.2250	0.2421	1.2388	5.7070	0.9967	174.6526	80.4603
19.1580	20.9400	2.4100	4.3420	10.4642	0.0018	0.0186	0.2410	0.2596	1.2406	5.4570	0.9810	179.7604	79.0708
19.5350	21.3000	2.8100	4.3400	12.1954	0.0018	0.0215	0.2810	0.3025	1.7364	5.8270	1.4338	246.0658	82.5770
19.2300	20.9800	3.0500	4.3350	13.2218	0.0018	0.0231	0.3050	0.3281	1.7374	5.4500	1.4093	258.5802	81.1133
20.2700	22.2200	2.8900	4.3780	12.6524	0.0019	0.0247	0.2890	0.3137	1.7353	6.5450	1.4216	217.2082	81.9240
19.5100	21.0700	4.4900	4.2970	19.2935	0.0016	0.0301	0.4490	0.4791	2.4830	5.7580	2.0039	348.0205	80.7049
19.1850	20.8900	4.4500	4.3380	19.3041	0.0017	0.0329	0.4450	0.4779	2.4755	5.4030	1.9976	369.7180	80.6943
20.3300	22.3600	4.5700	4.3980	20.0989	0.0020	0.0408	0.4570	0.4978	2.4770	6.5680	1.9792	301.3397	79.9031

Table C-28. Measured and calculated values for adsorption of mercuric chloride to Cohansey Sand, pH 5.5, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
19.4170	21.0500	0.5800	4.3050	2.4969	0.0016	0.0041	0.0580	0.0621	0.2486	5.6170	0.1866	33.2121	75.0322
18.6430	20.2100	0.4300	4.2940	1.8464	0.0016	0.0029	0.0430	0.0459	0.2486	4.9390	0.2027	41.0360	81.5371
19.4360	21.1400	0.3900	4.3120	1.6817	0.0017	0.0029	0.0390	0.0419	0.2489	5.7140	0.2071	36.2398	83.1825
18.6710	20.1600	0.7300	4.2880	3.1302	0.0015	0.0047	0.0730	0.0777	0.4962	4.9650	0.4185	84.2939	84.3482
18.8930	20.4600	0.7300	4.3050	3.1426	0.0016	0.0049	0.0730	0.0779	0.4959	5.1050	0.4180	81.8835	84.2875
18.6000	20.1100	0.7300	4.2900	3.1317	0.0015	0.0047	0.0730	0.0777	0.4964	4.8080	0.4187	87.0780	84.3415
19.6350	21.4300	1.4600	4.3520	6.3539	0.0018	0.0114	0.1460	0.1574	1.2387	5.8420	1.0813	185.0984	87.2932
18.8460	20.5600	1.4300	4.3400	6.2062	0.0017	0.0106	0.1430	0.1536	1.2377	5.1290	1.0841	211.3594	87.5869
18.9220	20.6500	1.3500	4.3330	5.8496	0.0017	0.0101	0.1350	0.1451	1.2404	5.1650	1.0953	212.0604	88.3015
19.6400	21.4700	1.8900	4.3550	8.2310	0.0018	0.0151	0.1890	0.2041	1.7353	5.9100	1.5312	259.0926	88.2405
18.7170	20.2400	1.9600	4.3010	8.4300	0.0015	0.0128	0.1960	0.2088	1.7341	4.9020	1.5253	311.1529	87.9570
19.0930	20.7400	1.8100	4.3220	7.8228	0.0016	0.0129	0.1810	0.1939	1.7351	5.2570	1.5412	293.1721	88.8257
19.2720	21.1100	2.8500	4.3500	12.3975	0.0018	0.0228	0.2850	0.3078	2.4828	5.5820	2.1750	389.6477	87.6032
19.3510	21.0500	2.5400	4.3330	11.0058	0.0017	0.0187	0.2540	0.2727	2.4779	5.5950	2.2052	394.1378	88.9948
20.5900	22.8100	2.3500	4.4310	10.4129	0.0022	0.0231	0.2350	0.2581	2.4790	6.7190	2.2209	330.5378	89.5879

Table C-29. Measured and calculated values for adsorption of phenylmercuric acetate to Bridgeton Formation sediment, pH 4.0, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
20.8100	22.6100	0.4380	3.8990	1.7078	0.0018	0.0031	0.0438	0.0469	0.2745	7.0770	0.2276	32.1642	82.9239
18.7020	20.2500	0.7960	3.7190	2.9603	0.0015	0.0046	0.0796	0.0842	0.2844	5.0130	0.2002	39.9356	70.3979
17.5420	18.9300	1.2050	3.6470	4.3946	0.0014	0.0061	0.1205	0.1266	0.2881	4.1730	0.1615	38.6964	56.0540
16.6230	18.1500	2.4830	3.6810	9.1399	0.0015	0.0140	0.2483	0.2623	0.5739	4.5870	0.3117	67.9493	54.3059
19.1220	20.8100	2.1760	3.5660	7.7596	0.0017	0.0131	0.2176	0.2307	0.5946	5.3840	0.3639	67.5820	61.1985
17.7220	19.2100	2.3800	3.6430	8.6703	0.0015	0.0129	0.2380	0.2509	0.5788	3.9680	0.3279	82.6256	56.6484
19.0440	20.6800	6.4690	3.6850	23.8383	0.0016	0.0390	0.6469	0.6859	1.4388	5.2260	0.7529	144.0682	52.3284
18.5530	20.0000	6.4690	3.6430	23.5666	0.0014	0.0341	0.6469	0.6810	1.4448	4.8140	0.7638	158.6725	52.8670
19.0120	20.4600	6.8260	3.7540	25.6248	0.0014	0.0371	0.6826	0.7197	1.4044	5.2980	0.6847	129.2366	48.7536
19.3780	20.9800	9.3300	3.7260	34.7636	0.0016	0.0557	0.9330	0.9887	2.2754	5.6350	1.2867	228.3351	56.5479
19.3300	21.1600	10.0460	3.6310	36.4770	0.0018	0.0668	1.0046	1.0714	2.3496	5.4960	1.2782	232.5777	54.4028
20.0100	23.4500	10.1990	3.9970	40.7654	0.0034	0.1402	1.0199	1.1601	2.2768	6.3080	1.1167	177.0239	49.0455
19.8150	21.6600	11.2210	3.8650	43.3692	0.0018	0.0800	1.1221	1.2021	2.7715	6.1060	1.5694	257.0232	56.6258
17.9400	19.5800	13.8280	3.5780	49.4766	0.0016	0.0811	1.3828	1.4639	2.9590	4.7590	1.4951	314.1538	50.5258
19.6820	21.5500	11.3750	3.6510	41.5301	0.0019	0.0776	1.1375	1.2151	2.9258	5.9070	1.7107	289.6093	58.4702

Table C-30. Measured and calculated values for adsorption of phenylmercuric acetate to Bridgeton Formation sediment, pH 5.0, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
17.1740	18.3170	0.0810	3.6750	0.2977	0.0011	0.0003	0.0081	0.0084	0.2836	3.4760	0.2751	79.1484	97.0235
17.3240	18.4670	0.0810	3.6920	0.2991	0.0011	0.0003	0.0081	0.0084	0.2823	3.6050	0.2738	75.9551	97.0092
17.2630	18.4060	0.1320	3.6210	0.4780	0.0011	0.0005	0.0132	0.0137	0.2876	3.5300	0.2738	77.5704	95.2198
17.0000	18.1430	0.5410	3.6180	1.9573	0.0011	0.0022	0.0541	0.0563	0.5756	3.1920	0.5193	162.6763	90.2124
16.9800	18.1230	0.3870	3.5900	1.3893	0.0011	0.0016	0.0387	0.0403	0.5800	3.3200	0.5397	162.5639	93.0538
17.8810	19.0240	0.4900	3.5730	1.7508	0.0011	0.0020	0.0490	0.0510	0.5826	4.1350	0.5316	128.5559	91.2456
15.8660	17.0090	1.5630	3.4890	5.4533	0.0011	0.0062	0.1563	0.1625	1.5902	3.7990	1.4277	375.8006	89.7791
17.3250	18.4680	1.6650	3.4930	5.8158	0.0011	0.0066	0.1665	0.1731	1.4887	3.6160	1.3156	363.8279	88.3696
18.1990	19.3420	1.3580	3.4870	4.7353	0.0011	0.0054	0.1358	0.1412	1.4911	4.6500	1.3498	290.2877	90.5293
19.4770	20.6200	1.8690	3.6890	6.8947	0.0011	0.0079	0.1869	0.1948	2.2602	5.7140	2.0655	361.4734	91.3823
17.6090	18.7520	2.0740	3.4820	7.2217	0.0011	0.0083	0.2074	0.2157	2.3889	3.8800	2.1732	560.1098	90.9726
18.5190	19.6620	2.2270	3.5870	7.9882	0.0011	0.0091	0.2227	0.2318	2.3217	4.8070	2.0898	434.7513	90.0145
18.2260	19.3690	2.4310	3.6090	8.7735	0.0011	0.0100	0.2431	0.2531	2.8854	4.5450	2.6323	579.1577	91.2273
17.7420	18.8850	2.5340	3.4670	8.7854	0.0011	0.0100	0.2534	0.2634	2.9988	4.0650	2.7354	672.9047	91.2151
18.9570	20.1000	2.8400	3.5550	10.0962	0.0011	0.0115	0.2840	0.2955	2.9273	5.2150	2.6318	504.6519	89.9040

Table C-31. Measured and calculated values for adsorption of phenylmercuric acetate to Bridgeton Formation sediment, pH 6.0, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
20.5000	22.4500	0.0000	3.8120	0.0000	0.0020	0.0000	0.0000	0.0000	0.2818	6.7760	0.2818	41.5880	100.0000
18.3010	19.9500	0.0000	3.6940	0.0000	0.0016	0.0000	0.0000	0.0000	0.2872	4.6330	0.2872	61.9879	100.0000
17.8270	19.2400	0.0000	3.7060	0.0000	0.0014	0.0000	0.0000	0.0000	0.2839	4.1520	0.2839	68.3839	100.0000
18.7230	20.6100	0.0810	3.6080	0.2922	0.0019	0.0006	0.0081	0.0087	0.5895	4.9770	0.5809	116.7146	98.5325
17.9440	19.3900	0.0300	3.5680	0.1070	0.0014	0.0002	0.0030	0.0032	0.5895	4.1530	0.5864	141.1908	99.4649
18.0800	19.6300	0.0300	3.6780	0.1103	0.0015	0.0002	0.0030	0.0032	0.5748	4.4100	0.5716	129.6211	99.4483
18.5040	20.1100	0.5410	3.6710	1.9860	0.0016	0.0032	0.0541	0.0573	1.4423	4.8490	1.3850	285.6281	96.0279
18.9170	20.4900	0.4900	3.8420	1.8826	0.0016	0.0030	0.0490	0.0520	1.3802	5.0490	1.3282	263.0598	96.2351
19.8520	21.7400	0.3870	3.8080	1.4737	0.0019	0.0028	0.0387	0.0415	1.4074	6.0650	1.3659	225.2132	97.0526
18.2590	19.8500	0.8470	3.6350	3.0788	0.0016	0.0049	0.0847	0.0896	2.3281	4.5280	2.2385	494.3642	96.1514
19.7000	21.6000	0.6940	3.7740	2.6192	0.0019	0.0050	0.0694	0.0744	2.2720	5.9590	2.1976	368.7906	96.7264
17.8830	19.3300	0.8470	3.6010	3.0500	0.0014	0.0044	0.0847	0.0891	2.3374	4.0930	2.2482	549.2906	96.1874
20.0000	22.0000	1.1540	3.7220	4.2952	0.0020	0.0086	0.1154	0.1240	2.8870	6.2920	2.7630	439.1306	95.7052
19.2740	21.0600	1.4610	3.8900	5.6833	0.0018	0.0102	0.1461	0.1563	2.7496	5.5300	2.5933	468.9602	94.3173
18.7310	20.3800	1.2050	3.7160	4.4778	0.0016	0.0074	0.1205	0.1279	2.8559	5.0760	2.7280	537.4340	95.5221

Table C-32. Measured and calculated values for adsorption of phenylmercuric acetate to Cohansey Sand, pH 3.5, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
18.4190	20.0100	1.4090	3.5500	5.0020	0.0016	0.0080	0.1409	0.1489	0.2976	4.7590	0.1488	31.2570	49.9822
17.8370	19.3300	1.4610	3.7940	5.5430	0.0015	0.0083	0.1461	0.1544	0.2785	4.3640	0.1242	28.4496	44.5748
20.6800	22.6400	1.2050	3.8640	4.6561	0.0020	0.0091	0.1205	0.1296	0.2784	6.9670	0.1488	21.3541	53.4389
17.7800	19.0500	3.6070	3.6520	13.1728	0.0013	0.0167	0.3607	0.3774	0.5730	4.0480	0.1956	48.3129	34.1310
17.1220	18.3200	2.6870	3.5950	9.6598	0.0012	0.0116	0.2687	0.2803	0.5804	3.3570	0.3001	89.3916	51.7071
18.1180	19.4900	2.7380	3.6100	9.8842	0.0014	0.0136	0.2738	0.2874	0.5814	4.3590	0.2941	67.4648	50.5777
19.2340	20.9500	9.6370	3.9390	37.9601	0.0017	0.0651	0.9637	1.0288	1.3553	5.4440	0.3265	59.9670	24.0877
18.0670	19.4200	10.3010	3.6430	37.5265	0.0014	0.0508	1.0301	1.0809	1.4402	4.3590	0.3593	82.4218	24.9472
18.9090	20.5800	9.3300	3.7090	34.6050	0.0017	0.0578	0.9330	0.9908	1.4316	5.1640	0.4407	85.3457	30.7866
17.2060	18.8500	17.0470	3.6230	61.7613	0.0016	0.1015	1.7047	1.8062	2.3395	5.1960	0.5333	102.6337	22.7946
17.8730	19.3590	12.2940	3.5650	43.8281	0.0015	0.0651	1.2294	1.2945	2.3622	4.1420	1.0676	257.7576	45.1973
18.8000	20.4900	15.8210	3.7580	59.4553	0.0017	0.1005	1.5821	1.6826	2.2640	5.0470	0.5814	115.2012	25.6811
18.2450	19.7200	19.7040	3.8800	76.4515	0.0015	0.1128	1.9704	2.0832	2.7245	4.5260	0.6413	141.6999	23.5395
18.1290	19.6500	16.4340	3.6620	60.1813	0.0015	0.0915	1.6434	1.7349	2.8831	4.4080	1.1482	260.4728	39.8239
17.7630	19.2300	16.7400	3.7080	62.0719	0.0015	0.0911	1.6740	1.7651	2.8437	3.9680	1.0786	271.8348	37.9309

Table C-33. Measured and calculated values for adsorption of phenylmercuric acetate to Cohansey Sand, pH 4.5, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
19.1610	20.3040	0.2340	3.4510	0.8075	0.0011	0.0009	0.0234	0.0243	0.2312	5.4830	0.2069	37.7288	89.4792
17.6640	18.8070	0.1830	3.5650	0.6524	0.0011	0.0007	0.0183	0.0190	0.2920	3.9850	0.2729	68.4854	93.4766
17.6460	18.7890	0.1830	3.4760	0.6361	0.0011	0.0007	0.0183	0.0190	0.2991	3.9730	0.2801	70.5041	93.6394
18.5460	19.6890	0.3360	3.7820	1.2708	0.0011	0.0015	0.0336	0.0351	0.5517	4.8380	0.5166	106.7854	93.6462
17.3410	18.4840	0.6430	3.6950	2.3759	0.0011	0.0027	0.0643	0.0670	0.5642	3.5820	0.4972	138.7952	88.1216
19.2850	20.4280	0.5410	3.7140	2.0093	0.0011	0.0023	0.0541	0.0564	0.5613	5.6050	0.5049	90.0809	89.9525
18.0810	19.2240	2.0230	3.5960	7.2747	0.0011	0.0083	0.2023	0.2106	1.4475	4.3880	1.2368	281.8676	85.4492
19.7200	20.8630	1.5120	3.6460	5.5128	0.0011	0.0063	0.1512	0.1575	1.4285	6.0260	1.2710	210.9192	88.9744
18.7410	19.8840	2.0740	3.5730	7.4104	0.0011	0.0085	0.2074	0.2159	1.4564	4.9700	1.2406	249.6137	85.1783
18.9980	20.1410	2.5850	3.6580	9.4559	0.0011	0.0108	0.2585	0.2693	2.2786	5.2680	2.0093	381.4070	88.1808
18.2360	19.3790	2.2780	3.4600	7.8819	0.0011	0.0090	0.2278	0.2368	2.4035	4.4480	2.1667	487.1203	90.1474
17.8440	18.9870	4.6800	3.6050	16.8714	0.0011	0.0193	0.4680	0.4873	2.3109	4.0640	1.8236	448.7195	78.9135
19.5000	20.6430	2.6870	3.6780	9.8828	0.0011	0.0113	0.2687	0.2800	2.8330	5.7220	2.5530	446.1734	90.1166
17.4190	18.5620	3.1980	3.6770	11.7590	0.0011	0.0134	0.3198	0.3332	2.8341	3.7020	2.5009	675.5427	88.2418
17.9480	19.0910	3.1980	3.6010	11.5160	0.0011	0.0132	0.3198	0.3330	2.8912	5.8100	2.5582	440.3162	88.4836

Table C-34. Measured and calculated values for adsorption of phenylmercuric acetate to Cohansey Sand, pH 5.5, corrected for liquid in pore spaces

[T+S, mass of tube plus sediment, T+Sde, mass of tube plus sediment after liquid decanted; C*, Hg concentration in decanted liquid at 100 mL; DF, dilution factor; C, Hg concentration in volume decanted; Vr, volume of liquid remaining in pores; Mp, Hg mass in liquid remaining in pores; Mf, Hg mass in decanted liquid at 100 mL; Mfc, Hg mass corrected for mass in pore liquid; Mi, Hg mass in initial liquid volume; Msc, Hg mass sorbed, corrected for mass in pore liquid; Mss, mass of sediment; Csc, Hg concentration corrected for mass in pore liquid; Psc, percent Hg sorbed, corrected for mass in pore liquid; µg/kg, micrograms per kilogram; µg, micrograms; L, liter; mL, milliliter]

T+S (g)	T+Sde (g)	C* (µg/L)	DF	C (µg/L)	Vr (L)	Mp (µg)	Mf (µg)	Mfc (µg)	Mi (µg)	Mss (µg)	Msc (µg)	Csc (µg/kg)	Psc
18.0200	19.3500	0.0300	3.5690	0.1071	0.0013	0.0001	0.0030	0.0031	0.2935	4.3100	0.2904	67.3683	98.9293
17.3470	18.4400	0.0300	3.6300	0.1089	0.0011	0.0001	0.0030	0.0031	0.2864	3.5590	0.2833	79.6041	98.9111
17.4650	18.6500	0.0300	3.5300	0.1059	0.0012	0.0001	0.0030	0.0031	0.2952	3.8030	0.2920	76.7879	98.9410
17.7850	19.0200	0.1830	3.6540	0.6687	0.0012	0.0008	0.0183	0.0191	0.5721	3.9570	0.5530	139.7458	96.6569
17.0590	18.1700	0.1320	3.6170	0.4774	0.0011	0.0005	0.0132	0.0137	0.5752	3.3930	0.5615	165.4847	97.6130
17.0320	18.1300	0.1830	3.5790	0.6550	0.0011	0.0007	0.0183	0.0190	0.5808	3.2930	0.5617	170.5864	96.7251
18.8140	20.4700	1.3580	3.5390	4.8060	0.0017	0.0080	0.1358	0.1438	1.4958	5.0740	1.3520	266.4646	90.3892
19.6700	21.4600	1.3580	3.8330	5.2052	0.0018	0.0093	0.1358	0.1451	1.3940	6.1810	1.2489	202.0519	89.5899
20.1600	22.1700	1.0010	3.7510	3.7548	0.0020	0.0075	0.1001	0.1076	1.4335	6.3680	1.3259	208.2056	92.4906
19.4300	21.1400	1.2050	3.8700	4.6634	0.0017	0.0080	0.1205	0.1285	2.2040	5.7600	2.0755	360.3344	94.1709
19.0560	20.6300	1.1540	3.8360	4.4267	0.0016	0.0070	0.1154	0.1224	2.2115	5.1570	2.0892	405.1101	94.4668
17.8440	19.1500	1.4610	3.6420	5.3210	0.0013	0.0069	0.1461	0.1530	2.3013	4.0530	2.1482	530.0348	93.3494
17.0600	18.1880	1.6140	3.6140	5.8330	0.0011	0.0066	0.1614	0.1680	2.8800	3.3980	2.7120	798.1226	94.1674
17.2780	18.4400	1.4610	3.5660	5.2099	0.0012	0.0061	0.1461	0.1522	2.9202	3.5780	2.7680	773.6293	94.7896
18.9580	20.6100	1.5630	3.7610	5.8784	0.0017	0.0097	0.1563	0.1660	2.8242	5.3940	2.6582	492.8048	94.1218

APPENDIX D--Experimental Procedures and Raw and Calculated Data for Mercury-Desorption Experiments

The preliminary column experiments were conducted in two phases: (1) an inoculation phase, in which mercury-bearing solution was passed through the column, collected, and analyzed for mercury; and (2) a leaching phase, in which leaching solutions of fertilizers, dilute nitric acid, and sodium chloride were passed through the column, collected, and analyzed for mercury.

The glass columns used in the desorption experiments were 10 cm in length with an inside diameter of 2 cm; the base of each column was fitted with a fritted glass disk to prevent sample leakage. The columns were packed with approximately 100 g of sediment. Those experiments in which both types of sediment were used were designed such that the columns contained 75 g of Cohansey Sand and 25 g of Bridgeton Formation sediment. The sediment was saturated with distilled water and the volume of water retained by the sediment determined. The columns were then drained.

A 1,000-ppb (μg/L) mercury solution prepared from a mercury stock solution of 1,000 ppm (mg/L) was used to inoculate the sediments. Because mercury losses to peristaltic-pump tubing were found to be significant, sediments were inoculated with mercury by decanting about 500 mL of 1,000-ppb mercury solution in volumetric flasks into the top of the column and allowing the solution to drain through slowly, at a rate of about 20 mL per 15 minutes (1.33 mL/min). The total volume of solution added varied slightly, but generally was 500 to 600 mL in the earliest experiments. In two experiments, 230 to 400 mL of inoculant was used. The inoculant was collected in 20-mL aliquots, which were promptly analyzed for mercury content. After the columns were inoculated, they were covered and aged overnight (about 8-10 hours).

The experiments were performed in triplicate; a set of three columns containing mercury-inoculated sediment was leached using 490 to 1,000 mL of leaching solution. The flow rate of the leaching solutions was approximately 40 mL per hour (6.67 mL/min); the eluent typically was collected in 20-mL aliquots, which were analyzed promptly for mercury content.

The leachate samples were analyzed for mercury using ICP and the Hatch and Ott (1968) method for cold vapor flameless atomic absorption spectrophotometry (CVAAS). Mercury analysis of effluent from all the column experiments except those in which the NaCl leaching solution was used was performed on the ICP. Because the ICP method is less precise than CVAAS for samples with mercury concentrations less than about 200 μg/L, reported concentrations less than 200 μg/L are less precise than reported concentrations greater than 200 μg/L. For the purposes of these preliminary experiments, the more rapid ICP method was deemed adequate to determine the relative effectiveness of several leaching solutions. All standards were prepared in the matrix appropriate for the leachate being analyzed to account for any matrix effects. The most sensitive emission line (194.227 nm) was used on the ICP for mercury analysis.

The concentration of mercury in the inoculant used in the experiments was 1,000 μg/L. For most experiments, the volume of inoculant ranged from 500 to 580 mL; in the NaCl experiments, the inoculant volume was 240 mL.

Because the desorption experiments were carried out in two phases--an adsorption phase and a desorption (or leaching) phase--the data and calculations that follow are grouped into these two phases. Abbreviations and calculations used in the adsorption phase are

Vi = volume of inoculant (mL);

C* = concentration of mercury in eluent during inoculation phase (μg/L);

cum Vi = sum of volumes of inoculant (mL);

Mi = mass of mercury in inoculant (µg), at 1 microgram mercury per milliliter-- Vi (mL) x 1 (µg/mL);

M* = mass of mercury (µg) in eluent during inoculation phase-- Vi (mL)/1,000 (mL/L) x C* (µg/L);

cum M* = sum of masses of mercury (µg) in effluent during inoculation phase;

Ms = mass of mercury remaining in column-- Mi (µg) - M*(µg);

cum Ms = sum of masses of mercury (µg) remaining in column; and

Ps = percent adsorbed-- (cum Ms/cum Mi) x 100.

Abbreviations and calculations used in the desorption (leaching) phase are

Vo = volume of eluent in leaching phase (mL);

Co = concentration of mercury in eluent in leaching phase (µg/L);

cum Vo = sum of volumes of eluent in leaching phase (mL);

Mo = mass of mercury in eluent in leaching phase (µg)-- (Vo (mL)/1,000 (mL/L)) x Co;

cum Mo = sum of masses of mercury in eluent in leaching phase (µg); and

Pl = percent leached-- (cum Mo/cum Ms) x 100.

Mercury adsorption and leaching curves are shown in figures 1a to 6b, which follow tables D-1a - D-18a. The scales vary among the figures.

NITRIC ACID EXPERIMENTS

Table D-1a. Measured and calculated values for mercury adsorbed to Cohansey Sand, Column A, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	27.00	20.00	20.00	20.00	0.54	0.54	19.46	19.46	97.30
20.00	28.00	40.00	20.00	40.00	0.56	1.10	19.44	38.90	97.25
20.00	206.00	60.00	20.00	60.00	4.12	5.22	15.88	54.78	91.30
20.00	183.00	80.00	20.00	80.00	3.66	8.88	16.34	71.12	88.90
20.00	154.00	100.00	20.00	100.00	3.08	11.96	16.92	88.04	88.04
20.00	310.00	120.00	20.00	120.00	6.20	18.16	13.80	101.84	84.87
20.00	499.00	140.00	20.00	140.00	9.98	28.14	10.02	111.86	79.90
20.00	599.00	160.00	20.00	160.00	11.98	40.12	8.02	119.88	74.93
20.00	530.00	180.00	20.00	180.00	10.60	50.72	9.40	129.28	71.82
20.00	965.00	200.00	20.00	200.00	19.30	70.02	0.70	129.98	64.99
20.00	542.00	220.00	20.00	220.00	10.84	80.86	9.16	139.14	63.25
20.00	603.00	240.00	20.00	240.00	12.06	92.92	7.94	147.08	61.28
20.00	598.00	260.00	20.00	260.00	11.96	104.88	8.04	155.12	59.66
20.00	694.00	280.00	20.00	280.00	13.88	118.76	6.12	161.24	57.59
20.00	934.00	300.00	20.00	300.00	18.68	137.44	1.32	162.56	54.19
20.00	1,054.00	320.00	20.00	320.00	21.08	158.52	-1.08	161.48	50.46
20.00	676.00	340.00	20.00	340.00	13.52	172.04	6.48	167.96	49.40
20.00	1,125.00	360.00	20.00	360.00	22.50	194.54	-2.50	165.46	45.96
20.00	770.00	380.00	20.00	380.00	15.40	209.94	4.60	170.06	44.75
20.00	802.00	400.00	20.00	400.00	16.04	225.98	3.96	174.02	43.50
20.00	1,397.00	420.00	20.00	420.00	27.94	253.92	-7.94	166.08	39.54
20.00	1,089.00	440.00	20.00	440.00	21.78	275.70	-1.78	164.30	37.34
20.00	772.00	460.00	20.00	460.00	15.44	291.14	4.56	168.86	36.71
20.00	976.00	480.00	20.00	480.00	19.52	310.66	0.48	169.34	35.28
20.00	1,044.00	500.00	20.00	500.00	20.88	331.54	-0.88	168.46	33.69
20.00	869.00	520.00	20.00	520.00	17.38	348.92	2.62	171.08	32.90

Table D-1b. Measured and calculated values for mercury leached from Cohansey Sand, Column A, using 1 x 10^{-4} M nitric acid

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	795.00	20.00	15.90	15.90	-
20.00	341.00	40.00	6.82	22.72	-
20.00	43.00	60.00	0.86	23.58	-
20.00	101.00	80.00	2.02	25.60	-
20.00	45.00	100.00	0.90	26.50	-
20.00	105.00	120.00	2.10	28.60	-
20.00	45.00	140.00	0.90	29.50	-
20.00	6.00	160.00	0.12	29.62	-
20.00	10.00	180.00	0.20	29.82	-
20.00	0.00	200.00	0.00	29.82	-
20.00	75.00	220.00	1.50	31.32	-
20.00	118.00	240.00	2.36	33.68	-
20.00	38.00	260.00	0.76	34.44	-
20.00	23.00	280.00	0.46	34.90	-
20.00	18.00	300.00	0.36	35.26	-
20.00	34.00	320.00	0.68	35.94	-
20.00	30.00	340.00	0.60	36.54	-
20.00	45.00	360.00	0.90	37.44	-
20.00	36.00	380.00	0.72	38.16	-
20.00	25.00	400.00	0.50	38.66	-
20.00	31.00	420.00	0.62	39.28	-
20.00	24.00	440.00	0.48	39.76	-
20.00	25.00	460.00	0.50	40.26	-
20.00	12.00	480.00	0.24	40.50	-
20.00	156.00	500.00	3.12	43.62	-
20.00	104.00	520.00	2.08	45.70	-
20.00	87.00	540.00	1.74	47.44	-
20.00	58.00	560.00	1.16	48.60	-
20.00	64.00	580.00	1.28	49.88	-
20.00	5.00	600.00	0.10	49.98	29.21

Table D-2a. Measured and calculated values for mercury adsorbed to Cohansey Sand, column B, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	22.00	20.00	20.00	20.00	0.44	0.44	19.56	19.56	97.80
20.00	57.00	40.00	20.00	40.00	1.14	1.58	18.86	38.42	96.05
20.00	225.00	60.00	20.00	60.00	4.50	6.08	15.50	53.92	89.87
20.00	198.00	80.00	20.00	80.00	3.96	10.04	16.04	69.96	87.45
20.00	239.00	100.00	20.00	100.00	4.78	14.82	15.22	85.18	85.18
20.00	223.00	120.00	20.00	120.00	4.46	19.28	15.54	100.72	83.93
20.00	441.00	140.00	20.00	140.00	8.82	28.10	11.18	111.90	79.93
20.00	929.00	160.00	20.00	160.00	18.58	46.68	1.42	113.32	70.82
20.00	1,135.00	180.00	20.00	180.00	22.70	69.38	-2.70	110.62	61.46
20.00	619.00	200.00	20.00	200.00	12.38	81.76	7.62	118.24	59.12
20.00	898.00	220.00	20.00	220.00	17.96	99.72	2.04	120.28	54.67
20.00	551.00	240.00	20.00	240.00	11.02	110.74	8.98	129.26	53.86
20.00	658.00	260.00	20.00	260.00	13.16	123.90	6.84	136.10	52.35
20.00	788.00	280.00	20.00	280.00	15.76	139.66	4.24	140.34	50.12
20.00	859.00	300.00	20.00	300.00	17.18	156.84	2.82	143.16	47.72
20.00	830.00	320.00	20.00	320.00	16.60	173.44	3.40	146.56	45.80
20.00	470.00	340.00	20.00	340.00	9.40	182.84	10.60	157.16	46.22
20.00	782.00	360.00	20.00	360.00	15.64	198.48	4.36	161.52	44.87
20.00	1,286.00	380.00	20.00	380.00	25.72	224.20	-5.72	155.80	41.00
20.00	1,539.00	400.00	20.00	400.00	30.78	254.98	-10.78	145.02	36.26
20.00	1,382.00	420.00	20.00	420.00	27.64	282.62	-7.64	137.38	32.71
20.00	994.00	440.00	20.00	440.00	19.88	302.50	0.12	137.50	31.25
20.00	938.00	460.00	20.00	460.00	18.76	321.26	1.24	138.74	30.16
20.00	1,026.00	480.00	20.00	480.00	20.52	341.78	-0.52	138.22	28.80
20.00	751.00	500.00	20.00	500.00	15.02	356.80	4.98	143.20	28.64

Table D-2b. Measured and calculated values for mercury leached from Cohansey Sand, Column B, using 1 x 10^{-4} M nitric acid

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	665.00	20.00	13.30	13.30	-
20.00	324.00	40.00	6.48	19.78	-
20.00	107.00	60.00	2.14	21.92	-
20.00	36.00	80.00	0.72	22.64	-
20.00	92.00	100.00	1.84	24.48	-
20.00	38.00	120.00	0.76	25.24	-
20.00	0.00	140.00	0.00	25.24	-
20.00	88.00	160.00	1.76	27.00	-
20.00	157.00	180.00	3.14	30.14	-
20.00	3.00	200.00	0.06	30.20	-
20.00	12.00	220.00	0.24	30.44	-
20.00	12.00	240.00	0.24	30.68	-
20.00	66.00	260.00	1.32	32.00	-
20.00	43.00	280.00	0.86	32.86	-
20.00	11.00	300.00	0.22	33.08	-
20.00	26.00	320.00	0.52	33.60	-
20.00	19.00	340.00	0.38	33.98	-
20.00	13.00	360.00	0.26	34.24	-
20.00	0.00	380.00	0.00	34.24	-
20.00	7.00	400.00	0.14	34.38	-
20.00	61.00	420.00	1.22	35.60	-
20.00	41.00	440.00	0.82	36.42	-
20.00	37.00	460.00	0.74	37.16	-
20.00	43.00	480.00	0.86	38.02	-
20.00	42.00	500.00	0.84	38.86	-
20.00	66.00	520.00	1.32	40.18	-
20.00	60.00	540.00	1.20	41.38	-
20.00	62.00	560.00	1.24	42.62	-
20.00	45.00	580.00	0.90	43.52	-
20.00	22.00	600.00	0.44	43.96	30.70

Table D-3a. Measured and calculated values for mercury adsorbed to Cohansey Sand, Column C, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	5.00	20.00	20.00	20.00	0.10	0.10	19.90	19.90	99.50
20.00	22.00	40.00	20.00	40.00	0.44	0.54	19.56	39.46	98.65
20.00	68.00	60.00	20.00	60.00	1.36	1.90	18.64	58.10	96.83
20.00	132.00	80.00	20.00	80.00	2.64	4.54	17.36	75.46	94.32
20.00	221.00	100.00	20.00	100.00	4.42	8.96	15.58	91.04	91.04
20.00	222.00	120.00	20.00	120.00	4.44	13.40	15.56	106.60	88.83
20.00	250.00	140.00	20.00	140.00	5.00	18.40	15.00	121.60	86.86
20.00	500.00	160.00	20.00	160.00	10.00	28.40	10.00	131.60	82.25
20.00	438.00	180.00	20.00	180.00	8.76	37.16	11.24	142.84	79.36
20.00	680.00	200.00	20.00	200.00	13.60	50.76	6.40	149.24	74.62
20.00	910.00	220.00	20.00	220.00	18.20	68.96	1.80	151.04	68.65
20.00	803.00	240.00	20.00	240.00	16.06	85.02	3.94	154.98	64.58
20.00	724.00	260.00	20.00	260.00	14.48	99.50	5.52	160.50	61.73
20.00	830.00	280.00	20.00	280.00	16.60	116.10	3.40	163.90	58.54
20.00	970.00	300.00	20.00	300.00	19.40	135.50	0.60	164.50	54.83
20.00	610.00	320.00	20.00	320.00	12.20	147.70	7.80	172.30	53.84
20.00	1,403.00	340.00	20.00	340.00	28.06	175.76	-8.06	164.24	48.31
20.00	1,641.00	360.00	20.00	360.00	32.82	208.58	-12.82	151.42	42.06
20.00	1,697.00	380.00	20.00	380.00	33.94	242.52	-13.94	137.48	36.18
20.00	1,843.00	400.00	20.00	400.00	36.86	279.38	-16.86	120.62	30.16
20.00	1,123.00	420.00	20.00	420.00	22.46	301.84	-2.46	118.16	28.13
20.00	1,195.00	440.00	20.00	440.00	23.90	325.74	-3.90	114.26	25.97
20.00	1,226.00	460.00	20.00	460.00	24.52	350.26	-4.52	109.74	23.86
20.00	857.00	480.00	20.00	480.00	17.14	367.40	2.86	112.60	23.46
20.00	614.00	500.00	20.00	500.00	12.28	379.68	7.72	120.32	24.06

Table D-3b. Measured and calculated values for mercury leached from Cohansey Sand, Column C, using 1 x 10^{-4} M nitric acid

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	823.00	20.00	16.46	16.46	-
20.00	473.00	40.00	9.46	25.92	-
20.00	70.00	60.00	1.40	27.32	-
20.00	44.00	80.00	0.88	28.20	-
20.00	58.00	100.00	1.16	29.36	-
20.00	64.00	120.00	1.28	30.64	-
20.00	74.00	140.00	1.48	32.12	-
20.00	75.00	160.00	1.50	33.62	-
20.00	61.00	180.00	1.22	34.84	-
20.00	71.00	200.00	1.42	36.26	-
20.00	9.00	220.00	0.18	36.44	-
20.00	13.00	240.00	0.26	36.70	-
20.00	35.00	260.00	0.70	37.40	-
20.00	57.00	280.00	1.14	38.54	-
20.00	23.00	300.00	0.46	39.00	-
20.00	72.00	320.00	1.44	40.44	-
20.00	19.00	340.00	0.38	40.82	-
20.00	24.00	360.00	0.48	41.30	-
20.00	64.00	380.00	1.28	42.58	-
20.00	64.00	400.00	1.28	43.86	-
20.00	8.00	420.00	0.16	44.02	-
20.00	6.00	440.00	0.12	44.14	-
20.00	9.00	460.00	0.18	44.32	-
20.00	37.00	480.00	0.74	45.06	-
20.00	0.00	500.00	0.00	45.06	-
20.00	10.00	520.00	0.20	45.26	-
20.00	49.00	540.00	0.98	46.24	-
20.00	29.00	560.00	0.58	46.82	-
20.00	11.00	580.00	0.22	47.04	-
20.00	2.00	600.00	0.04	47.08	39.13

Table D-4a. Measured and calculated values for mercury adsorbed to Cohansey Sand and Bridgeton Formation sediment, Column A, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	642.00	20.00	20.00	20.00	12.84	12.84	7.16	7.16	35.80
20.00	560.00	40.00	20.00	40.00	11.20	24.04	8.80	15.96	39.90
20.00	196.00	60.00	20.00	60.00	3.92	27.96	16.08	32.04	53.40
20.00	82.00	80.00	20.00	80.00	1.64	29.60	18.36	50.40	63.00
20.00	80.00	100.00	20.00	100.00	1.60	31.20	18.40	68.80	68.80
20.00	3.00	120.00	20.00	120.00	0.06	31.26	19.94	88.74	73.95
20.00	32.00	140.00	20.00	140.00	0.64	31.90	19.36	108.10	77.21
20.00	37.00	160.00	20.00	160.00	0.74	32.64	19.26	127.36	79.60
20.00	19.00	180.00	20.00	180.00	0.38	33.02	19.62	146.98	81.66
20.00	11.00	200.00	20.00	200.00	0.22	33.24	19.78	166.76	83.38
20.00	43.00	220.00	20.00	220.00	0.86	34.10	19.14	185.90	84.50
20.00	46.00	240.00	20.00	240.00	0.92	35.02	19.08	204.98	85.41
20.00	37.00	260.00	20.00	260.00	0.74	35.76	19.26	224.24	86.25
20.00	37.00	280.00	20.00	280.00	0.74	36.50	19.26	243.50	86.96
20.00	28.00	300.00	20.00	300.00	0.56	37.06	19.44	262.94	87.65
20.00	21.00	320.00	20.00	320.00	0.42	37.48	19.58	282.52	88.29
20.00	35.00	340.00	20.00	340.00	0.70	38.18	19.30	301.82	88.77
20.00	5.00	360.00	20.00	360.00	0.10	38.28	19.90	321.72	89.37

Table D-4b. Measured and calculated values for mercury leached from Cohansey Sand and Bridgeton Formation sediment, Column A, using 1.4 x 10^{-4} M nitric acid

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	44.00	20.00	0.88	0.88	-
20.00	43.00	40.00	0.86	1.74	-
20.00	49.00	60.00	0.98	2.72	-
20.00	67.00	80.00	1.34	4.06	-
20.00	59.00	100.00	1.18	5.24	-
20.00	61.00	120.00	1.22	6.46	-
20.00	57.00	140.00	1.14	7.60	-
250.00	330.00	390.00	82.50	90.10	-
250.00	598.00	640.00	149.5	239.6	74.47

Table D-5a. Measured and calculated values for mercury adsorbed to Cohansey Sand and Bridgeton Formation sediment, Column B, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	781.00	20.00	20.00	20.00	15.62	15.62	4.38	4.38	21.90
20.00	771.00	40.00	20.00	40.00	15.42	31.04	4.58	8.96	22.40
20.00	185.00	60.00	20.00	60.00	3.70	34.74	16.30	25.26	42.10
20.00	64.00	80.00	20.00	80.00	1.28	36.02	18.72	43.98	54.97
20.00	61.00	100.00	20.00	100.00	1.22	37.24	18.78	62.76	62.76
20.00	17.00	120.00	20.00	120.00	0.34	37.58	19.66	82.42	68.68
20.00	19.00	140.00	20.00	140.00	0.38	37.96	19.62	102.04	72.89
20.00	36.00	160.00	20.00	160.00	0.72	38.68	19.28	121.32	75.82
20.00	2.00	180.00	20.00	180.00	0.04	38.72	19.96	141.28	78.49
20.00	18.00	200.00	20.00	200.00	0.36	39.08	19.64	160.92	80.46
20.00	46.00	220.00	20.00	220.00	0.92	40.00	19.08	180.00	81.82
20.00	40.00	240.00	20.00	240.00	0.80	40.80	19.20	199.20	83.00
20.00	49.00	260.00	20.00	260.00	0.98	41.78	19.02	218.22	83.93
20.00	39.00	280.00	20.00	280.00	0.78	42.56	19.22	237.44	84.80
20.00	41.00	300.00	20.00	300.00	0.82	43.38	19.18	256.62	85.54
20.00	23.00	320.00	20.00	320.00	0.46	43.84	19.54	276.16	86.30
20.00	25.00	340.00	20.00	340.00	0.50	44.34	19.50	295.66	86.96
20.00	13.00	360.00	20.00	360.00	0.26	44.60	19.74	315.40	87.61
20.00	34.00	380.00	20.00	380.00	0.68	45.28	19.32	334.72	88.08
20.00	56.00	400.00	20.00	400.00	1.12	46.40	18.88	353.60	88.40

Table D-5b. Measured and calculated values for mercury leached from Cohansey Sand and Bridgeton Formation sediment, Column B, using 1.4 x 10^{-4} M nitric acid

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	49.00	20.00	0.98	0.98	-
20.00	57.00	40.00	1.14	2.12	-
20.00	35.00	60.00	0.70	2.82	-
20.00	52.00	80.00	1.04	3.86	-
20.00	59.00	100.00	1.18	5.04	-
250.00	305.00	350.00	76.25	81.29	-
250.00	368.00	600.00	92.00	173.29	49.15

Table D-6a. Measured and calculated values for mercury adsorbed to Cohansey Sand and Bridgeton Formation sediment, Column C, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	1,143.00	20.00	20.00	20.00	22.86	22.86	-2.86	-2.86	-14.30
20.00	771.00	40.00	20.00	40.00	15.42	38.28	4.58	1.72	4.30
20.00	55.00	60.00	20.00	60.00	1.10	39.38	18.90	20.62	34.37
20.00	159.00	80.00	20.00	80.00	3.18	42.56	16.82	37.44	46.80
20.00	125.00	100.00	20.00	100.00	2.50	45.06	17.50	54.94	54.94
20.00	88.00	120.00	20.00	120.00	1.76	46.82	18.24	73.18	60.98
20.00	52.00	140.00	20.00	140.00	1.04	47.86	18.96	92.14	65.81
20.00	64.00	160.00	20.00	160.00	1.28	49.14	18.72	110.86	69.29
20.00	0.00	180.00	20.00	180.00	0.00	49.14	20.00	130.86	72.70
20.00	83.00	200.00	20.00	200.00	1.66	50.80	18.34	149.20	74.60
20.00	75.00	220.00	20.00	220.00	1.50	52.30	18.50	167.70	76.23
20.00	63.00	240.00	20.00	240.00	1.26	53.56	18.74	186.44	77.68
20.00	50.00	260.00	20.00	260.00	1.00	54.56	19.00	205.44	79.02
20.00	56.00	280.00	20.00	280.00	1.12	55.68	18.88	224.32	80.11
20.00	70.00	300.00	20.00	300.00	1.40	57.08	18.60	242.92	80.97
20.00	59.00	320.00	20.00	320.00	1.18	58.26	18.82	261.74	81.79
20.00	52.00	340.00	20.00	340.00	1.04	59.30	18.96	280.70	82.56
20.00	62.00	360.00	20.00	360.00	1.24	60.54	18.76	299.46	83.18
20.00	61.00	380.00	20.00	380.00	1.22	61.76	18.78	318.24	83.75
20.00	87.00	400.00	20.00	400.00	1.74	63.50	18.26	336.50	84.13

Table D-6b. Measured and calculated values for mercury leached from Cohansey Sand and Bridgeton Formation sediment, Column C, using 1.4 x 10^{-4} M nitric acid

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	81.00	20.00	1.62	1.62	-
20.00	78.00	40.00	1.56	3.18	-
20.00	75.00	60.00	1.50	4.68	-
20.00	92.00	80.00	1.84	6.52	-
20.00	95.00	100.00	1.90	8.42	-
250.00	470.00	350.00	117.50	125.92	-
250.00	686.00	600.00	171.50	297.42	88.39

SODIUM CHLORIDE SOLUTION EXPERIMENTS

Table D-7a. Measured and calculated values for mercury adsorbed to Cohansey Sand and Bridgeton Formation sediment, Column A, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	3.31	20.00	20.00	20.00	0.07	0.07	19.93	19.93	99.67
20.00	2.36	40.00	20.00	40.00	0.05	0.11	19.95	39.89	99.72
20.00	0.57	60.00	20.00	60.00	0.01	0.12	19.99	59.88	99.79
20.00	0.42	80.00	20.00	80.00	0.01	0.13	19.99	79.87	99.83
20.00	0.47	100.00	20.00	100.00	0.01	0.14	19.99	99.86	99.86
20.00	0.57	120.00	20.00	120.00	0.01	0.15	19.99	119.85	99.87
20.00	0.82	140.00	20.00	140.00	0.02	0.17	19.98	139.83	99.88
20.00	0.77	160.00	20.00	160.00	0.02	0.19	19.98	159.81	99.88
20.00	0.92	180.00	20.00	180.00	0.02	0.20	19.98	179.80	99.89
20.00	0.72	200.00	20.00	200.00	0.01	0.22	19.99	199.78	99.89
20.00	0.67	220.00	20.00	220.00	0.01	0.23	19.99	219.77	99.89
20.00	0.67	240.00	20.00	240.00	0.01	0.25	19.99	239.75	99.90

Table D-7b. Measured and calculated values for mercury leached from Cohansey Sand and Bridgeton Formation sediment, Column A, using 1 x 10^{-2} M sodium chloride and distilled water

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	5,380.24	20.00	107.60	107.60	-
20.00	261.93	40.00	5.24	112.84	-
20.00	77.87	60.00	1.56	114.40	-
20.00	445.41	80.00	8.91	123.31	-
20.00	233.35	100.00	4.67	127.98	-
20.00	48.78	120.00	0.98	128.95	-
20.00	62.22	140.00	1.24	130.20	-
20.00	73.16	160.00	1.46	131.66	-
20.00	16.45	180.00	0.33	131.99	-
50.00	2.94	230.00	0.15	132.14	-
50.00	2.74	280.00	0.14	132.27	-
50.00	1.25	330.00	0.06	132.33	-
50.00	1.25	380.00	0.06	132.40	-
50.00	0.00	430.00	0.00	132.40	-
60.00	0.00	490.00	0.00	132.40	55.22

Table D-8a. Measured and calculated values for mercury adsorbed to Cohansey Sand and Bridgeton Formation sediment, Column B, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	1.87	20.00	20.00	20.00	0.04	0.04	19.96	19.96	99.81
20.00	1.87	40.00	20.00	40.00	0.04	0.07	19.96	39.93	99.81
20.00	0.62	60.00	20.00	60.00	0.01	0.09	19.99	59.91	99.85
20.00	0.47	80.00	20.00	80.00	0.01	0.10	19.99	79.90	99.88
20.00	0.52	100.00	20.00	100.00	0.01	0.11	19.99	99.89	99.89
20.00	0.57	120.00	20.00	120.00	0.01	0.12	19.99	119.88	99.90
20.00	0.87	140.00	20.00	140.00	0.02	0.14	19.98	139.86	99.90
20.00	0.77	160.00	20.00	160.00	0.02	0.15	19.98	159.85	99.91
20.00	0.72	180.00	20.00	180.00	0.01	0.17	19.99	179.83	99.91
20.00	0.67	200.00	20.00	200.00	0.01	0.18	19.99	199.82	99.91
20.00	0.67	220.00	20.00	220.00	0.01	0.19	19.99	219.81	99.91
10.00	0.13	230.00	10.00	230.00	0.00	0.19	10.00	229.81	99.92

Table D-8b. Measured and calculated values for mercury leached from Cohansey Sand and Bridgeton Formation sediment, Column B, using 1 x 10^{-2} M sodium chloride and distilled water

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	5,703.59	20.00	114.07	114.07	-
20.00	309.69	40.00	6.19	120.27	-
20.00	848.35	60.00	16.97	137.23	-
20.00	407.46	80.00	8.15	145.38	-
20.00	281.10	100.00	5.62	151.00	-
20.00	212.45	120.00	4.25	155.25	-
20.00	106.00	140.00	2.12	157.37	-
20.00	70.18	160.00	1.40	158.78	-
50.00	8.71	210.00	0.44	159.21	-
50.00	0.95	260.00	0.05	159.26	-
50.00	0.95	310.00	0.05	159.31	-
50.00	0.00	360.00	0.00	159.31	-
50.00	0.00	410.00	0.00	159.31	69.32

Table D-9a. Measured and calculated values for mercury adsorbed to Cohansey Sand and Bridgeton Formation sediment, Column C, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	3.51	20.00	20.00	20.00	0.07	0.07	19.93	19.93	99.65
20.00	2.31	40.00	20.00	40.00	0.05	0.12	19.95	39.88	99.71
20.00	0.72	60.00	20.00	60.00	0.01	0.13	19.99	59.87	99.78
20.00	0.62	80.00	20.00	80.00	0.01	0.14	19.99	79.86	99.82
20.00	1.02	100.00	20.00	100.00	0.02	0.16	19.98	99.84	99.84
20.00	0.82	120.00	20.00	120.00	0.02	0.18	19.98	119.82	99.85
20.00	1.02	140.00	20.00	140.00	0.02	0.20	19.98	139.80	99.86
20.00	0.97	160.00	20.00	160.00	0.02	0.22	19.98	159.78	99.86
20.00	0.42	180.00	20.00	180.00	0.01	0.23	19.99	179.77	99.87
20.00	0.92	200.00	20.00	200.00	0.02	0.25	19.98	199.75	99.88
20.00	0.67	220.00	20.00	220.00	0.01	0.26	19.99	219.74	99.88
10.00	0.23	230.00	10.00	230.00	0.00	0.26	10.00	229.74	99.89

Table D-9b. Measured and calculated values for mercury leached from Cohansey Sand and Bridgeton Formation sediment, Column C, using 1 x 10^{-2} M sodium chloride and distilled water

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	4.25	20.00	0.09	0.09	-
20.00	4,226.13	40.00	84.52	84.61	-
20.00	2,917.80	60.00	58.36	142.96	-
20.00	1,037.39	80.00	20.75	163.71	-
20.00	498.00	100.00	9.96	173.67	-
20.00	349.75	120.00	6.99	180.67	-
20.00	194.54	140.00	3.89	184.56	-
20.00	52.27	160.00	1.05	185.60	-
20.00	55.49	180.00	1.11	186.71	-
50.00	4.73	230.00	0.24	186.95	-
50.00	3.44	280.00	0.17	187.12	-
50.00	1.55	330.00	0.08	187.20	-
50.00	2.84	380.00	0.14	187.34	-
50.00	0.00	430.00	0.00	187.34	-
60.00	0.00	490.00	0.00	187.34	81.54

Table D-10a. Measured and calculated values for mercury adsorbed to Cohansey Sand and Bridgeton Formation sediment, Column A, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	1,163.00	20.00	20.00	20.00	23.26	23.26	-3.26	-3.26	-16.30
20.00	963.00	40.00	20.00	40.00	19.26	42.52	0.74	-2.52	-6.30
20.00	308.00	60.00	20.00	60.00	6.16	48.68	13.84	11.32	18.87
20.00	138.00	80.00	20.00	80.00	2.76	51.44	17.24	28.56	35.70
20.00	268.00	100.00	20.00	100.00	5.36	56.80	14.64	43.20	43.20
20.00	410.00	120.00	20.00	120.00	8.20	65.00	11.80	55.00	45.83
20.00	80.00	140.00	20.00	140.00	1.60	66.60	18.40	73.40	52.43
20.00	451.00	160.00	20.00	160.00	9.02	75.62	10.98	84.38	52.74
20.00	279.00	180.00	20.00	180.00	5.58	81.20	14.42	98.80	54.89
20.00	360.00	200.00	20.00	200.00	7.20	88.40	12.80	111.60	55.80
20.00	205.00	220.00	20.00	220.00	4.10	92.50	15.90	127.50	57.95
20.00	817.00	240.00	20.00	240.00	16.34	108.84	3.66	131.16	54.65
20.00	330.00	260.00	20.00	260.00	6.60	115.44	13.40	144.56	55.60
20.00	265.00	280.00	20.00	280.00	5.30	120.74	14.70	159.26	56.88
20.00	281.00	300.00	20.00	300.00	5.62	126.36	14.38	173.64	57.88
20.00	828.00	320.00	20.00	320.00	16.56	142.92	3.44	177.08	55.34
20.00	781.00	340.00	20.00	340.00	15.62	158.54	4.38	181.46	53.37
20.00	578.00	360.00	20.00	360.00	11.56	170.10	8.44	189.90	52.75
20.00	967.00	380.00	20.00	380.00	19.34	189.44	0.66	190.56	50.15
20.00	747.00	400.00	20.00	400.00	14.94	204.38	5.06	195.62	48.90
20.00	882.00	420.00	20.00	420.00	17.64	222.02	2.36	197.98	47.14
20.00	309.00	440.00	20.00	440.00	6.18	228.20	13.82	211.80	48.14
20.00	301.00	460.00	20.00	460.00	6.02	234.22	13.98	225.78	49.08
20.00	251.00	480.00	20.00	480.00	5.02	239.24	14.98	240.76	50.16
20.00	411.00	500.00	20.00	500.00	8.22	247.46	11.78	252.54	50.51
20.00	687.00	520.00	20.00	520.00	13.74	261.20	6.26	258.80	49.77

Table D-10b. Measured and calculated values for mercury leached from Cohansey Sand and Bridgeton Formation sediment, Column A, using 20-20-20 fertilizer solution

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	0.00	20.00	0.00	0.00	-
20.00	350.00	40.00	7.00	7.00	-
20.00	647.00	60.00	12.94	19.94	-
20.00	590.00	80.00	11.80	31.74	-
250.00	636.00	330.00	159.00	190.74	-
250.00	889.00	580.00	222.25	412.99	159.58

Table D-11a. Measured and calculated values for mercury adsorbed to Cohansey Sand and Bridgeton Formation sediment, Column B, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	761.00	20.00	20.00	20.00	15.22	15.22	4.78	4.78	23.90
20.00	989.00	40.00	20.00	40.00	19.78	35.00	0.22	5.00	12.50
20.00	210.00	60.00	20.00	60.00	4.20	39.20	15.80	20.80	34.67
20.00	299.00	80.00	20.00	80.00	5.98	45.18	14.02	34.82	43.53
20.00	329.00	100.00	20.00	100.00	6.58	51.76	13.42	48.24	48.24
20.00	466.00	120.00	20.00	120.00	9.32	61.08	10.68	58.92	49.10
20.00	339.00	140.00	20.00	140.00	6.78	67.86	13.22	72.14	51.53
20.00	300.00	160.00	20.00	160.00	6.00	73.86	14.00	86.14	53.84
20.00	142.00	180.00	20.00	180.00	2.84	76.70	17.16	103.30	57.39
20.00	355.00	200.00	20.00	200.00	7.10	83.80	12.90	116.20	58.10
20.00	677.00	220.00	20.00	220.00	13.54	97.34	6.46	122.66	55.75
20.00	720.00	240.00	20.00	240.00	14.40	111.74	5.60	128.26	53.44
20.00	307.00	260.00	20.00	260.00	6.14	117.88	13.86	142.12	54.66
20.00	257.00	280.00	20.00	280.00	5.14	123.02	14.86	156.98	56.06
20.00	236.00	300.00	20.00	300.00	4.72	127.74	15.28	172.26	57.42
20.00	512.00	320.00	20.00	320.00	10.26	138.00	9.74	182.00	56.87
20.00	828.00	340.00	20.00	340.00	16.56	154.56	3.44	185.44	54.54
20.00	598.00	360.00	20.00	360.00	11.96	166.32	8.04	193.48	53.74
20.00	892.00	380.00	20.00	380.00	17.86	184.36	2.16	195.64	51.48
20.00	822.00	400.00	20.00	400.00	16.44	200.80	3.56	199.18	49.80
20.00	719.00	420.00	20.00	420.00	14.38	215.18	5.62	204.82	48.77
20.00	648.00	440.00	20.00	440.00	12.96	228.14	7.04	211.86	48.15
20.00	64.00	460.00	20.00	460.00	1.28	229.42	18.72	230.58	50.13
20.00	848.00	480.00	20.00	480.00	16.96	246.38	3.04	233.62	48.67
20.00	553.00	500.00	20.00	500.00	11.06	257.44	8.94	242.56	48.51
20.00	144.00	520.00	20.00	520.00	2.88	260.32	17.12	259.68	49.94

Table D-11b. Measured and calculated values for mercury leached from Cohansey Sand and Bridgeton Formation sediment, Column B, using 20-20-20 fertilizer solution

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	816.00	20.00	16.32	16.32	-
20.00	541.00	40.00	10.82	27.14	-
20.00	296.00	60.00	5.92	33.06	-
20.00	427.00	80.00	8.54	41.60	-
250.00	943.00	330.00	235.75	277.35	-
250.00	935.00	580.00	233.75	511.10	196.82

Table D-12a. Measured and calculated values for mercury adsorbed to Cohansey Sand and Bridgeton Formation sediment, Column C, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	232.00	20.00	20.00	20.00	4.64	4.64	15.36	15.36	76.80
20.00	449.00	40.00	20.00	40.00	8.98	13.62	11.02	26.38	65.95
20.00	362.00	60.00	20.00	60.00	7.24	20.86	12.76	39.14	65.23
20.00	150.00	80.00	20.00	80.00	3.00	23.86	17.00	56.14	70.17
20.00	463.00	100.00	20.00	100.00	9.26	33.12	10.74	66.88	66.08
20.00	259.00	120.00	20.00	120.00	5.18	38.30	14.82	81.70	68.07
20.00	157.00	140.00	20.00	140.00	3.14	41.44	16.86	98.56	70.40
20.00	263.00	160.00	20.00	160.00	5.26	46.70	14.74	113.30	70.81
20.00	175.00	180.00	20.00	180.00	3.50	50.20	16.50	129.80	72.11
20.00	369.00	200.00	20.00	200.00	7.38	57.58	12.62	142.42	71.21
20.00	336.00	220.00	20.00	220.00	6.72	64.30	13.28	155.70	70.77
20.00	292.00	240.00	20.00	240.00	5.84	70.14	14.16	169.86	70.77
20.00	170.00	260.00	20.00	260.00	3.40	73.54	16.60	186.46	71.71
20.00	52.00	280.00	20.00	280.00	1.04	74.58	18.96	205.42	73.36
20.00	0.00	300.00	20.00	300.00	0.00	74.58	20.00	225.42	75.14
20.00	383.00	320.00	20.00	320.00	7.66	82.24	12.34	237.76	74.30
20.00	840.00	340.00	20.00	340.00	16.80	99.04	3.20	240.96	70.87
20.00	827.00	360.00	20.00	360.00	16.54	115.58	3.46	244.42	67.89
20.00	808.00	380.00	20.00	380.00	16.16	131.74	3.84	248.26	65.33
20.00	447.00	400.00	20.00	400.00	8.94	140.68	11.06	259.32	64.83
20.00	934.00	420.00	20.00	420.00	18.68	159.38	1.32	260.64	62.06
20.00	693.00	440.00	20.00	440.00	13.86	173.22	6.14	266.78	60.63
20.00	52.00	460.00	20.00	460.00	1.04	174.26	18.96	285.74	62.12
20.00	698.00	480.00	20.00	480.00	13.96	188.22	6.04	291.78	60.79
20.00	83.00	500.00	20.00	500.00	1.66	189.88	18.34	310.12	62.02
20.00	248.00	520.00	20.00	520.00	4.96	194.84	15.04	325.16	62.53

Table D-12b. Measured and calculated values for mercury leached from Cohansey Sand and Bridgeton Formation sediment, Column C, using 20-20-20 fertilizer solution

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	426.00	20.00	8.52	8.52	-
20.00	462.00	40.00	9.24	17.76	-
20.00	211.00	60.00	4.22	21.98	-
20.00	31.00	80.00	0.62	22.60	-
250.00	900.00	330.00	225.00	247.60	-
250.00	1,079.00	580.00	269.75	517.35	159.11

Table D-13a. Measured and calculated values for mercury adsorbed to Cohansey Sand, Column A, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	45.00	20.00	20.00	20.00	0.90	0.90	19.10	19.10	95.50
20.00	2.00	40.00	20.00	40.00	0.04	0.94	19.96	39.06	97.65
20.00	123.00	60.00	20.00	60.00	2.46	3.40	17.54	56.60	94.33
20.00	186.00	80.00	20.00	80.00	3.72	7.12	16.28	72.88	91.10
20.00	132.00	100.00	20.00	100.00	2.64	9.76	17.36	90.24	90.24
20.00	102.00	120.00	20.00	120.00	2.04	11.80	17.96	108.20	90.17
20.00	94.00	140.00	20.00	140.00	1.88	13.68	18.12	126.32	90.23
20.00	64.00	160.00	20.00	160.00	1.28	14.96	18.72	145.04	90.65
20.00	90.00	180.00	20.00	180.00	1.80	16.76	18.20	163.24	90.69
20.00	105.00	200.00	20.00	200.00	2.10	18.86	17.90	181.14	90.57
20.00	109.00	220.00	20.00	220.00	2.18	21.04	17.82	198.96	90.44
20.00	186.00	240.00	20.00	240.00	3.72	24.76	16.28	215.24	89.68
20.00	332.00	260.00	20.00	260.00	6.64	31.40	13.36	228.60	87.92
20.00	380.00	280.00	20.00	280.00	7.60	39.00	12.40	241.00	86.07
20.00	445.00	300.00	20.00	300.00	8.90	47.90	11.10	252.10	84.03
20.00	297.00	320.00	20.00	320.00	5.94	53.84	14.06	266.16	83.18
20.00	418.00	340.00	20.00	340.00	8.36	62.20	11.64	277.80	81.71
20.00	474.00	360.00	20.00	360.00	9.48	71.68	10.52	288.32	80.09
20.00	550.00	380.00	20.00	380.00	11.00	82.68	9.00	297.32	78.24
20.00	529.00	400.00	20.00	400.00	10.58	93.26	9.42	306.74	76.69
20.00	455.00	420.00	20.00	420.00	9.10	102.36	10.90	317.64	75.63
20.00	654.00	440.00	20.00	440.00	13.08	115.44	6.92	324.56	73.76
20.00	650.00	460.00	20.00	460.00	13.00	128.44	7.00	331.56	72.08
20.00	623.00	480.00	20.00	480.00	12.46	140.90	7.54	339.10	70.65
20.00	708.00	500.00	20.00	500.00	14.16	155.06	5.84	344.94	68.99
20.00	705.00	520.00	20.00	520.00	14.10	169.16	5.90	350.84	67.47
20.00	691.00	540.00	20.00	540.00	13.82	182.98	6.18	357.02	66.11
20.00	710.00	560.00	20.00	560.00	14.20	197.18	5.80	362.82	64.79

Table D-13b. Measured and calculated values for mercury leached from Cohansey Sand, Column A, using 1.4 x 10^{-2} M sodium nitrate solution

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	374.00	20.00	7.48	7.48	-
20.00	346.00	40.00	6.92	14.40	-
20.00	65.00	60.00	1.30	15.70	-
20.00	47.00	80.00	0.94	16.64	-
20.00	36.00	100.00	0.72	17.36	-
20.00	29.00	120.00	0.58	17.94	-
20.00	0.00	140.00	0.00	17.94	-
20.00	2.00	160.00	0.04	17.98	-
20.00	12.00	180.00	0.24	18.22	-
20.00	21.00	200.00	0.42	18.64	-
20.00	23.00	220.00	0.46	19.10	-
20.00	26.00	240.00	0.52	19.62	-
20.00	18.00	260.00	0.36	19.98	-
20.00	26.00	280.00	0.52	20.50	-
20.00	9.00	300.00	0.18	20.68	-
20.00	11.00	320.00	0.22	20.90	-
20.00	20.00	340.00	0.40	21.30	-
20.00	0.00	360.00	0.00	21.30	-
20.00	0.00	380.00	0.00	21.30	-
20.00	0.00	400.00	0.00	21.30	-
20.00	18.00	420.00	0.36	21.66	-
20.00	7.00	440.00	0.14	21.80	-
20.00	51.00	460.00	1.02	22.82	-
20.00	1.00	480.00	0.02	22.84	-
20.00	0.00	500.00	0.00	22.84	-
100.00	104.00	600.00	10.40	33.24	-
100.00	87.00	700.00	8.70	41.94	-
100.00	58.00	800.00	5.80	47.74	-
100.00	64.00	900.00	6.40	54.14	-
100.00	5.00	1,000.00	0.50	54.64	15.06

Table D-14a. Measured and calculated values for mercury adsorbed to Cohansey Sand, Column B, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	33.00	20.00	20.00	20.00	0.66	0.66	19.34	19.34	96.70
20.00	14.00	40.00	20.00	40.00	0.28	0.94	19.72	39.06	97.65
20.00	3.00	60.00	20.00	60.00	0.06	1.00	19.94	59.00	98.33
20.00	15.00	80.00	20.00	80.00	0.30	1.30	19.70	78.70	98.37
20.00	26.00	100.00	20.00	100.00	0.52	1.82	19.48	98.18	98.18
20.00	53.00	120.00	20.00	120.00	1.06	2.88	18.94	117.12	97.60
20.00	57.00	140.00	20.00	140.00	1.14	4.02	18.86	135.98	97.13
20.00	69.00	160.00	20.00	160.00	1.38	5.40	18.62	154.60	96.62
20.00	157.00	180.00	20.00	180.00	3.14	8.54	16.86	171.46	95.26
20.00	321.00	200.00	20.00	200.00	6.42	14.96	13.58	185.04	92.52
20.00	403.00	220.00	20.00	220.00	8.06	23.02	11.94	196.98	89.54
20.00	381.00	240.00	20.00	240.00	7.62	30.64	12.38	209.36	87.23
20.00	469.00	260.00	20.00	260.00	9.38	40.02	10.62	219.98	84.61
20.00	356.00	280.00	20.00	280.00	7.12	47.14	12.88	232.86	83.16
20.00	633.00	300.00	20.00	300.00	12.66	59.80	7.34	240.20	80.07
20.00	610.00	320.00	20.00	320.00	12.20	72.00	7.80	248.00	77.50
20.00	691.00	340.00	20.00	340.00	13.82	85.82	6.18	254.18	74.76
20.00	749.00	360.00	20.00	360.00	14.98	100.80	5.02	259.20	72.00
20.00	651.00	380.00	20.00	380.00	13.02	113.82	6.98	266.18	70.05
20.00	689.00	400.00	20.00	400.00	13.78	127.60	6.22	272.40	68.10
20.00	604.00	420.00	20.00	420.00	12.08	139.68	7.92	280.32	66.74
20.00	838.00	440.00	20.00	440.00	16.76	156.44	3.24	283.56	64.45
20.00	811.00	460.00	20.00	460.00	16.22	172.66	3.78	287.34	62.47
20.00	805.00	480.00	20.00	480.00	16.10	188.76	3.90	291.24	60.67
20.00	859.00	500.00	20.00	500.00	17.18	205.94	2.82	294.06	58.81
20.00	880.00	520.00	20.00	520.00	17.60	223.54	2.40	296.46	57.01
20.00	574.00	540.00	20.00	540.00	11.48	235.02	8.52	304.98	56.48
20.00	829.00	560.00	20.00	560.00	16.58	251.60	3.42	308.40	55.07
20.00	834.00	580.00	20.00	580.00	16.68	268.28	3.32	311.72	53.74

Table D-14b. Measured and calculated values for mercury leached from Cohansey Sand, Column B, using 1.4 x 10^{-2} M sodium nitrate solution

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	222.00	20.00	4.44	4.44	-
20.00	249.00	40.00	4.98	9.42	-
20.00	56.00	60.00	1.12	10.54	-
20.00	26.00	80.00	0.52	11.06	-
20.00	25.00	100.00	0.50	11.56	-
20.00	26.00	120.00	0.52	12.08	-
20.00	22.00	140.00	0.44	12.52	-
20.00	4.00	160.00	0.08	12.60	-
20.00	6.00	180.00	0.12	12.72	-
20.00	0.00	200.00	0.00	12.72	-
20.00	0.00	220.00	0.00	12.72	-
20.00	1.00	240.00	0.02	12.74	-
20.00	2.00	260.00	0.04	12.78	-
20.00	3.00	280.00	0.06	12.84	-
20.00	6.00	300.00	0.12	12.96	-
20.00	4.00	320.00	0.08	13.04	-
20.00	0.00	340.00	0.00	13.04	-
20.00	0.00	360.00	0.00	13.04	-
20.00	4.00	380.00	0.08	13.12	-
20.00	10.00	400.00	0.20	13.32	-
20.00	7.00	420.00	0.14	13.46	-
20.00	6.00	440.00	0.12	13.58	-
20.00	9.00	460.00	0.18	13.76	-
20.00	13.00	480.00	0.26	14.02	-
20.00	16.00	500.00	0.32	14.34	-
100.00	66.00	600.00	6.60	20.94	-
100.00	60.00	700.00	6.00	26.94	-
100.00	62.00	800.00	6.20	33.14	-
100.00	45.00	900.00	4.50	37.64	-
100.00	22.00	1000.00	2.20	39.84	12.78

Table D-15a. Measured and calculated values for mercury adsorbed to Cohansey Sand, Column C, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	0.00	20.00	20.00	20.00	0.00	0.00	20.00	20.00	100.00
20.00	11.00	40.00	20.00	40.00	0.22	0.22	19.78	39.78	99.45
20.00	10.00	60.00	20.00	60.00	0.20	0.42	19.80	59.58	99.30
20.00	24.00	80.00	20.00	80.00	0.48	0.90	19.52	79.10	98.88
20.00	36.00	100.00	20.00	100.00	0.72	1.62	19.28	98.38	98.38
20.00	47.00	120.00	20.00	120.00	0.94	2.56	19.06	117.44	97.87
20.00	111.00	140.00	20.00	140.00	2.22	4.78	17.78	135.22	96.59
20.00	189.00	160.00	20.00	160.00	3.78	8.56	16.22	151.44	94.65
20.00	326.00	180.00	20.00	180.00	6.52	15.08	13.48	164.92	91.62
20.00	251.00	200.00	20.00	200.00	5.02	20.10	14.98	179.90	89.95
20.00	480.00	220.00	20.00	220.00	9.60	29.70	10.40	190.30	86.50
20.00	506.00	240.00	20.00	240.00	10.12	39.82	9.88	200.18	83.41
20.00	540.00	260.00	20.00	260.00	10.80	50.62	9.20	209.38	80.53
20.00	572.00	280.00	20.00	280.00	11.44	62.06	8.56	217.94	77.84
20.00	544.00	300.00	20.00	300.00	10.88	72.94	9.12	227.06	75.69
20.00	506.00	320.00	20.00	320.00	10.12	83.06	9.88	236.94	74.04
20.00	550.00	340.00	20.00	340.00	11.00	94.06	9.00	245.94	72.34
20.00	452.00	360.00	20.00	360.00	9.04	103.10	10.96	256.90	71.36
20.00	697.00	380.00	20.00	380.00	13.94	117.04	6.06	262.96	69.20
20.00	737.00	400.00	20.00	400.00	14.74	131.78	5.26	268.22	67.06
20.00	565.00	420.00	20.00	420.00	11.30	143.08	8.70	276.92	65.93
20.00	545.00	440.00	20.00	440.00	10.90	153.98	9.10	286.02	65.00
20.00	564.00	460.00	20.00	460.00	11.28	165.26	8.72	294.74	64.07
20.00	484.00	480.00	20.00	480.00	9.68	174.94	10.32	305.06	63.55
20.00	525.00	500.00	20.00	500.00	10.50	185.44	9.50	314.56	62.91
20.00	556.00	520.00	20.00	520.00	11.12	196.56	8.88	323.44	62.20
20.00	541.00	540.00	20.00	540.00	10.82	207.38	9.18	332.62	61.60
20.00	573.00	560.00	20.00	560.00	11.46	218.84	8.54	341.16	60.92

Table D-15b. Measured and calculated values for mercury leached from Cohansey Sand, Column C, using 1.4 x 10^{-2} M sodium nitrate solution

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
20.00	160.00	20.00	3.20	3.20	-
20.00	113.00	40.00	2.26	5.46	-
20.00	23.00	60.00	0.46	5.92	-
20.00	13.00	80.00	0.26	6.18	-
20.00	9.00	100.00	0.18	6.36	-
20.00	0.00	120.00	0.00	6.36	-
20.00	0.00	140.00	0.00	6.36	-
20.00	0.00	160.00	0.00	6.36	-
20.00	0.00	180.00	0.00	6.36	-
20.00	11.00	200.00	0.22	6.58	-
20.00	0.00	220.00	0.00	6.58	-
20.00	0.00	240.00	0.00	6.58	-
20.00	0.00	260.00	0.00	6.58	-
20.00	0.00	280.00	0.00	6.58	-
20.00	4.00	300.00	0.08	6.66	-
20.00	0.00	320.00	0.00	6.66	-
20.00	0.00	340.00	0.00	6.66	-
20.00	0.00	360.00	0.00	6.66	-
20.00	0.00	380.00	0.00	6.66	-
20.00	6.00	400.00	0.12	6.78	-
20.00	0.00	420.00	0.00	6.78	-
20.00	0.00	440.00	0.00	6.78	-
20.00	0.00	460.00	0.00	6.78	-
20.00	0.00	480.00	0.00	6.78	-
20.00	3.00	500.00	0.06	6.84	-
100.00	10.00	600.00	1.00	7.84	-
100.00	49.00	700.00	4.90	12.74	-
100.00	29.00	800.00	2.90	15.64	-
100.00	11.00	900.00	1.10	16.74	-
100.00	2.00	1000.00	0.20	16.94	4.97

Table D-16a. Measured and calculated values for mercury adsorbed to Cohansey Sand, Column A, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
20.00	642.00	20.00	20.00	20.00	12.84	12.84	7.16	7.16	35.80
20.00	560.00	40.00	20.00	40.00	11.20	24.04	8.80	15.96	39.90
20.00	196.00	60.00	20.00	60.00	3.92	27.96	16.08	32.04	53.40
20.00	82.00	80.00	20.00	80.00	1.64	29.60	18.36	50.40	63.00
20.00	80.00	100.00	20.00	100.00	1.60	31.20	18.40	68.80	68.80
20.00	3.00	120.00	20.00	120.00	0.06	31.26	19.94	88.74	73.95
20.00	32.00	140.00	20.00	140.00	0.64	31.90	19.36	108.10	77.21
20.00	37.00	160.00	20.00	160.00	0.74	32.64	19.26	127.36	79.60
20.00	19.00	180.00	20.00	180.00	0.38	33.02	19.62	146.98	81.66
20.00	11.00	200.00	20.00	200.00	0.22	33.24	19.78	166.76	83.38
20.00	43.00	220.00	20.00	220.00	0.86	34.10	19.14	185.90	84.50
20.00	46.00	240.00	20.00	240.00	0.92	35.02	19.08	204.98	85.41
20.00	37.00	260.00	20.00	260.00	0.74	35.76	19.26	224.24	86.25
20.00	37.00	280.00	20.00	280.00	0.74	36.50	19.26	243.50	86.96
20.00	28.00	300.00	20.00	300.00	0.56	37.06	19.44	262.94	87.65
20.00	21.00	320.00	20.00	320.00	0.42	37.48	19.58	282.52	88.29
20.00	35.00	340.00	20.00	340.00	0.70	38.18	19.30	301.82	88.77
20.00	5.00	360.00	20.00	360.00	0.10	38.28	19.90	321.72	89.37

Table D-16b. Measured and calculated values for mercury leached from Cohansey Sand, Column A, using 1.4×10^{-1} M sodium nitrate solution

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
50.00	541.00	50.00	27.05	27.05	-
50.00	109.00	100.00	5.45	32.50	-
50.00	19.00	150.00	0.95	33.45	-
50.00	145.00	200.00	7.25	40.70	-
50.00	92.00	250.00	4.60	45.30	-
50.00	146.00	300.00	7.30	52.60	-
50.00	97.00	350.00	4.85	57.45	16.39

Table D-17a. Measured and calculated values for mercury adsorbed to Cohansey Sand, Column B, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
100.00	110.00	100.00	100.00	100.00	11.00	11.00	89.00	89.00	89.00
100.00	153.00	200.00	100.00	200.00	15.30	26.30	84.70	173.70	86.85
20.00	161.00	220.00	20.00	220.00	3.22	29.52	16.78	190.48	86.58
20.00	176.00	240.00	20.00	240.00	3.52	33.04	16.48	206.96	86.23
20.00	246.00	260.00	20.00	260.00	4.92	37.96	15.08	222.04	85.40
20.00	253.00	280.00	20.00	280.00	5.06	43.02	14.94	236.98	84.64
20.00	411.00	300.00	20.00	300.00	8.22	51.24	11.78	248.76	82.92
20.00	351.00	320.00	20.00	320.00	7.02	58.26	12.98	261.74	81.79
20.00	489.00	340.00	20.00	340.00	9.78	68.04	10.22	271.96	79.99
20.00	503.00	360.00	20.00	360.00	10.06	78.10	9.94	281.90	78.31
20.00	510.00	380.00	20.00	380.00	10.20	88.30	9.80	291.70	76.76
20.00	543.00	400.00	20.00	400.00	10.86	99.16	9.14	300.84	75.21
20.00	345.00	420.00	20.00	420.00	6.90	106.06	13.10	313.94	74.75
20.00	594.00	440.00	20.00	440.00	11.88	117.94	8.12	322.06	73.20
20.00	559.00	460.00	20.00	460.00	11.18	129.12	8.82	330.88	71.93
20.00	596.00	480.00	20.00	480.00	11.92	141.04	8.08	338.96	70.62
20.00	576.00	500.00	20.00	500.00	11.52	152.56	8.48	347.44	69.49
20.00	750.00	520.00	20.00	520.00	15.00	167.56	5.00	352.44	67.78

Table D-17b. Measured and calculated values for mercury leached from Cohansey Sand, Column B, using 1.4 x 10^{-1} M sodium nitrate solution

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
50.00	588.00	50.00	29.40	29.40	-
50.00	77.00	100.00	3.85	33.25	-
50.00	40.00	150.00	2.00	35.25	-
50.00	146.00	200.00	7.30	42.55	-
50.00	174.00	250.00	8.70	51.25	-
50.00	133.00	300.00	6.65	57.90	-
50.00	182.00	350.00	9.10	67.00	19.01

Table D-18a. Measured and calculated values for mercury adsorbed to Cohansey Sand, Column C, using 1,000 micrograms per liter mercury solution as inoculant

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vi, volume of inoculant; C*, Hg concentration in effluent; Mi, Hg mass in inoculant; M*, Hg mass in effluent; Ms, Hg mass adsorbed; Ps, percent adsorbed]

Vi (mL)	C* (µg/L)	cum Vi (mL)	Mi (µg)	cum Mi (µg)	M* (µg)	cum M* (µg)	Ms (µg)	cum Ms (µg)	Ps
100.00	90.00	100.00	100.00	100.00	9.00	9.00	91.00	91.00	91.00
100.00	226.00	200.00	100.00	200.00	22.60	31.60	77.40	168.40	84.20
20.00	168.00	220.00	20.00	220.00	3.36	34.96	16.64	185.04	84.11
20.00	282.00	240.00	20.00	240.00	5.64	40.60	14.36	199.40	83.08
20.00	341.00	260.00	20.00	260.00	6.82	47.42	13.18	212.58	81.76
20.00	219.00	280.00	20.00	280.00	4.38	51.80	15.62	228.20	81.50
20.00	430.00	300.00	20.00	300.00	8.60	60.40	11.40	239.60	79.87
20.00	506.00	320.00	20.00	320.00	10.12	70.52	9.88	249.48	77.96
20.00	533.00	340.00	20.00	340.00	10.66	81.18	9.34	258.82	76.12
20.00	537.00	360.00	20.00	360.00	10.74	91.92	9.26	268.08	74.47
20.00	600.00	380.00	20.00	380.00	12.00	103.92	8.00	276.08	72.65
20.00	247.00	400.00	20.00	400.00	4.94	108.86	15.06	291.14	72.78
20.00	224.00	420.00	20.00	420.00	4.48	113.34	15.52	306.66	73.01
20.00	334.00	440.00	20.00	440.00	6.68	120.02	13.32	319.98	72.72
20.00	372.00	460.00	20.00	460.00	7.44	127.46	12.56	332.54	72.29
20.00	338.00	480.00	20.00	480.00	6.76	134.22	13.24	345.78	72.04
20.00	369.00	500.00	20.00	500.00	7.38	141.60	12.62	358.40	71.68
20.00	662.00	520.00	20.00	520.00	13.24	154.84	6.76	365.16	70.22

Table D-18b. Measured and calculated values for mercury leached from Cohansey Sand, Column C, using 1.4 x 10^{-1} M sodium nitrate solution

[mL, milliliters; µg/L, micrograms per liter; µg, micrograms; cum, sum of; Hg, mercury; Vo, volume of eluent; Co, Hg concentration in eluent; Mo, Hg mass in eluent; Pl, percent leached; -, not calculated]

Vo (mL)	Co (µg/L)	cum Vo (mL)	Mo (µg)	cum Mo (µg)	Pl
50.00	744.00	50.00	37.20	37.20	-
50.00	101.00	100.00	5.05	42.25	-
50.00	34.00	150.00	1.70	43.95	-
50.00	136.00	200.00	6.80	50.75	-
50.00	140.00	250.00	7.00	57.75	-
50.00	125.00	300.00	6.25	64.00	-
50.00	155.00	350.00	7.75	71.75	19.65

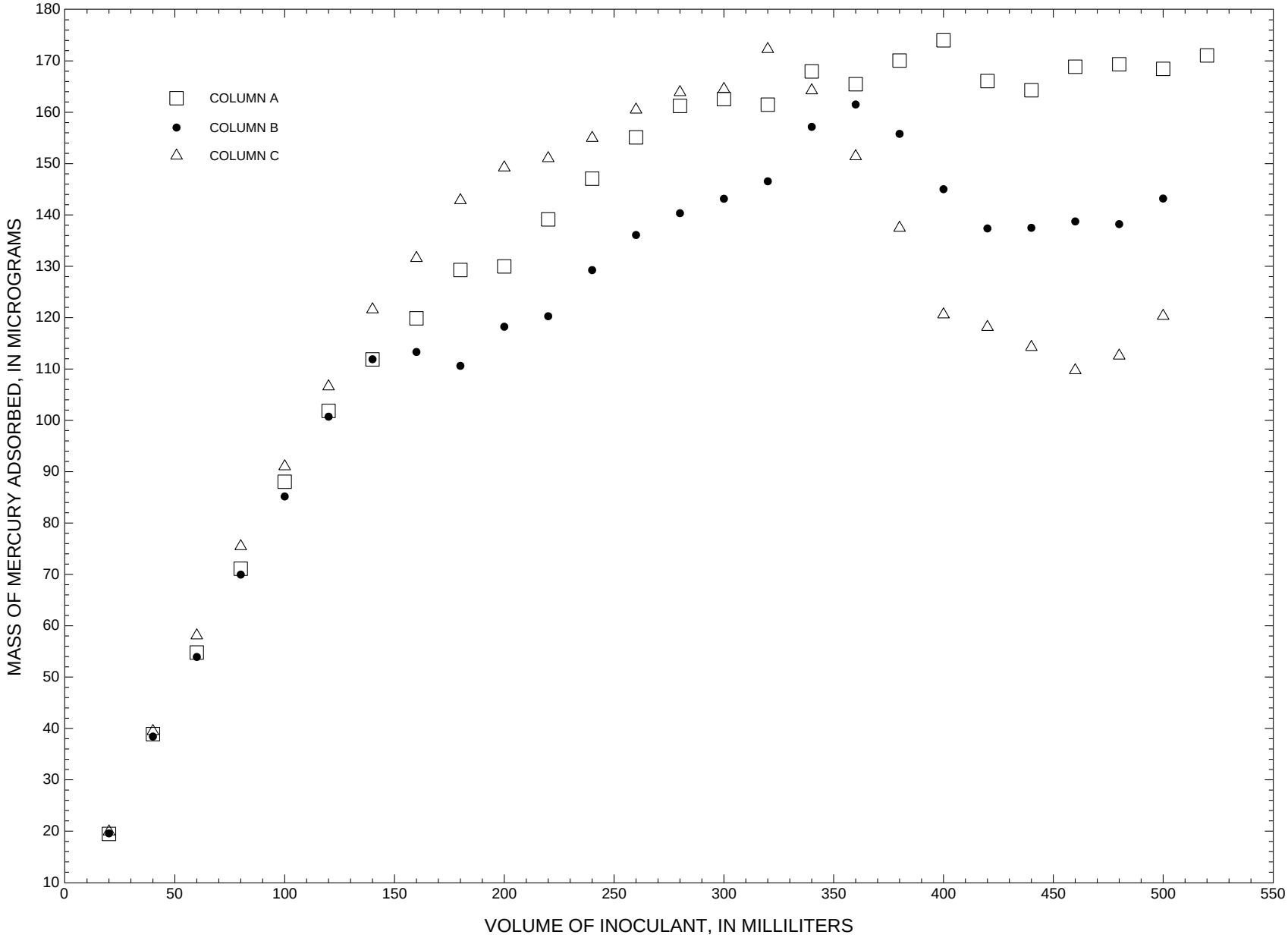

Figure 1a. Relation between mass of mercury adsorbed to Cohansey Sand and volume of inoculant, columns A, B, and C, 1 x 10^{-4} M nitric acid leaching experiment.

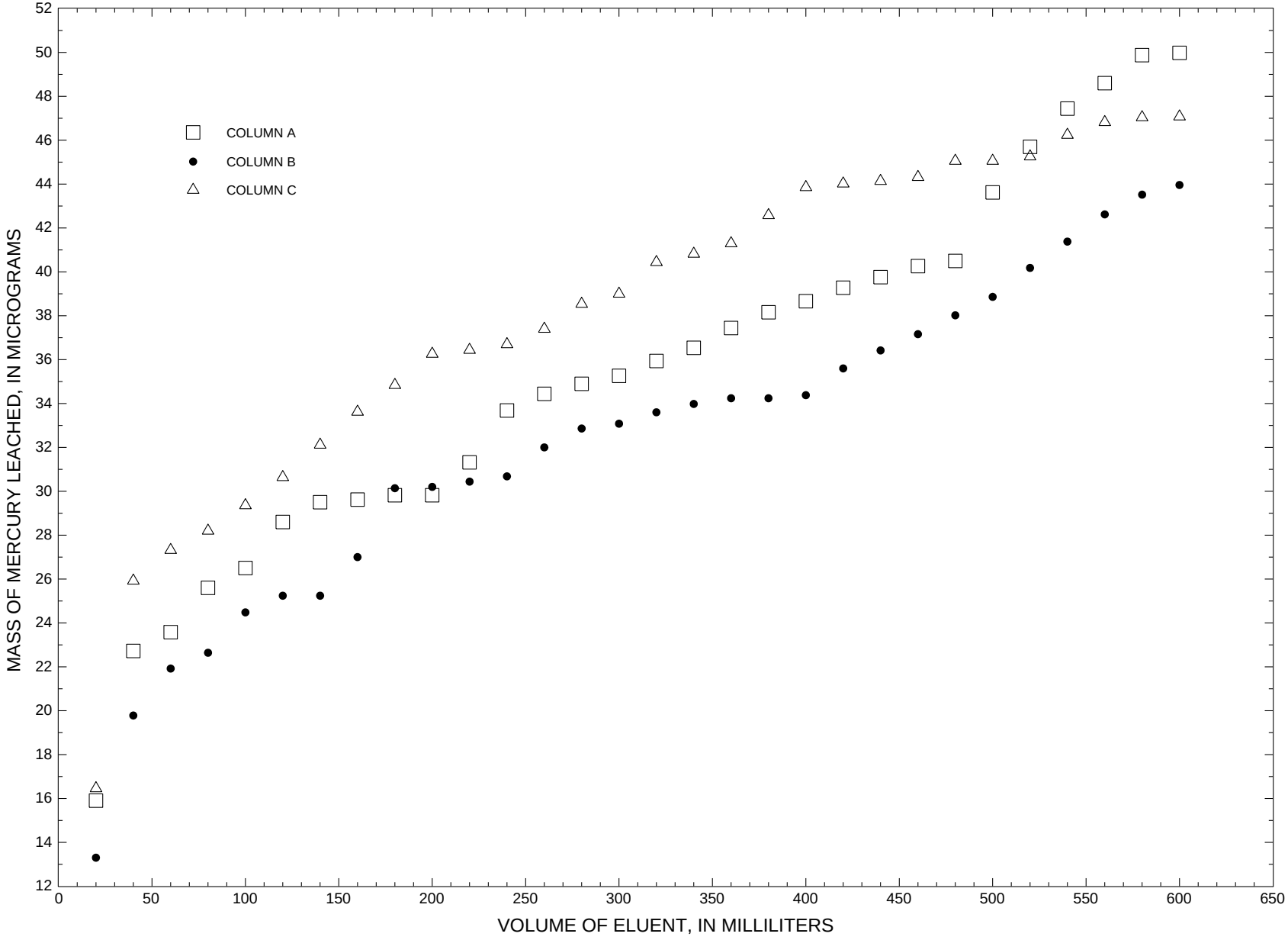

Figure 1b. Relation between mass of mercury leached from Cohansey Sand and volume of eluent, columns A, B, and C, using 1 x 10^{-4} M nitric acid solution.

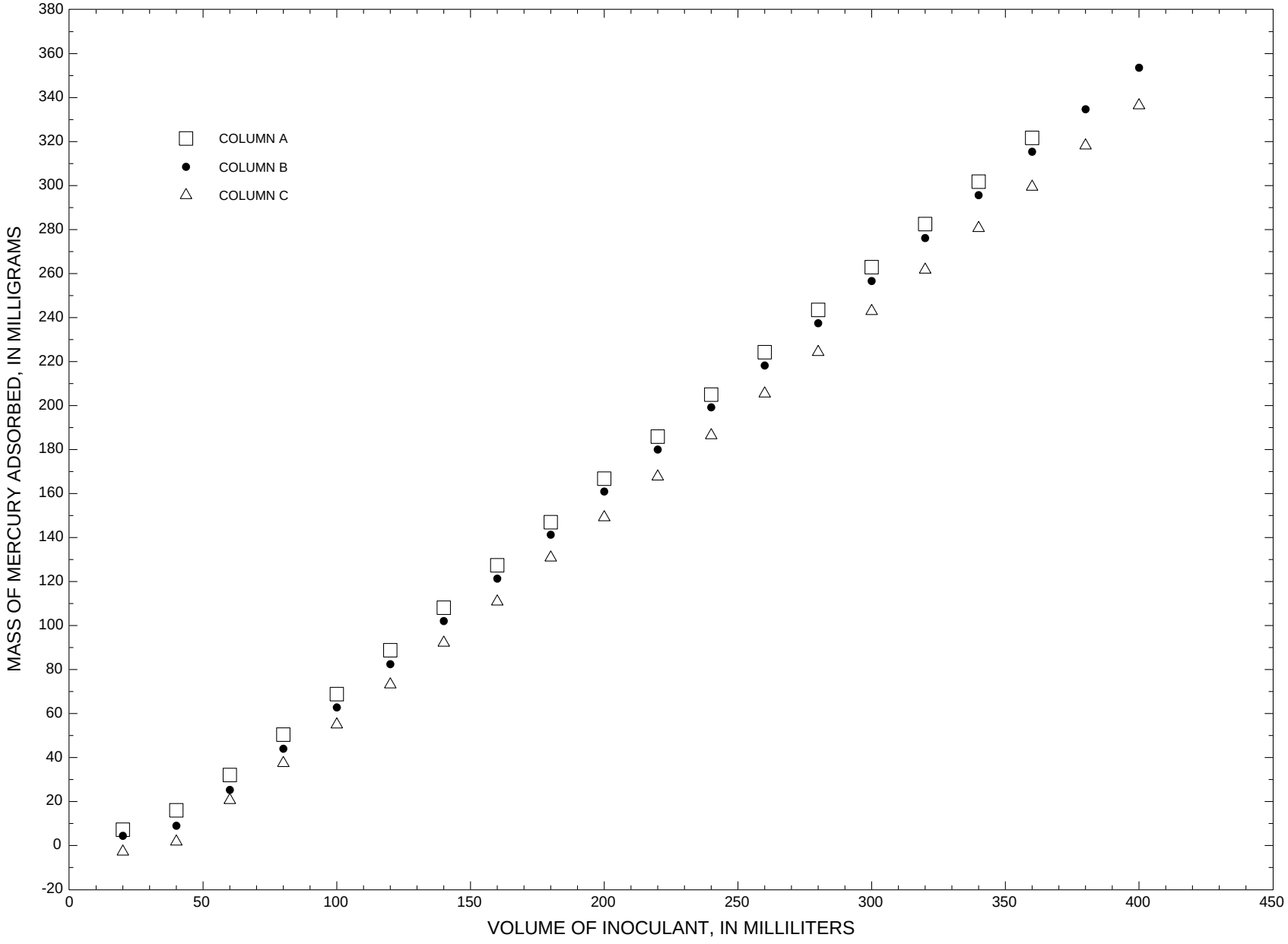

Figure 2a. Relation between mass of mercury adsorbed to Cohansey Sand overlain by Bridgeton Formation sediment and volume of inoculant, columns A, B, and C, 1.4 x 10^{-4} M nitric acid leaching experiment.

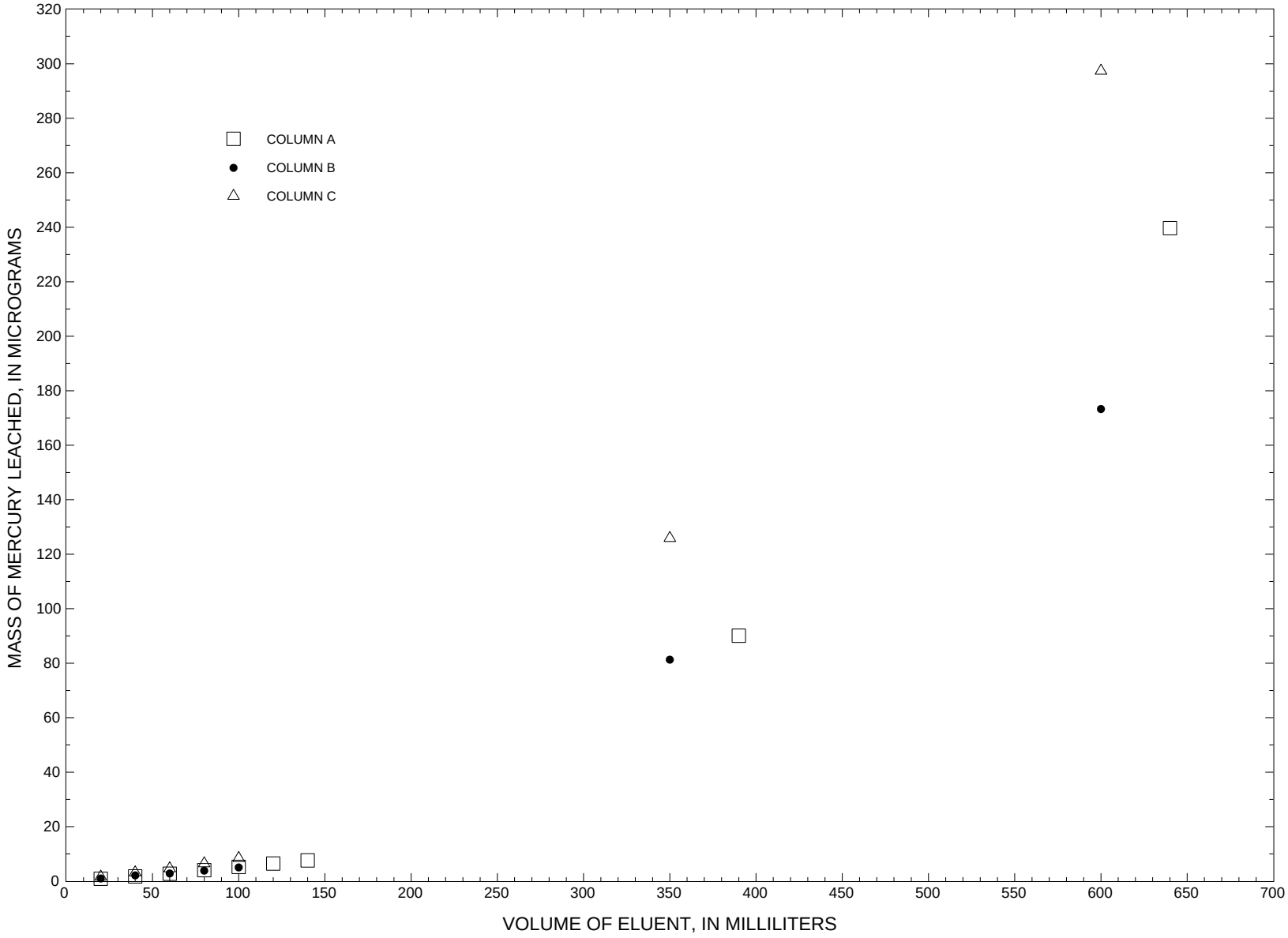

Figure 2b. Relation between mass of mercury leached from Cohansey Sand overlain by Bridgeton Formation sediment and volume of eluent, columns A, B, and C, using 1.4 x 10^{-4} M nitric acid solution.

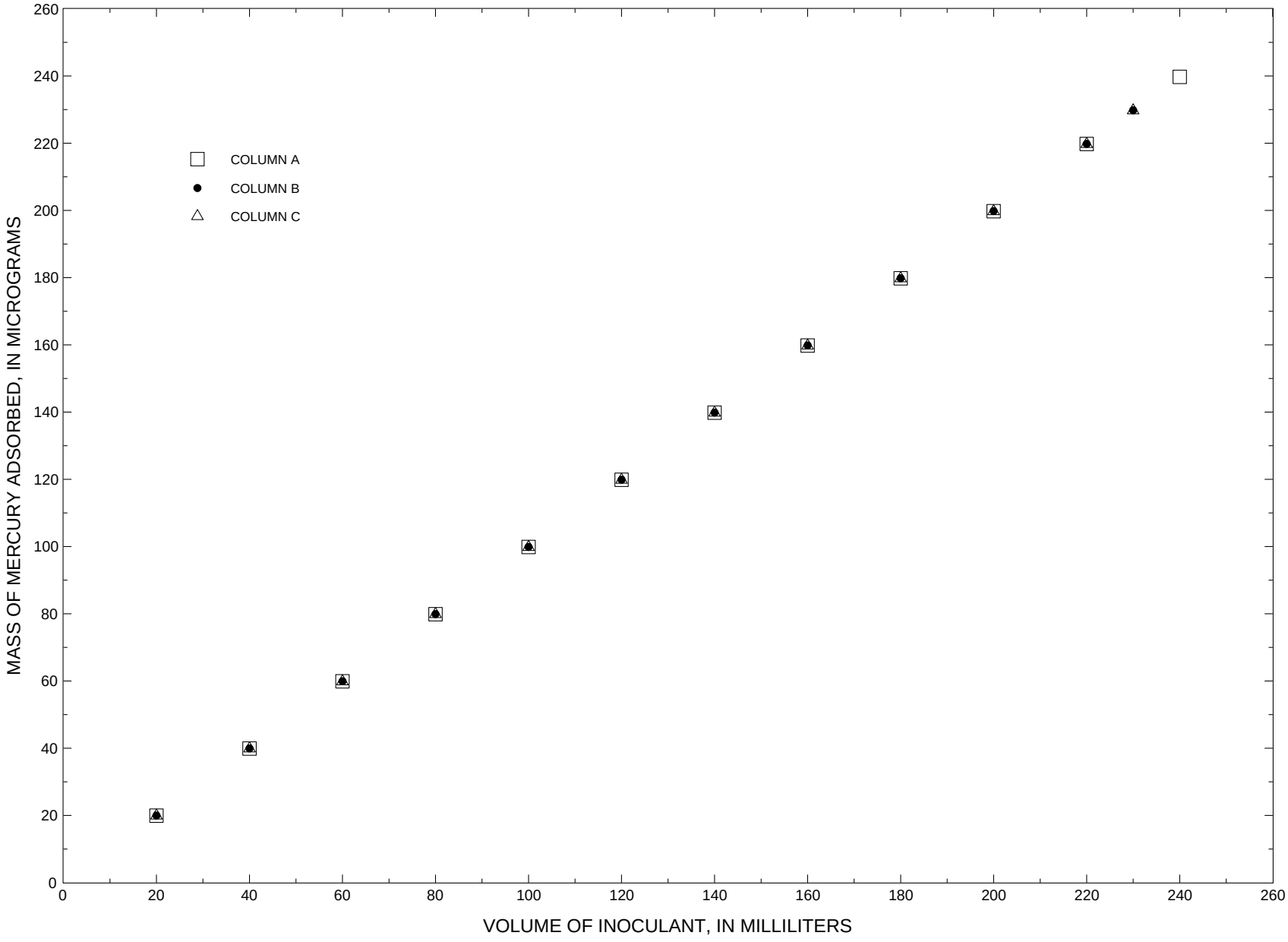

Figure 3a. Relation between mass of mercury adsorbed to Cohansey Sand overlain by Bridgeton Formation sediment and volume of inoculant, columns A, B, and C, 1 x 10^{-2} M sodium chloride leaching experiment.

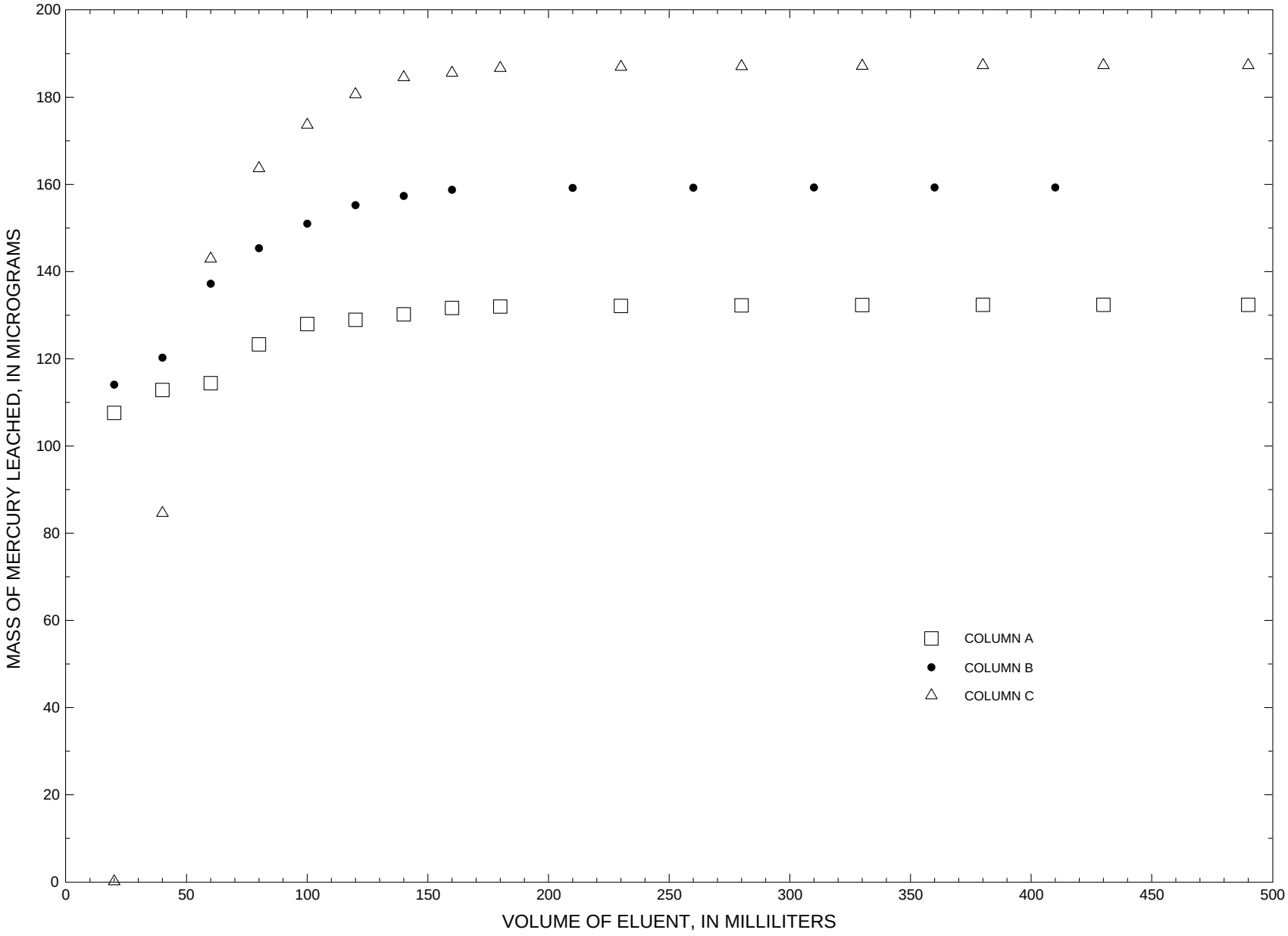

Figure 3b. Relation between mass of mercury leached from Cohansey Sand overlain by Bridgeton Formation sediment and volume of eluent, columns A, B, and C, using 1 x 10^{-2} M sodium chloride solution followed by distilled water.

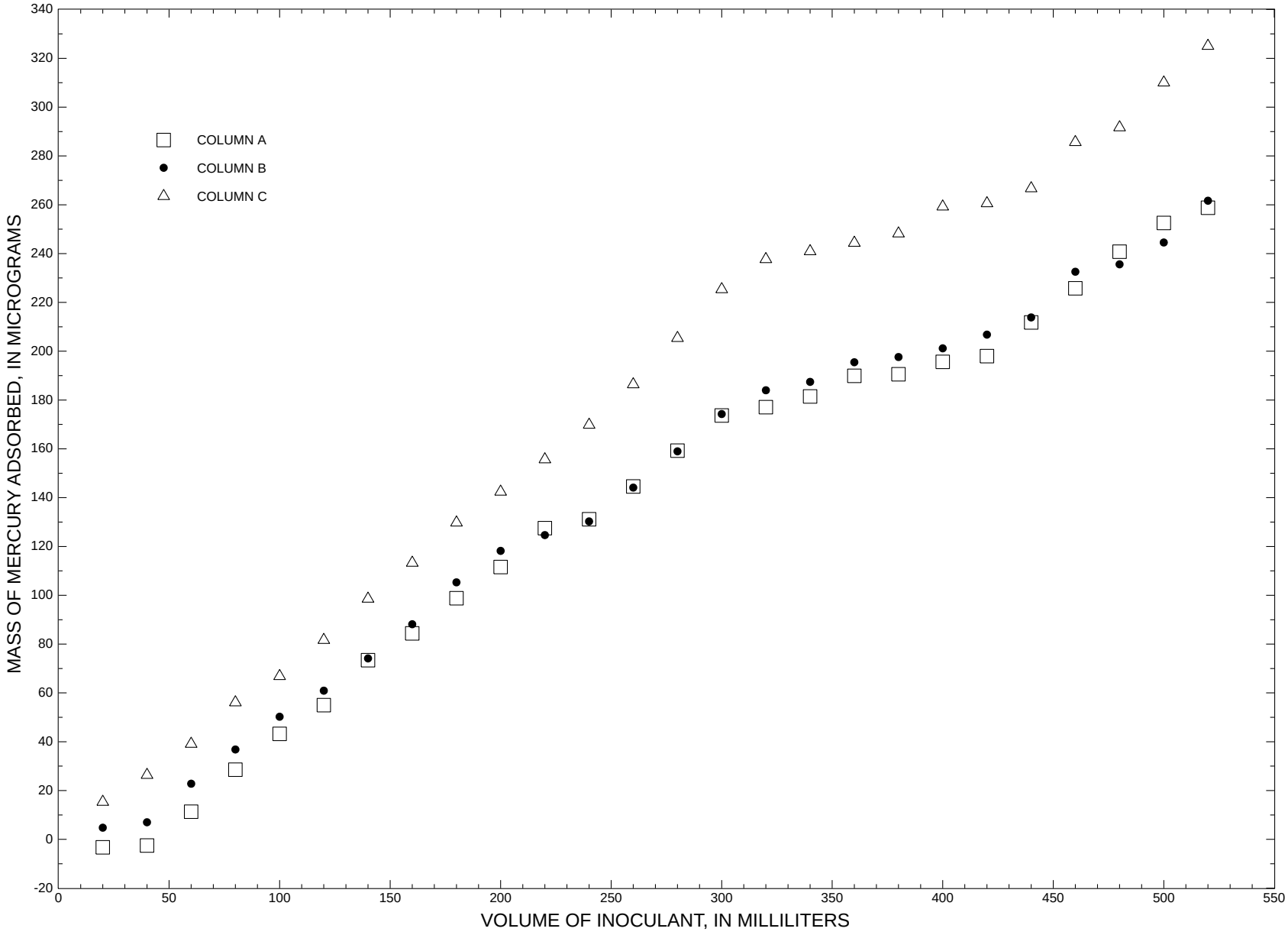

Figure 4a. Relation between mass of mercury adsorbed to Cohansey Sand overlain by Bridgeton Formation sediment and volume of inoculant, columns A, B, and C, 20-20-20 fertilizer leaching experiment.

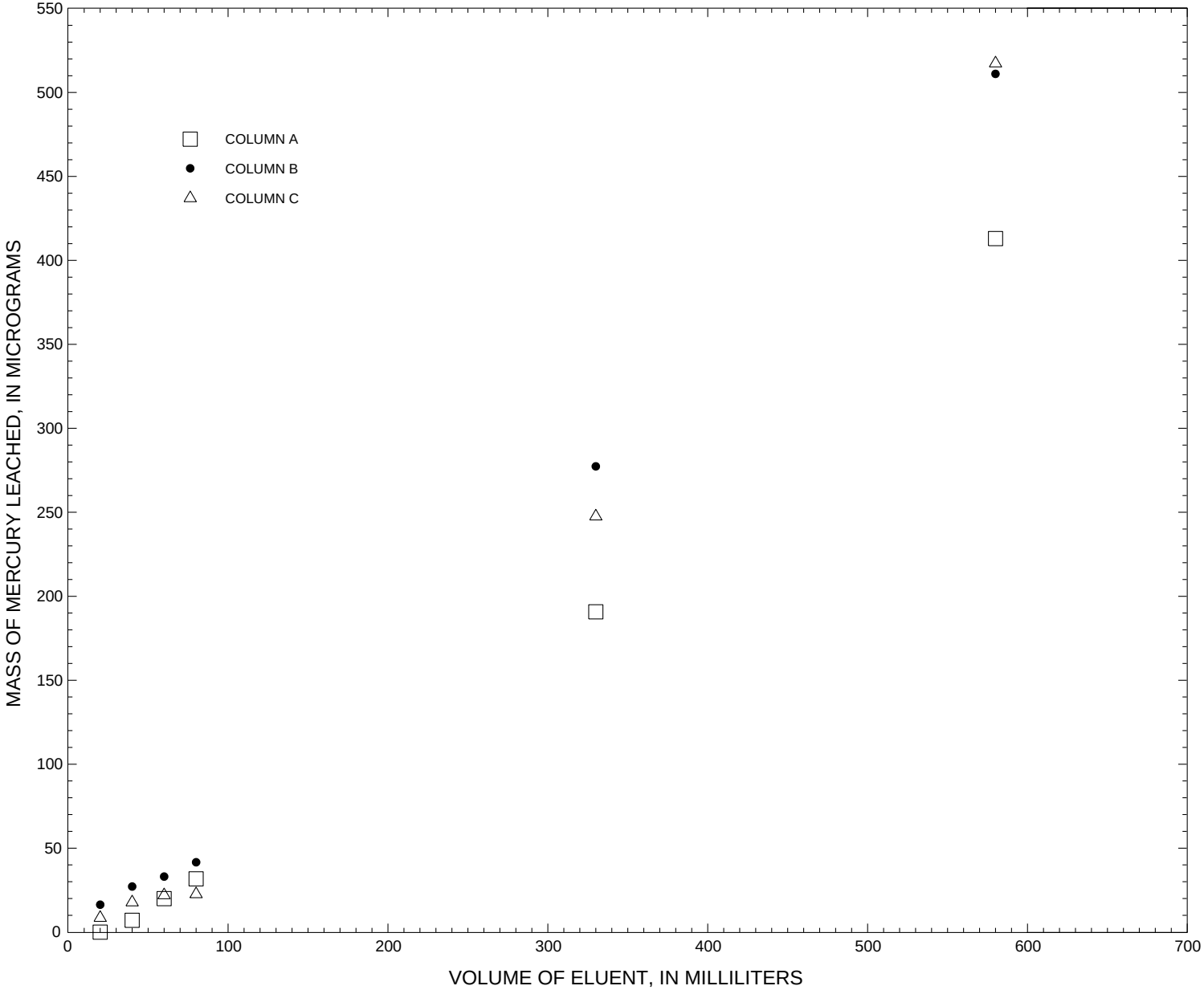

Figure 4b. Relation between mass of mercury leached from Cohansey Sand overlain by Bridgeton Formation sediment and volume of eluent, columns A, B, and C, using 20-20-20 fertilizer solution.

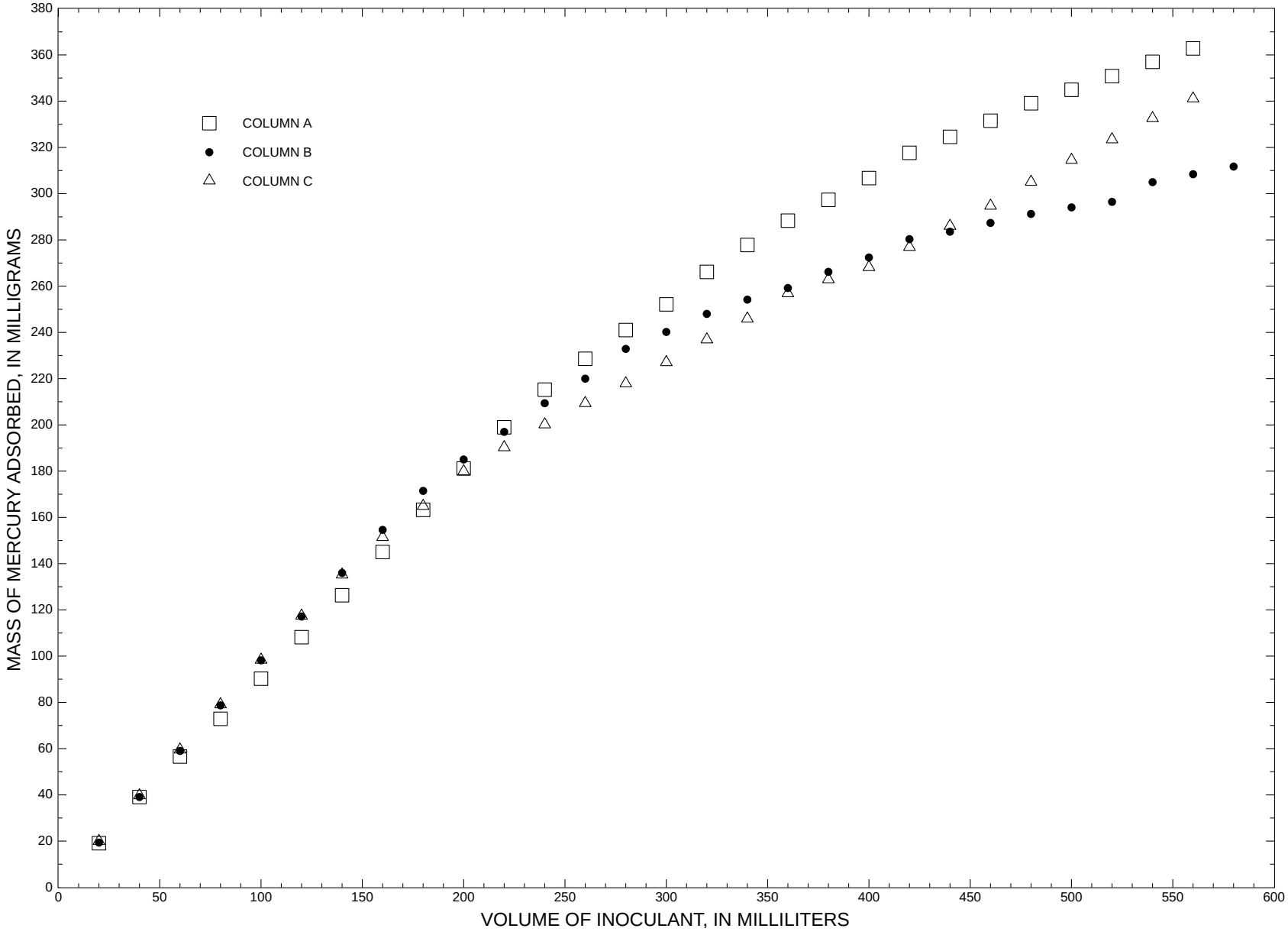

Figure 5a. Relation between mass of mercury adsorbed to Cohansey Sand and volume of inoculant, columns A, B, and C, 1.4 x 10^{-2} M sodium nitrate leaching experiment.

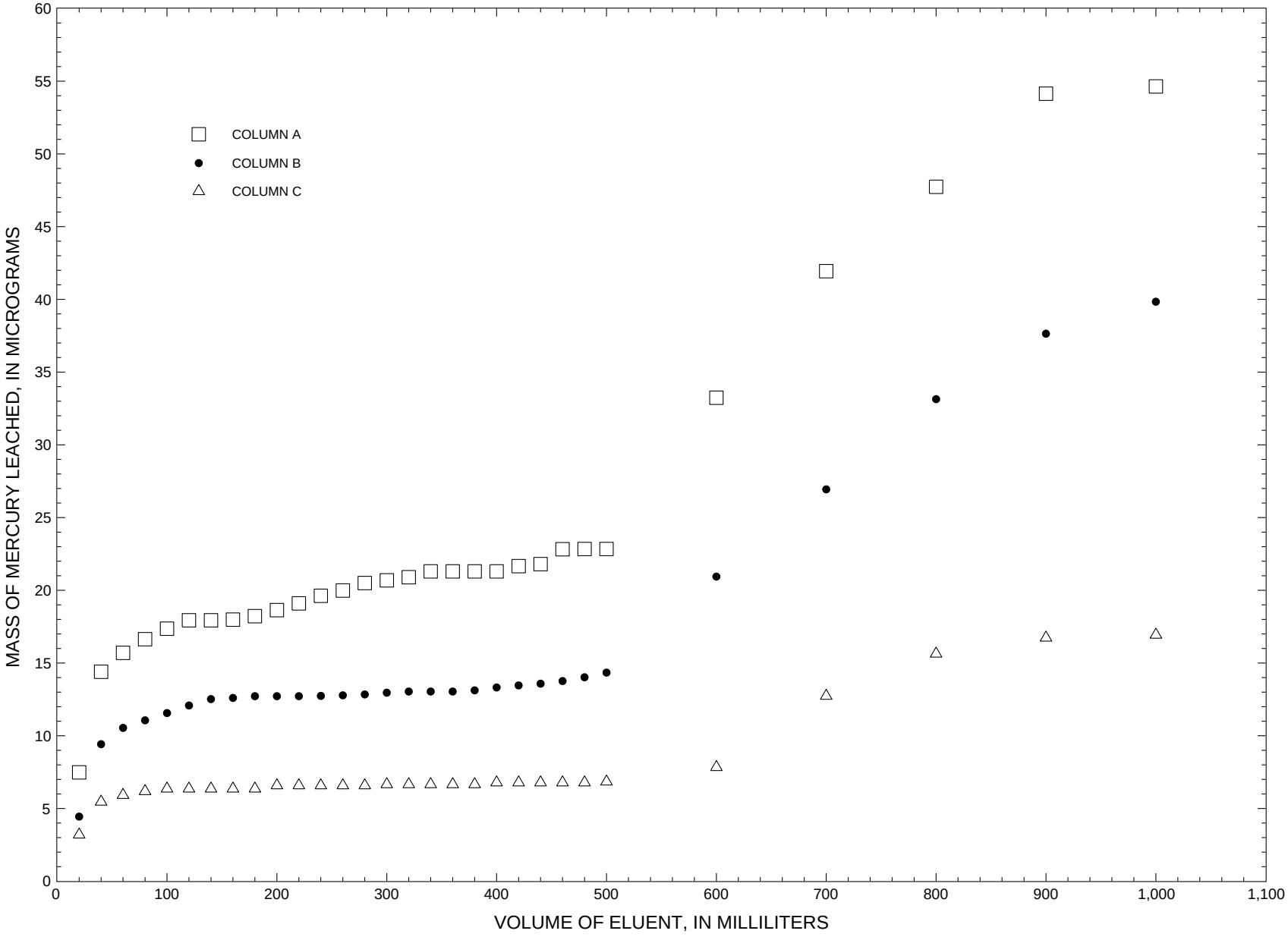

Figure 5b. Relation between mass of mercury leached from Cohansey Sand and volume of eluent, columns A, B, and C, using 1.4 x 10^{-2} M sodium nitrate solution.

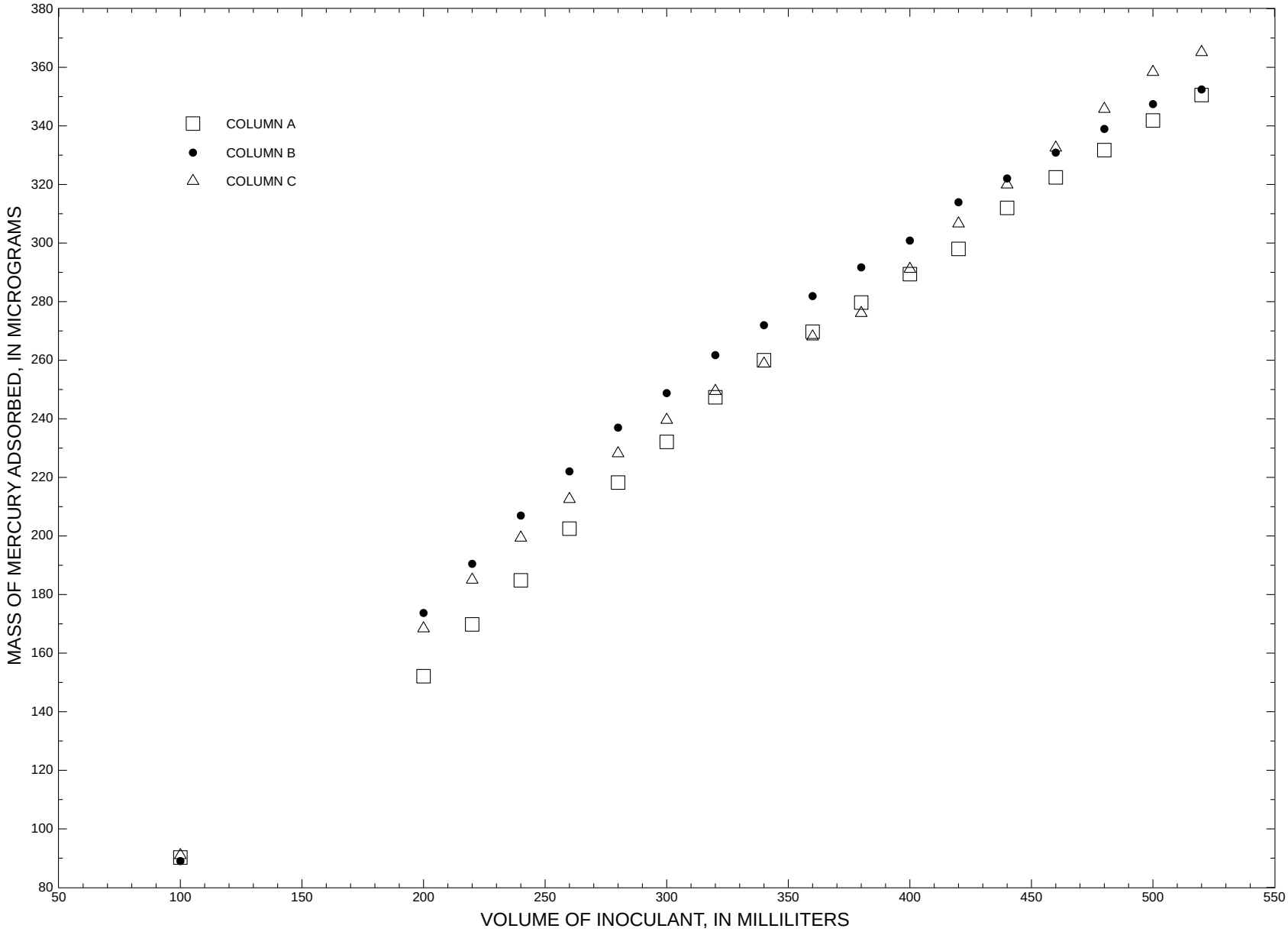

Figure 6a. Relation between mass of mercury adsorbed to Cohansey Sand and volume of inoculant, columns A, B, and C, 1.4 x 10^{-1} M sodium nitrate leaching experiment.

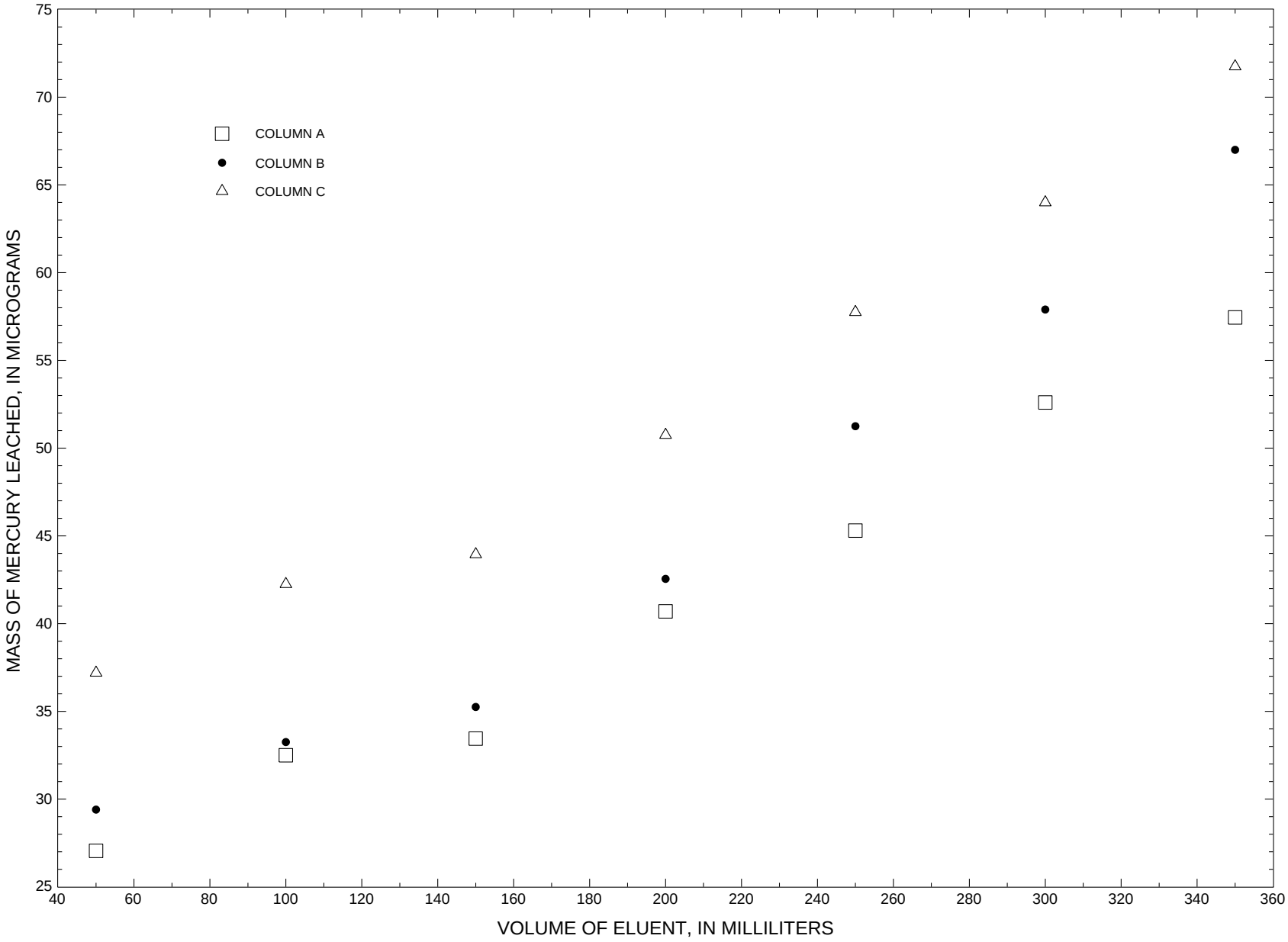

Figure 6b. Relation between mass of mercury leached from Cohansey Sand and volume of eluent, columns A, B, and C, using 1.4 x 10^{-1} M sodium nitrate solution.

Table D-19. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1 x 10^{-4} M nitric acid leaching experiment, columns A, B, and C

[ICP, inductively coupled plasma spectrometer; Hg, mercury; µg/L, micrograms per liter, mL, milliliters; Std., standard; if results for standard solutions and blanks on the instrument readout were acceptable, the values were not recorded in the notebook; if results for standard solutions indicated machine drift greater than 10 percent, the instrument was recalibrated; samples A-1, B-1, C-1 through A-26, B-25, C-25 are effluent from inoculation phase; subsequent sample numbers A-1, B-1, C-1, through A-25, B-25, C-25 are from leaching phase; where duplicate or triplicate analyses of a sample were run, the mean value was used in subsequent calculations]

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
		Inoculation phase			
Std. solution containing 300 µg/L Hg, blank					
A-1	27	20	1	27	
A-2	28	20	1	28	
A-3	206	20	1	206	
A-4	183	20	1	183	
A-5	154	20	1	154	
A-6	310	20	1	310	
A-7	455	20	1	455	
Std. solution containing 600 µg/L Hg, blank					
A-7	543	20	1	543	
A-8	599	20	1	599	
A-9	530	20	1	530	
A-10	977	20	1	977	
B-10	619	20	1	619	
B-9	1173	20	1	1173	
Std. solution containing 600 µg/L Hg					
Std. solution containing 1,000 µg/L Hg	971	20	1	971	97.1
A-10	954	20	1	954	
B-9	1097	20	1	1097	
B-8	929	20	1	929	
B-7	425	20	1	425	
C-10	680	20	1	680	
C-9	438	20	1	438	
C-8	500	20	1	500	
C-7	255	20	1	255	
Std. solution containing 300 µg/L Hg, blank					
B-1	22	20	1	22	
B-2	57	20	1	57	
B-3	198	20	1	198	
B-4	198	20	1	198	
B-5	239	20	1	239	
B-6	219	20	1	219	
Std. solution containing 300 µg/L Hg, blank					
B-7	458	20	1	458	
B-6	228	20	1	228	
C-1	5	20	1	5	
C-2	22	20	1	22	
C-3	68	20	1	68	
C-4	132	20	1	132	
C-5	221	20	1	221	
C-6	222	20	1	222	
C-7	246	20	1	246	
Std. solution containing 600 µg/L Hg, blank					
Std. solution containing 1000 µg/L Hg					
A-11	547	20	1	547	
A-12	603	20	1	603	
A-13	598	20	1	598	
A-14	694	20	1	694	
A-15	934	20	1	934	
Std. solution containing 1000 µg/L Hg, blank					
A-16	1054	20	1	1054	
A-17	676	20	1	676	
A-18	1125	20	1	1125	

Table D-19. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1 x 10^{-4} M nitric acid leaching experiment, columns A, B, and C--Continued

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
A-19	385	20	2	770	
A-20	401	20	2	802	
Std. solution containing 100 µg/L Hg	920	20		920	92.0
B-11	898	20	1	898	
B-12	551	20	1	551	
B-13	658	20	1	658	
B-14	788	20	1	788	
B-15	859	20	1	859	
B-16	830	20	1	830	
B-17	470	20	1	470	
B-18	782	20	1	782	
Std. solution containing 1000 µg/L Hg					
B-19	1242	20	1	1242	
B-20	1539	20	1	1539	
B-19	665	20	2	1330	
B-20	766	20	2	1532	
C-11	910	20	1	910	
C-12	803	20	1	803	
C-13	724	20	1	724	
C-14	830	20	1	830	
C-15	970	20	1	970	
C-16	610	20	1	610	
Std. solution containing 1000 µg/L Hg, blank					
C-17	1249	20	1	1249	
C-17	778	20	2	1556	
C-18	1652	20	1	1652	
C-18	815	20	2	1630	
C-19	1822	20	1	1822	
C-19	786	20	2	1572	
C-20	1790	20	1	1790	
C-20	948	20	2	1896	
A-21	2026	20	1	2026	
A-21	659	20	2	1318	
Std. solution containing 600 µg/L Hg, blank					
Std. solution containing 1000 µg/L Hg, blank			1		
A-21	424		2	848	
A-22	483		2	966	
A-23	386	20	2	772	
A-24	488	20	2	976	
A-25	1044	20	1	1044	
A-26	869	20	1	869	
B-21	1458	20	1	1458	
B-21	653	20	2	1306	
B-22	497	20	2	994	
B-23	938	20	1	938	
B-24	1026	20	1	1026	
B-25	751	20	1	751	
C-21	1123	20	1	1123	
C-22	1195	20	1	1195	
C-23	1226	20	1	1226	
C-24	857	20	1	857	
C-25	614	20	1	614	
Leaching phase					
Std. solution containing 600 µg/L Hg, blank					
A-1	795	20	1	795	
A-2	341	20	1	341	
A-3	43	20	1	43	
A-4	101	20	1	101	
A-5	45	20	1	45	
A-6	105	20	1	105	
A-7	45	20	1	45	
Std. solution containing 300 µg/L Hg, blank					

Table D-19. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1 x 10^{-4} M nitric acid leaching experiment, columns A, B, and C--Continued

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
A-8	0	20	1	0	
A-9	10	20	1	10	
blank					
A-10	-5	20	1	0	
B-10	3	20	1	3	
B-9	157	20	1	157	
Std. solution containing 300 µg/L Hg. blank					
B-8	88	20	1	88	
B-7	-2	20	1	0	
B-6	38	20	1	38	
B-5	92	20	1	92	
B-4	36	20	1	36	
B-3	107	20	1	107	
B-2	324	20	1	324	
Std. solution containing 600 µg/L Hg, blank					
B-1	665	20	1	665	
C-1	823	20	1	823	
C-2	473	20	1	473	
Std. solution containing 300 µg/L Hg, blank	316			316	105
C-3	70	20	1	70	
C-4	44	20	1	44	
C-5	58	20	1	58	
C-6	64	20	1	64	
C-7	74	20	1	74	
C-8	75	20	1	75	
C-9	61	20	1	61	
C-10	71	20	1	71	
A-11	75	20	1	75	
A-12	118	20	1	118	
Std. solution containing 300 µg/L Hg, blank					
A-13	38	20	1	38	
A-14	23	20	1	23	
A-15	18	20	1	18	
C-11	9	20	1	9	
C-12	13	20	1	13	
C-13	35	20	1	35	
C-14	57	20	1	57	
C-15	23	20	1	23	
Std. solution containing 300 µg/L Hg	296			296	98.7
blank					
C-16	72	20	1	72	
C-17	19	20	1	19	
C-18	24	20	1	24	
C-19	64	20	1	64	
C-20	64	20	1	64	
A-21	31	20	1	31	
A-22	24	20	1	24	
A-23	25	20	1	25	
blank					
A-24	12	20	1	12	
A-25	156	20	1	156	
Std. solution containing 300 µg/L Hg, blank					
A-25	176	20	1	176	
B-21	61	20	1	61	
B-22	41	20	1	41	
B-23	37	20	1	37	
B-24	43	20	1	43	
B-25	42	20	1	42	
C-21	8	20	1	8	
blank					
C-22	6	20	1	6	
C-23	9	20	1	9	
C-24	37	20	1	37	
C-25	-9		1	0	

Table D-19. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1 x 10^{-4} M nitric acid leaching experiment, columns A, B, and C--Continued

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
A-16	34	20	1	34	
A-17	30	20	1	30	
A-18	45	20	1	45	
A-19	36	20	1	36	
Std. solution containing 300 µg/L Hg, blank					
A-20	25	20	1	25	
B-11	12	20	1	12	
B-12	12	20	1	12	
B-13	66	20	1	66	
B-14	43	20	1	43	
B-15	11	20	1	11	
B-16	26	20	1	26	
blank					
B-17	19	20	1	19	
Std. solution containing 300 µg/L Hg, blank					
B-18	13	20	1	13	
B-19	-1	20	1	0	
B-20	7	20	1	7	

Table D-20. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1.4 x 10^{-4} M nitric acid leaching experiment, columns A, B, and C

[ICP, inductively coupled plasma spectrometer; Hg, mercury; µg/L, micrograms per liter, mL, milliliters; Std., standard; if results for standard solutions and blanks on the instrument readout were acceptable, the values were not recorded in the notebook; if results for standard solutions indicated machine drift greater than 10 percent, the instrument was recalibrated; samples A-1, B-1, C-1, through A-18, B-20, C-20, are effluent from inoculation phase; subsequent sample numbers were from leaching phase]

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
blank					
Std. solution containing 600 µg/L Hg					
Std. solution containing 1000 µg/L Hg					
A-1	642	20	1	642	
B-1	781	20	1	781	
C-1	1143	20	1	1143	
A-2	560	20	1	560	
B-2	771	20	1	771	
C-2	981	20	1	981	
Std. solution containing 300 µg/L Hg					
A-3	196	20	1	196	
B-3	185	20	1	185	
C-3	221	20	1	221	
A-4	82	20	1	82	
B-4	64	20	1	64	
C-4	159	20	1	159	
A-5	80	20	1	80	
B-5	61	20	1	61	
C-5	125	20	1	125	
Std. solution containing 300 µg/L Hg, blank					
A-6	3	20	1	3	
B-6	17	20	1	17	
C-6	88	20	1	88	
A-7	32	20	1	32	
B-7	19	20	1	19	
C-7	52	20	1	52	
A-8	37	26	1	37	
B-8	36	20	1	36	
C-8	64	20	1	64	
Std. solution containing 300 µg/L Hg, blank					
A-9	19	20	1	19	
B-9	2	20	1	2	
C-9	0	20	1	0	
Std. solution containing 600 µg/L Hg	624			624	104
A-1	638	20	1	638	
A-10	11	20	1	11	
B-10	18	20	1	18	
C-10	83	20	1	83	
blank					
A-11	43	20	1	43	
B-11	46	20	1	46	
C-11	75	20	1	75	
A-12	46	20	1	46	
B-12	40	20	1	40	
C-12	63	20	1	63	
A-13	37	20	1	37	
B-13	49	20	1	49	
C-13	50	20	1	50	
A-14	37	20	1	37	
B-14	39	20	1	39	
C-14	56	20	1	56	
A-15	28	20	1	28	
B-15	41	20	1	41	
C-15	70	20	1	70	
A-16	21	20	1	21	
B-16	23	20	1	23	
C-16	59	20	1	59	
A-17	35	20	1	35	
B-17	25	20	1	25	

Table D-20. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1.4 x 10^{-4} M nitric acid leaching experiment, columns A, B, and C--Continued

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
C-17	52	20	1	52	
Std. solution containing 300 µg/L Hg, blank					
A-18	5	20	1	5	
B-18	13	20	1	13	
C-18	62	20	1	62	
[1]A-19	44	20	1	44	
B-19	34	20	1	34	
C-19	61	20	1	61	
A-20	43	20	1	43	
B-20	56	20	1	56	
C-20	87	20	1	87	
A-21	49	20	1	49	
[2]B-21	49	20	1	49	
[3]C-21	81	20	1	81	
A-22	67	20	1	67	
B-22	57	20	1	57	
C-22	78	20	1	78	
A-23	59	20	1	59	
B-23	35	20	1	35	
C-23	75	20	1	75	
A-24	61	20	1	61	
B-24	52	20	1	52	
C-24	92	20	1	92	
A-25	57	20	1	57	
B-25	59	20	1	59	
C-25	95	20	1	95	
Std. solution containing 600 µg/L Hg, blank					
A-26	330	250	1	330	
Std. solution containing 300 µg/L Hg	285			285	95.0
A-27	598	250	1	598	
B-26	305	250	1	305	
B-27	368	250	1	368	
C-26	470	250	1	470	
C-27	686	250	1	286	

[1] Desorption (or leaching) phase of experiment on column A begins with this sample.

[2] Desorption (or leaching) phase of experiment on column B begins with this sample.

[3] Desorption (or leaching) phase of experiment on column C begins with this sample.

Table D-21. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, sodium chloride/distilled water leaching experiment, columns A, B, and C

[Hg, mercury; µg/L, micrograms per liter, mL, milliliters; Std., standard; samples 1-12 are effluent from inoculation phase; subsequent sample numbers are from leaching phase (no B-13 sample); analyses by cold vapor atomic absorbance]

Sample number/description	Absorbance	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
Blank	2			0.08	
Std. solution containing 0.5 µg/L Hg	10			0.47	94.0
Std. solution containing 1.0 µg/L Hg	18			0.87	87.0
Std. solution containing 5.0 µg/L Hg	103			5.10	102
Std. solution containing 10.0 µg/L Hg	201			9.98	99.8
A-1	67	20	1	3.31	
A-2	48	20	1	2.36	
A-3	12	20	1	0.57	
A-4	9	20	1	0.42	
A-5	10	20	1	0.47	
A-6	12	20	1	0.57	
A-7	17	20	1	0.82	
A-8	16	20	1	0.77	
A-9	19	20	1	0.92	
A-10	15	20	1	0.72	
A-11	14	20	1	0.67	
A-12	14	20	1	0.67	
A-13	1,082	20	100	5,380.24	
A-14	527	20	10	261.93	
A-15	157	20	10	77.87	
A-16	90	20	100	445.41	
A-17	235	20	20	233.35	
A-18	150	20	20	148.78	
A-19	63	20	20	62.22	
A-20	74	20	20	73.16	
A-21	17	20	20	16.45	
A-22	30	50	2	2.94	
A-23	28	50	2	2.74	
A-24	13	50	2	1.25	
A-25	13	50	2	1.25	
A-26	1.52	50		0.0001	
A-27	0.02	60		0.0000	
B-1	38	20	1	1.87	
B-2	38	20	1	1.87	
B-3	13	20	1	0.62	
B-4	10	20	1	0.47	
B-5	11	20	1	0.52	
B-6	12	20	1	0.57	
B-7	18	20	1	0.87	
B-8	16	20	1	0.77	
B-9	15	20	1	0.72	
B-10	14	20	1	0.67	
B-11	14	20	1	0.67	
B-12	3	10	1	0.13	
B-14	1,147	20	100	5,703.59	
B-15	623	20	10	309.69	
B-16	171	20	100	848.35	
B-17	410	20	20	407.46	
B-18	283	20	20	281.10	
B-19	214	20	20	212.45	
B-20	107	20	20	106.00	
B-21	71	20	20	70.18	
B-22	88	50	2	8.71	
B-23	10	50	2	0.95	
B-24	10	50	2	0.95	
B-25	-0.02	50	1	0.000	
B-26	-0.02	45	1	0.000	
C-1	71	20	1	3.51	
C-2	47	20	1	2.31	
C-3	15	20	1	0.72	
C-4	13	20	1	0.62	
C-5	21	20	1	1.02	

Table D-21. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, sodium chloride/distilled water leaching experiment, columns A, B, and C--Continued

Sample number/description	Absorbance	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
C-6	17	20	1	0.82	
C-7	21	20	1	1.02	
C-8	20	20	1	0.97	
C-9	9	20	1	0.42	
C-10	19	20	1	0.92	
C-11	14	20	1	0.67	
C-12	5	10	1	0.23	
C-13	9	20	10	4.25	
C-14	850	20	100	4,226.13	
C-15	587	20	100	2,917.80	
C-16	209	20	100	1,037.39	
C-17	501	20	20	498.00	
C-18	352	20	20	349.75	
C-19	196	20	20	194.54	
C-20	53	20	20	52.27	
C-21	112	20	10	55.49	
C-22	48	50	2	4.73	
C-23	35	50	2	3.44	
C-24	16	50	2	1.55	
C-25	29	50	2	2.84	
C-26	2.22	50	1	0.0002	
C-27	-0.02	60	1	0.0000	

Table D-22. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 20-20-20 fertilizer leaching experiments, columns A, B, and C

[Hg, mercury; µg/L, micrograms per liter, mL, milliliters; Std., standard; if results for standard solutions and blanks on the instrument readout were acceptable, the values were not recorded in the notebook; if results for standard solutions indicated machine drift greater than 10 percent, the instrument was recalibrated; ND, no data; samples A-1, B-1, C-1 through A-26, B-26, C-26 are effluent from inoculation phase; subsequent sample numbers are from leaching phase]

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
Std. solution containing 1000 µg/L Hg, blank					
A-1	1163	20	1	1163	
A-2	963	20	1	963	
A-3	308	20	1	308	
Std. solution containing 300 µg/L Hg	337			337	112
Std. solution containing 1000 µg/L Hg, blank					
B-1	761	20	1	761	
B-2	989	20	1	989	
B-3	210	20	1	210	
C-1	232	20	1	232	
C-2	449	20	1	449	
C-3	362	20	1	362	
A-4	138	20	1	138	
B-4	299	20	1	299	
C-4	150	20	1	150	
A-5	268	20	1	268	
B-5	329	20	1	329	
C-5	463	20	1	463	
Std. solution containing 600 µg/L Hg					
A-6	410	20	1	410	
B-6	466	20	1	466	
C-6	259	20	1	259	
A-7	80	20	1	80	
B-7	339	20	1	339	
C-7	157	20	1	157	
Std. solution containing 300 µg/L Hg, blank					
A-8	451	20	1	451	
Std. solution containing 600 µg/L Hg					
B-8	300	20	1	300	
C-8	263	20	1	263	
A-9	279	20	1	279	
B-9	142	20	1	142	
C-9	175	20	1	175	
Std. solution containing 300 µg/L Hg, blank					
A-10	360	20	1	360	
B-10	355	20	1	355	
C-10	369	20	1	369	
Std. solution containing 300 µg/L Hg, blank					
A-11	205	20	1	205	
B-11	677	20	1	677	
C-11	336	20	1	336	
Std. solution containing 1000 µg/L Hg, blank					
A-12	817	20	1	817	
B-12	720	20	1	720	
Std. solution containing 600 µg/L Hg, blank					
C-12	292	20	1	292	
A-13	330	20	1	330	
B-13	307	20	1	307	
C-13	170	20	1	170	
A-14	265	20	1	265	
B-14	257	20	1	257	
C-14	52	20	1	52	
A-15	281	20	1	281	
B-15	236	20	1	236	
C-15	ND			ND	
A-16	828	20	1	828	
B-16	512	20	1	512	
C-16	383	20	1	383	
Std. solution containing 600 µg/L Hg					
A-17	781	20	1	781	

Table D-22. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 20-20-20 fertilizer leaching experiments, columns A, B, and C--Continued

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
B-17	828	20	1	828	
C-17	840	20	1	840	
A-18	578	20	1	578	
B-18	598	20	1	598	
C-18	827	20	1	827	
A-19	967	20	1	967	
B-19	892	20	1	892	
C-19	808	20	1	808	
A-20	747	20	1	747	
B-20	822	20	1	822	
C-20	447	20	1	447	
A-21	882	20	1	882	
B-21	719	20	1	719	
C-21	934	20	1	934	
Std. solution containing 300 µg/L Hg					
A-22	309	20	1	309	
Std. solution containing 600 µg/L Hg					
B-22	648	20	1	648	
Std. solution containing 1000 µg/L Hg					
C-22	693	20	1	693	
A-23	301	20	1	301	
B-23	64	20	1	64	
C-23	52	20	1	53	
Std. solution containing 300 µg/L Hg					
Std. solution containing 600 µg/L Hg					
Std. solution containing 1000 µg/L Hg					
A-24	251	20	1	251	
B-24	848	20	1	848	
C-24	698	20	1	698	
A-25	411	20	1	411	
B-25	553	20	1	553	
C-25	83	20	1	83	
Std. solution containing 300 µg/L Hg					
Std. solution containing 600 µg/L Hg					
A-26	687	20	1	68	
B-26	144	20	1	144	
C-26	248	20	1	248	
A-27	-17	20		0	
B-27	816	20	1	816	
C-27	426	20		426	
A-28	350	20	1	350	
Std. solution containing 600 µg/L Hg					
Std. solution containing 1000 µg/L Hg					
B-28	541	20	1	541	
C-28	462	20	1	462	
A-29	647	20	1	647	
B-29	296	20	1	296	
C-29	211	20	1	211	
A-30	590	20	1	590	
B-30	427	20	1	427	
C-30	31	20	1	31	
A-31	636	250	1	636	
A-32	889	250	1	889	
B-31	943	250	1	943	
B-32	935	250	1	935	
C-31	900	250	1	900	
C-32	1079	250	1	1079	

Table D-23. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1.4 x 10^{-2} M sodium nitrate leaching experiment, columns A, B, and C

[ICP, inductively coupled plasma spectrometer; Hg, mercury; µg/L, micrograms per liter, mL, milliliters; Std., standard; if results for standard solutions and blanks on the instrument readout were acceptable, the values were not recorded in the notebook; if results for standard solutions indicated machine drift greater than 10 percent, the instrument was recalibrated; samples A-1, B-1, C1 through A-28, B-29, C-28 are from inoculation phase; subsequent sample numbers A-1, B-1, C-1 through A-30, B-30, C-30 are from
leaching phase]

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
A-1	45	20	1	45	
A-2	2	20	1	2	
A-3	123	20	1	123	
A-4	186	20	1	186	
A-5	132	20	1	132	
A-6	102	20	1	102	
A-7	94	20	1	94	
A-8	64	20	1	64	
A-9	90	20	1	90	
A-10	105	20	1	105	
A-11	109	20	1	109	
A-12	186	20	1	186	
A-13	332	20	1	332	
A-14	380	20	1	380	
A-15	445	20	1	445	
A-16	297	20	1	297	
A-17	418	20	1	418	
A-18	474	20	1	474	
A-19	550	20	1	550	
A-20	529	20	1	529	
A-21	455	20	1	455	
A-22	654	20	1	654	
A-23	650	20	1	650	
A-24	623	20	1	623	
A-25	708	20	1	708	
A-26	705	20	1	705	
A-27	691	20	1	691	
A-28	710	20	1	710	
Std. solution containing 300 µg/L Hg, blank					
A-1	374	20	1	374	
A-2	346	20	1	346	
A-3	65	20	1	65	
A-4	47	20	1	47	
A-5	36	20	1	36	
A-6	29	20	1	20	
Std. solution containing 300 µg/L Hg, blank					
A-7	0	20	1	0	
A-8	2	20	1	2	
A-9	12	20	1	12	
A-10	21	20	1	21	
A-11	23	20	1	23	
A-12	26	20	1	26	
A-13	18	20	1	18	
A-14	26	20	1	26	
Std. solution containing 300 µg/L Hg					
A-15	9	20	1	9	
A-16	11	20	1	11	
A-17	20	20	1	20	
Std. solution containing 300 µg/L Hg, blank					
A-18	-5	20	1	0	
A-19	-6	20	1	0	
blank					
A-20	-3	20	1	0	
A-21	18	20	1	18	
A-22	7	20	1	7	
A-23	51	20	1	51	
A-24	1	20	1	1	
A-25	-7	20	1	0	

Table D-23. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1.4 x 10^{-2} M sodium nitrate leaching experiment, columns A, B, and C--Continued

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
A-26	104	100	1	104	
A-27	87	100	1	87	
A-28	58	100	1	58	
A-29	64	100	1	64	
A-30	5	100	1	5	
B-1	33	20	1	33	
B-2	14	20	1	14	
B-3	3	20	1	3	
B-4	15	20	1	15	
B-5	26	20	1	26	
B-6	53	20	1	53	
B-7	57	20	1	57	
B-8	69	20	1	69	
B-9	157	20	1	157	
B-10	321	20	1	321	
B-11	403	20	1	403	
B-12	381	20	1	381	
B-13	469	20	1	469	
B-14	356	20	1	356	
B-15	633	20	1	633	
B-16	610	20	1	610	
B-17	691	20	1	691	
B-18	749	20	1	749	
B-19	651	20	1	651	
B-20	689	20	1	689	
B-21	604	20	1	604	
B-22	838	20	1	838	
B-23	811	20	1	811	
B-24	805	20	1	805	
B-25	859	20	1	859	
B-26	880	20	1	880	
B-27	574	20	1	574	
B-28	829	20	1	829	
B-29	834	20	1	834	
Std. solution containing 300 µg/L Hg, blank					
B-1	222	20	1	222	
B-2	249	20	1	249	
B-3	56	20	1	56	
B-4	26	20	1	26	
B-5	25	20	1	25	
B-6	26	20	1	26	
B-7	22	20	1	22	
blank					
B-8	4	20	1	4	
B-9	6	20	1	6	
B-10	0	20	1	0	
Std. solution containing 300 µg/L Hg, blank					
B-11	0	20	1	0	
B-12	1	20	1	1	
B-13	2	20	1	2	
B-14	3	20	1	3	
B-15	6	20	1	6	
B-16	4	20	1	4	
B-17	0	20	1	0	
B-18	0	20	1	0	
B-19	4	20	1	4	
B-20	10	20	1	10	
B-21	7	20	1	7	
B-22	6	20	1	6	
B-23	9	20	1	9	
B-24	13	20	1	13	
B-25	16	20	1	16	
B-26	66	100	1	66	
B-27	60	100	1	60	

Table D-23. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1.4 x 10^{-2} M sodium nitrate leaching experiment, columns A, B, and C--Continued

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
B-28	62	100	1	62	
B-29	45	100	1	45	
B-30	22	100	1	22	
C-1	-1	20	1	0	
C-2	11	20	1	11	
C-3	10	20	1	10	
C-4	24	20	1	24	
C-5	36	20	1	36	
C-6	47	20	1	47	
C-7	111	20	1	111	
C-8	189	20	1	189	
C-9	326	20	1	326	
C-10	251	20	1	251	
C-11	480	20	1	480	
C-12	506	20	1	506	
C-13	540	20	1	540	
C-14	572	20	1	572	
C-15	544	20	1	544	
C-16	506	20	1	506	
C-17	550	20	1	550	
C-18	452	20	1	452	
C-19	697	20	1	697	
C-20	737	20	1	737	
C-21	565	20	1	565	
C-22	545	20	1	545	
C-23	564	20	1	564	
C-24	484	20	1	484	
C-25	525	20	1	525	
C-26	556	20	1	556	
C-27	541	20	1	541	
C-28	573	20	1	573	
Std. solution containing 300 µg/L Hg, blank					
C-1	160	20	1	160	
C-2	113	20	1	113	
C-3	23	20	1	23	
C-4	13	20	1	13	
C-5	9	20	1	9	
C-6 through C-9	0	20	1	0	
C-10	11	20	1	11	
C-11 through C-14	0	20	1	0	
C-15	4	20	1	4	
C-16 through C-19	0	20	1	0	
C-20	6	20	1	6	
C-21 through C-24	0	20	1	0	
C-25	3	20	1	3	
C-26	10	100	1	10	
C-27	49	100	1	49	
C-28	29	100	1	29	
C-29	11	100	1	11	
C-30	2	100	1	2	

Table D-24. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1.4 x 10^{-1} M sodium nitrate leaching experiments, columns A, B, and C

[ICP, inductively coupled plasma spectrometer; Hg, mercury; µg/L, micrograms per liter, mL, milliliters; Std., standard; if results for standard solutions and blanks on the instrument readout were acceptable, the values were not recorded in the notebook; if results for standard solutions indicated machine drift greater than 10 percent, the instrument was recalibrated; samples A, B, and C, 100 and 200 begin inoculation phase and samples A, B, and C 1 through 16 are from the inoculation phase; samples A, B, and C 17 through 23 are from the leaching phase]

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
Std. solution containing 300 µg/L Hg, blank					
A-100	98	100	1	98	
A-200	381	100	1	381	
B-100	110	100	1	110	
C-100	90	100	1	90	
Std. solution containing 300 µg/L Hg, blank					
B-200	153	100	1	153	
C-200	226	100	1	226	
Std. solution containing 300 µg/L Hg	337			337	112
A-1	114	20	1	114	
A-2	216	20	1	216	
Std. solution containing 300 µg/L Hg, blank					
A-3	117	20	1	117	
A-4	213	20	1	213	
A-2	283	20	1	283	
A-5	306	20	1	306	
Std. solution containing 600 µg/L Hg	544			544	90.7
A-6	239	20	1	239	
A-7	366	20	1	366	
Std. solution containing 600 µg/L Hg, recalibrate					
A-8	515	20	1	515	
A-9	502	20	1	502	
A-10	514	20	1	514	
B-10	543	20	1	543	
B-9	510	20	1	510	
B-8	03	20	1	503	
B-7	489	20	1	489	
Std. solution containing 300 µg/L Hg					
Std. solution containing 600 µg/L Hg, blank					
B-6	351	20	1	351	
B-5	411	20	1	411	
B-4	253	20	1	253	
B-3	246	20	1	246	
B-2	176	20	1	176	
B-1	161	20	1	161	
Std. solution containing 300 µg/L Hg, blank					
C-1	168	20	1	168	
C-2	282	20	1	282	
C-3	341	20	1	341	
Std. solution containing 600 µg/L Hg					
C-4	219	20	1	219	
C-5	430	20	1	430	
C-6	506	20	1	506	
C-7	533	20	1	533	
C-8	537	20	1	537	
C-9	600	20	1	600	
C-10	247	20	1	247	
C-11	224	20	1	224	
C-12	334	20	1	334	
C-13	372	20	1	372	
C-14	338	20	1	338	
C-15	369	20	1	369	
Std. solution containing 600 µg/L Hg, blank					
B-11	345	20	1	345	
B-12	594	20	1	594	
B-13	559	20	1	559	
B-14	596	20	1	596	
B-15	576	20	1	576	
A-11	569	20	1	569	

Table D-24. Raw data from laboratory notebook for mercury concentrations in effluent and eluent, 1.4 x 10^{-1} M sodium nitrate leaching experiments, columns A, B, and C--Continued

Sample number/description	ICP reading	Volume (mL)	Dilution factor	Hg concentration (µg/L)	Percent recovery
A-12	301	20	1	301	
A-13	479	20	1	479	
Std. solution containing 600 µg/L Hg, blank					
A-14	534	20	1	534	
A-15	494	20	1	494	
A-16	566	20	1	566	
A-17	716	50	1	716	
B-16	750	20	1	750	
C-16	662	20	1	662	
A-17	541	50	1	541	
B-17	588	50	1	588	
C-17	744	50	1	744	
A-18	109	50	1	109	
A-19	19	50	1	19	
B-18	77	50	1	77	
B-19	40	50	1	40	
C-18	101	50	1	101	
C-19	34	50	1	34	
A-20	145	50	1	145	
A-21	92	50	1	92	
A-22	146	50	1	146	
A-23	97	50	1	97	
B-20	146	50	1	146	
B-21	174	50	1	174	
B-22	133	50	1	133	
B-23	182	50	1	182	
C-20	136	50	1	136	
C-21	140	50	1	140	
C-22	125	50	1	125	
C-23	155	50	1	155	