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Compilation of Sorption Coefficients for Selected Elements on Bentonite and Smectite Clays to Support the Design of an INEEL CERCLA Disposal Facility Attenuation Barrier Waste Area Group 3, Operable Unit 3-13

INEEL
IDAHO NATIONAL ENGINEERING & ENVIRONMENTAL LABORATORY

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Compilation of Sorption Coefficients for Selected Elements on Bentonite and Smectite Clays to Support the Design of an INEEL CERCLA Disposal Facility Attenuation Barrier Waste Area Group 3, Operable Unit 3-13

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A SCIENTECH Inc. Company

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ABSTRACT

Data were compiled to describe the sorption behavior of selected elements on bentonite and associated smectites. The elements evaluated included: americium (Am), arsenic (As), cesium (Cs), copper (Cu), iodine (I), manganese (Mn), mercury (Hg), neptunium (Np), lead (Pb), plutonium (Pu), strontium (Sr), technetium (Tc), thorium (Th), thallium (Tl), and uranium (U). Two-hundred and twenty-three (223) geochemistry papers were reviewed, and 2,432 distribution ratio (non-equilibrium K_d) values were compiled, representing the sorption behavior of each requested element, except thallium.

Statistical analyses of the overall dataset (at all pHs) indicate that U(IV), Am(III), Tc(IV), and Pu(IV) have median distribution ratios >1000 ml/g indicating strong adsorption on bentonites. Pb, U(VI), Cs, Th, Cu, and Pu(VI) have median distribution ratios >100 and <1000, suggesting that they are moderately sorbed. The remaining elements have median distribution ratios <100, suggesting that they are relatively poorly sorbed on bentonite. The least sorbed constituents include: Tc(VII), I(I), I(V), As(III), As(V), Hg(II), and Np(V).

Conclusions similar to the above were also reached when statistics were focused on a subset of the sorption data of greatest interest to Idaho National Engineering and Environmental Laboratory, that is sorption experiments conducted under oxidizing conditions in the near-neutral pH range 7.0 to 8.5. However, not only U(IV), Tc(IV), Am(III), and Pu(IV), but also Cu(II) and Pb(II) have median distribution ratios >1000 ml/g, indicating strong adsorption on bentonites under these restricted conditions. Strontium, Cs(I), Th(IV), and Pu(VI) have median distribution ratios >100 and <1000 ml/g suggesting that they are moderately sorbed. The least sorbed (most mobile) constituents under oxidizing, near-neutral pH conditions, include: Tc(VII), I(I), As(V), Mn(II), As(III), Hg(II), Np(V), and U(VI). Iodate probably behaves similarly to iodide under oxidizing, near-neutral pH conditions, although no data were available to evaluate iodate.

Probability plots and histograms indicate that the compiled sorption data are often (but not always) well described by lognormal distributions, and nonparametric descriptive statistics were computed. The median sorption values presented in Table 2 (pH range 7.0 to 8.5) are recommended for the INEEL CERCLA Disposal Facility performance modeling efforts.

Compilation of Sorption Coefficients for Selected Elements on Bentonite and Smectite Clays to Support the Design of an INEEL CERCLA Disposal Facility Attenuation Barrier Waste Area Group 3, Operable Unit 3-13

1. INTRODUCTION AND OBJECTIVES

This adsorption data compilation effort was performed by Grant Environmental, Inc. (Grant), a SCIENTECH Company, at the request of Bechtel BWXT Idaho, LLC (BBWI) to assist them in establishing performance modeling parameters for the compacted clay liner and attenuation barrier components for the INEEL CERCLA Disposal Facility (ICDF) mixed waste landfill. The objectives of this task were to perform a review of scientific literature for data describing the sorption behavior of selected actinides and other elements on bentonite and other smectites. The elements evaluated included: americium (Am), arsenic (As), cesium (Cs), copper (Cu), iodine (I), manganese (Mn), mercury (Hg), neptunium (Np), lead (Pb), plutonium (Pu), strontium (Sr), technetium (Tc), thorium (Th), thallium (Tl), and uranium (U). In preparing this compilation, the relevant literature was reviewed and the sorption data presented in these papers were compiled and statistically analyzed to determine the median distribution ratio for each element considered.

scope of the present investigation and data from these significantly modified or altered materials were not included in this compilation.

A spreadsheet database was prepared in Microsoft Excel 97 to record and track the potentially relevant citations identified by our literature search, and to record which of the documents were located, copied and reviewed. Another spreadsheet was constructed to organize the sorption data, including the experimental conditions, extracted from the reviewed papers. The compiled sorption data are included in Appendix A. The literature cited is included in Appendix B.

3.2 Discussion of the Sorption Data

Data were compiled to describe the sorption behavior of selected elements on bentonite and associated smectites. The elements evaluated included: americium (Am), arsenic (As), cesium (Cs), copper (Cu), iodine (I), manganese (Mn), mercury (Hg), neptunium (Np), lead (Pb), plutonium (Pu), strontium (Sr), technetium (Tc), thorium (Th), thallium (Tl), and uranium (U). Two-hundred and twenty-three geochemistry papers were examined, and 2,432 distribution ratio (non-equilibrium K_d) values were compiled, representing the sorption behavior of each specified element, except thallium. Statistical analysis of the Appendix A data indicate that U(IV), Tc(IV) and Pu(IV) have median distribution ratios >1000 ml/g, indicating strong adsorption on bentonites. Pb, U(VI), Cs, Th, Cu, and Pu(VI) have median distribution ratios >100 and <1000 suggesting that they are moderately sorbed. The remaining elements have median distribution ratios <100 suggesting that they are relatively poorly sorbed on bentonite. The least sorbed (most mobile) constituents include: Tc(VII), I(I), I(V), As(III), As(V), and Np(V).

Grouping R_d data by <100, or >1000 ml/g follows Meijer's (1992) approach which, based on preliminary transport calculations, suggested that a minimum R_d of 100 ml/g should provide an adequate sorption barrier for radionuclides in the proposed waste repository at Yucca Mountain, Nevada.

The sorption experiments reviewed for this compilation were run under a wide range of experimental conditions, temperatures, redox conditions, pH, ionic strength, types and concentrations of competing ions, and ratio of sorbent mass to solution volume. Our review indicates that many of the sorption experiments were not chemically reversible, i.e., forward (adsorption) experiments usually provided different results than the reverse (desorption) experiments. Some experimenters did not check for reversibility, or simply assumed that their coefficients were empirical and were probably irreversible. However, as discussed earlier, this R_d data is believed to be suitable for selecting sorption values for contaminant transport modeling. In fact, the data trends and conclusions of many of these papers are worth summarizing, but are beyond the current scope of this task. Only a brief overview of the data is presented in this report.

The distribution ratio experiments in the reviewed literature were performed using bentonites of varied mineralogical compositions, quarried from many parts of the world. These bentonites were often pretreated in various ways prior to their use in the sorption experiments. For example, bentonite samples were often crushed and sieved, and the clay-sized fraction was used in sorption experiments. Some of the bentonites were pretreated with chemicals to remove iron and manganese oxyhydroxides or organic matter. Some bentonites were physically compacted prior to use, or alternatively, they may have been flocculated and suspended in aqueous solution.

In addition to variations in mineralogical composition, natural bentonites also contain variable quantities and kinds of sorbed metal ions, usually sodium (Na^+), potassium (K^+), calcium (Ca^{++}), or magnesium (Mg^{++}). The authors of the reviewed papers often modified the native ion content of these bentonites by pretreating them with a strong salt solution to "saturate" or fill the sorption sites with a

chosen metal ion, usually Na^+ or Ca^{++}. This approach provided a measure of their sorption capacity for the particular the element being tested.

The 2,432 R_d values compiled from the literature review are listed along with the associated experimental conditions in Appendix A of this report. These data records are sorted alphabetically by sorbate (sorbing element), then by data source, and finally by sorbent.

As mentioned earlier, the sorption data presented in Appendix A were determined under a wide variety of experimental conditions. These conditions and differences in chemical behavior between elements resulted in a wide range of R_d values, from negative and zero values up to nearly 813,000 ml/g.

In order to summarize the results of this extensive compilation, descriptive statistics were computed to estimate minimum, median, average, and maximum values as well as standard deviations. These statistics are presented in Table 1, and were computed using all R_d data in Appendix A, after replacing a small number of negative R_d values, "< 0," with 0, and replacing "< x" with x and "> x" with x.

It should be pointed out that about 30 negative R_d values were reported in the reviewed documents and tabulated in Appendix A.

The negative R_d values usually resulted from small analytical errors in the concentration terms of the commonly used R_d equation, $R_d = [V(C_o - C)] / (MC)$, where M is sorbent mass in grams and V is solution volume in milliliters (Vandergraaf and Ticknor, 1994). The negative R_d values usually occurred for constituents that did not sorb very well. For poorly sorbing analytes, the final concentration "C" is very close to the initial concentration "C_o", therefore R_d becomes negative whenever analytical uncertainties yield a C value slightly larger in absolute magnitude than C_o. For naturally occurring sorbates it is also possible, although unlikely, that sorbate initially present in the sorbent and undetected prior to the sorption experiment, might desorb or leach into solution and elevate "C" over "C_o".

Later it will be shown that most of the R_d data in Appendix A do not appear to be drawn from symmetrical distributions such as the commonly used normal distribution. When a distribution is asymmetrical (skewed), the mean and median no longer coincide (Snedecor and Cochran, 1967). It is also well known that averages (means) are influenced by a few very large observations (outliers), while the median value is not influenced. A dramatic example of these effects is the element Tc for which 96 R_d values have an average R_d of 448 ml/g, but a median R_d of only 1 ml/g. Although no formal outlier testing was conducted, the R_d compilation appears to contain a number of outliers for many of the elements. For these reasons, the data rows in Table 1 were sorted in ascending order by the median R_d of each element. The result is that the most mobile elements (with the least sorption on bentonite) are listed at the top of the left-hand column of Table1. Grant suggests that the median values are reasonably conservative and should be used in the performance modeling.

Using all R_d data in Appendix A and a median R_d of 100 as a cutoff (Meijer 1992), Table 1 shows that the least sorptive (most mobile) elements on bentonite are: Tc(VII), I(I or V), As(III or V), Mn(II), Hg(II), Np(V) and Sr(II). The most strongly sorbed constituents on bentonite are: U(IV), Am(III), Tc(IV), and Pu(IV). The sorption data for several of the elements, Tc(IV and VII), U(IV and VI), and Pu(IV and VI), indicate that redox state plays an important role in their sorption. Based on the compiled data, Tc(VII) is much more mobile than Tc(IV). Similarly, U(IV and VI) and Pu(IV and VI) show similar redox influences in their sorption behavior.

Because Tc, U and Pu sorption is strongly influenced by redox conditions, and these elements are more strongly sorbed in their lower valence states, it might be possible to improve the performance of a

Table 1. Statistics for Distribution Ratios (ml/g) for Bentonites and Smectites.

Element (Oxidation State)	Data Included	Sample Size	Minimum	Median	Average	Maximum	Sample Standard Deviation
Tc(VII)		58	0.0	0.0	20.4	240.0	57.9
I(I)	iodide	94	0.0	0.5	136.4	4260	549.0
I(V)	iodate	1	1.0	1.0	1.0	1.0	
Tc	all Tc	96	0.0	1.0	448.3	10000	1950
As(III)		20	1.6	7.4	12.4	83.2	17.8
Mn(II)	outlier dropped p112	16	2.6	7.7	8.6	22.9	5.2
Mn(II)	all Mn	17	2.6	7.9	927.5	15630	3789
As	all As	50	1.6	8.4	11.3	83.2	12.1
As(V)		30	3.5	9.5	10.6	28.2	6.2
Hg(II)	all Hg	199	0.0	28.4	331.5	13684	1355.3
Np(V)		283	0.2	46.5	134.8	6409	512.4
Np	all Np	321	0.2	52.8	148.0	6409	491.9
Sr(II)	all Sr	229	0.0	88.4	418.8	4360	691.3
Pb(II)	all Pb	186	8.5	180.8	14150	370000	41741
U(VI)		371	0.9	199.5	9088	812831	69195
U	all U	385	0.9	200.0	15489	812831	87039
Cs(I)	all Cs	561	0.4	299.1	1602	29600	3701
Th(IV)	all Th	56	0.2	316.0	9882	400000	53826
Cu(II)	all Cu	27	3.2	321.0	1395	10000	2339
Pu(VI)		4	250.0	345.0	597.5	1450	575.3
Pu	all Pu	79	63.0	2122	5950	61000	10107
Pu(IV)		14	400.0	2800	8490	40000	12148
Am	all Am	131	11	4584	34341	616600	97580
Tc(IV)		8	590.0	4870	5174	10000	4874
Am(III)		64	11	7076	50607	616600	133230
U(IV)		8	150000	175000	323750	670000	227027

Note that all data originally labeled ">value" or "<value" were set equal to their value before computing statistics.

Each negative value was replaced by a 0 before computing statistics.

Table 2. Statistics for Distribution Ratios (ml/g) at pH 7 to pH 8.5 for Bentonites and Smectites.

Element (Oxidation State)	Data Included	Sample Size	Minimum	10th Percentile (Non-Parametric)	25th Percentile (Non-Parametric)	Median	Table 1 Median	Average	Maximum	Sample Standard Deviation	10th Percentile (Normal)	25th Percentile (Normal)
Tc(VII)		36	0.0	0.0	0.0	0.25	0.00	26.3	240	71.4	-65.0	-21.8
Tc	all Tc	52	0.0	0.0	0.0	0.55	1.0	767	10000	2614	-2578.9	-997.5
I(I)	iodide	41	0.0	0.0	0.1	1.0	0.5	2.8	14	3.8	-2.1	0.2
As(V)		7	4.0	3.2	4.7	5.4	9.5	7.2	14.1	3.6	2.5	4.7
As	all As	11	4.0	4.1	5.2	6.8	8.4	8.8	20.8	5.2	2.2	5.3
Mn(II)	all Mn	4	6.5	3.2	6.5	9.8	7.9	9.6	12	2.9	5.9	7.7
As(III)		4	6.1	3.1	6.4	10.1	7.4	11.8	20.8	6.7	3.2	7.2
Hg(II)	all Hg	50	0.1	0.45	28.6	43.4	28.4	151	1013	213		
Np(V)		99	9.7	18.8	31.3	49.0	46.5	59.1	173	38.2	10.1	33.3
Np	all Np	112	9.7	17.1	31.0	49.0	52.8	61.2	200	42.7	6.5	32.4
U(VI)		124	2.5	4.5	10.4	89.5	200	20722	812831	118800	-131341.4	-59467.7
U	all U	128	2.5	4.7	10.6	96.7	200	25231	812831	119616	-127877.3	-55509.9
Sr(II)	all Sr	105	0.0	2.3	30.4	222	88.4	254	1240	258	-75.9	79.9
Cs(I)	all Cs	132	1.6	16.0	41.3	250	299	2659	29600	5835	-4810.0	-1279.8
Th(IV)	all Th	26	40.0	59.1	297	630	316	4207	63100	12215	-11428.6	-4038.3
Pu(VI)		2	440	396	504	945	345	945	1450	714	30.9	462.9
Pu	all Pu	39	63.0	158	794	1589	2122	6040	61000	12154	-9517.1	-2164.0
Am	all Am	63	200	328	1288	2813	4584	17386	183500	37426		
Pu(IV)		6	860	602	1190	3550	2800	11543	40000	15673	-8518.5	963.8
Cu(II)	all Cu	2	2739	822	2055	6370	321	6370	10000	5134	-201.8	2904.3
Am(III)		30	305	625	1620	7569	7076	15891	183500	33836		
Tc(IV)		4	9100	4550	9275	9900	4870	9725	10000	427	9178.2	9436.6
Pb(II)	all Pb	6	7640	5348	25610	64750	181	96290	251000	91876	-21310.7	34274.0
U(IV)		4	150000	75000	152500	165000	175000	165000	180000	12910	148475.3	156285.8

Note that all data originally labeled ">value" or "<value" were set equal to their value before computing statistics.
Each negative value was replaced by a 0 before computing statistics.

agent such as iron filings; or to preserve the engineering properties of the clay, the reducing agent might be emplaced as a separate reactive layer. However, the vadose zone of the ICDF landfill is expected to be aerobic so any reducing agent added as an amendment or as a layer would have a finite lifetime before it became fully oxidized. Also, such an amendment would probably not work for all elements of concern. For example, reduction of As(V) to As(III) does not appear to greatly improve As sorption on bentonite.

According to Silva and Nitsche (1995), americium in mildly oxidizing ground water is expected to be Am(III), whether an aqueous species or colloidal form. In most cases in the papers reviewed for this compilation, Am(III) was the oxidation state used by most of the researchers. However, when a paper did not specify the americium oxidation state, then the data was compiled in Appendix A simply as "Am". Regardless of our knowledge of its oxidation state, most of the compiled Am data indicate strong sorption on bentonites, with a Table 1 median R_d of 4,584 ml/g for "all Am", and of 7,076 ml/g for Am(III). Our review did not identify any Am sorption data for other possible oxidation states such as Am(V).

Mercury is found in nature in either the 0, I, or II oxidation states, and Hg(II) is the most likely state in moderately oxidizing natural waters (Kaplan and Iversen 1999; Hahne and Kroontje 1973). The present compilation found sorption data only for Hg(II). However, because of the oxidizing conditions present in the shallow subsurface at the ICDF, Hg(II) is believed to be of greater relevance than the other oxidation states of mercury.

Numerous studies of the sorption of Sr and Cs suggest that they tend to adsorb on bentonites through an ion exchange mechanism that may be reversible. Thus, if the landfill leachate contains high concentrations of common ions such as Ca^{++}, Mg^{++}, Na^{+}, and K^{+}, these ions will compete for sorption sites on the smectites and decrease the sorptive capacity of the clay towards Sr and Cs.

At normal ground water pH values, almost all dissolved manganese is Mn(II), and little work has been done on identifying its sorption capacity on bentonite. In the limited number of papers we reviewed concerning manganese sorption, it appears that Mn(II) is poorly sorbed on bentonite, having a maximum R_d of only 22.9 ml/g (Table 1). However, numerous papers in the geochemical literature indicate that aqueous Mn(II) [like Fe(II)] is readily oxidized and precipitates as relatively insoluble oxides and oxyhydroxides which are themselves very good sorbents of many common metallic contaminants (Jenne 1968; Rai and Zachara 1984). Therefore, it may actually be desirable to have low concentrations of Mn(II) and Fe(II) in the landfill leachates, or the previously suggested native Fe as an amendment. Presumably, this Mn and Fe would slowly oxidize and be precipitated as a halo deposit in the surrounding host alluvium, where these oxides might further retard the migration of some contaminants of concern.

U, Th, Am, Cs, and Pb showed particularly wide sorption ranges (Figure 1). It may be useful to further evaluate the literature from which these R_d values were compiled to determine the conditions under which their adsorption was maximized on bentonites and smectites. Similarly, an understanding of the conditions under which the constituents were poorly sorbed by bentonites should also be attempted in order to avoid those conditions and make the ICDF liner more effective.

Figure 2 plots the U(VI) R_d data as a function of the final "equilibrium" pH of each R_d determination experiment. Although a number of other parameters were varied during these experiments, it appears that the sorption of U(VI) on bentonites is strongly influenced by pH and has a sorption maximum near pH 6.

Neptunium sorption also appears to be influenced by pH (Figure 3). Figure 3 indicates that a neptunium sorption minimum is observed between pH 4 and pH 7. Arsenic (Figure 4) and iodide (Figure 5) sorption do not appear to show any relationship to pH. Figure 4 also shows that As(III) and As(V) appear to have similar sorptive properties on bentonites.

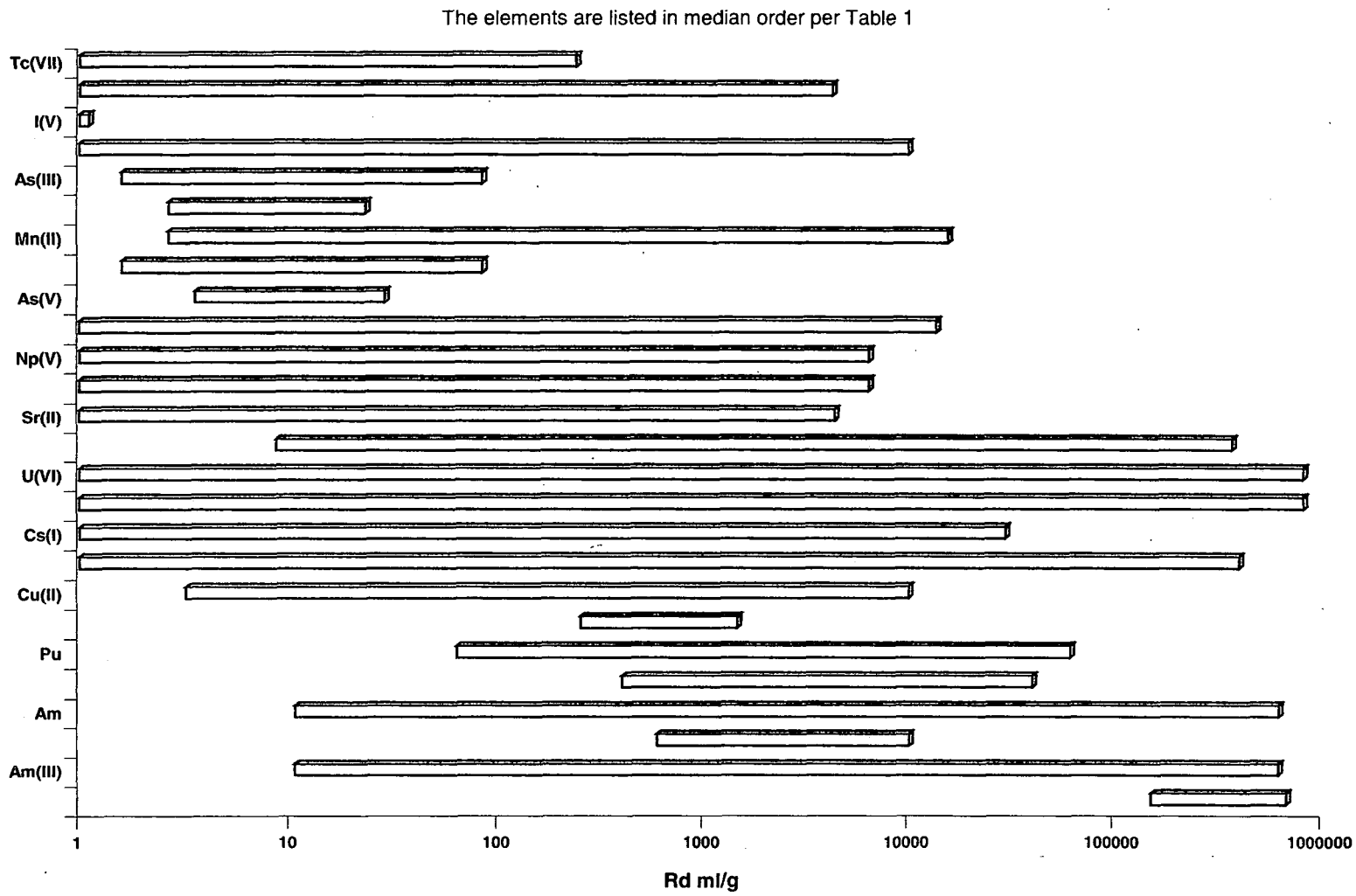

Figure 1. Ranges of Distribution Ratios by Element on Bentonites and Smectites.

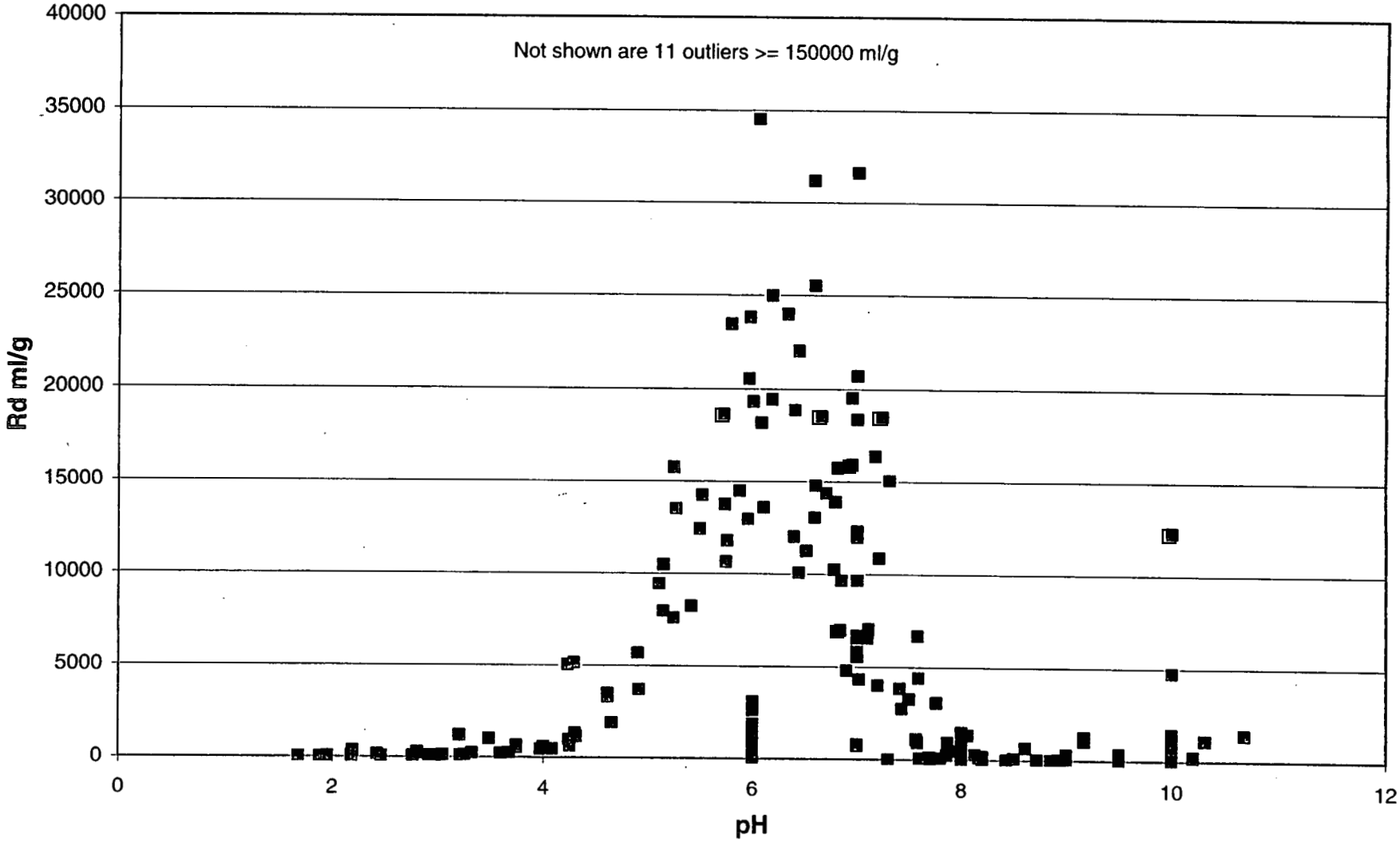

Figure 2. U(VI) Distribution Ratios on Bentonites and Smectites Versus pH.

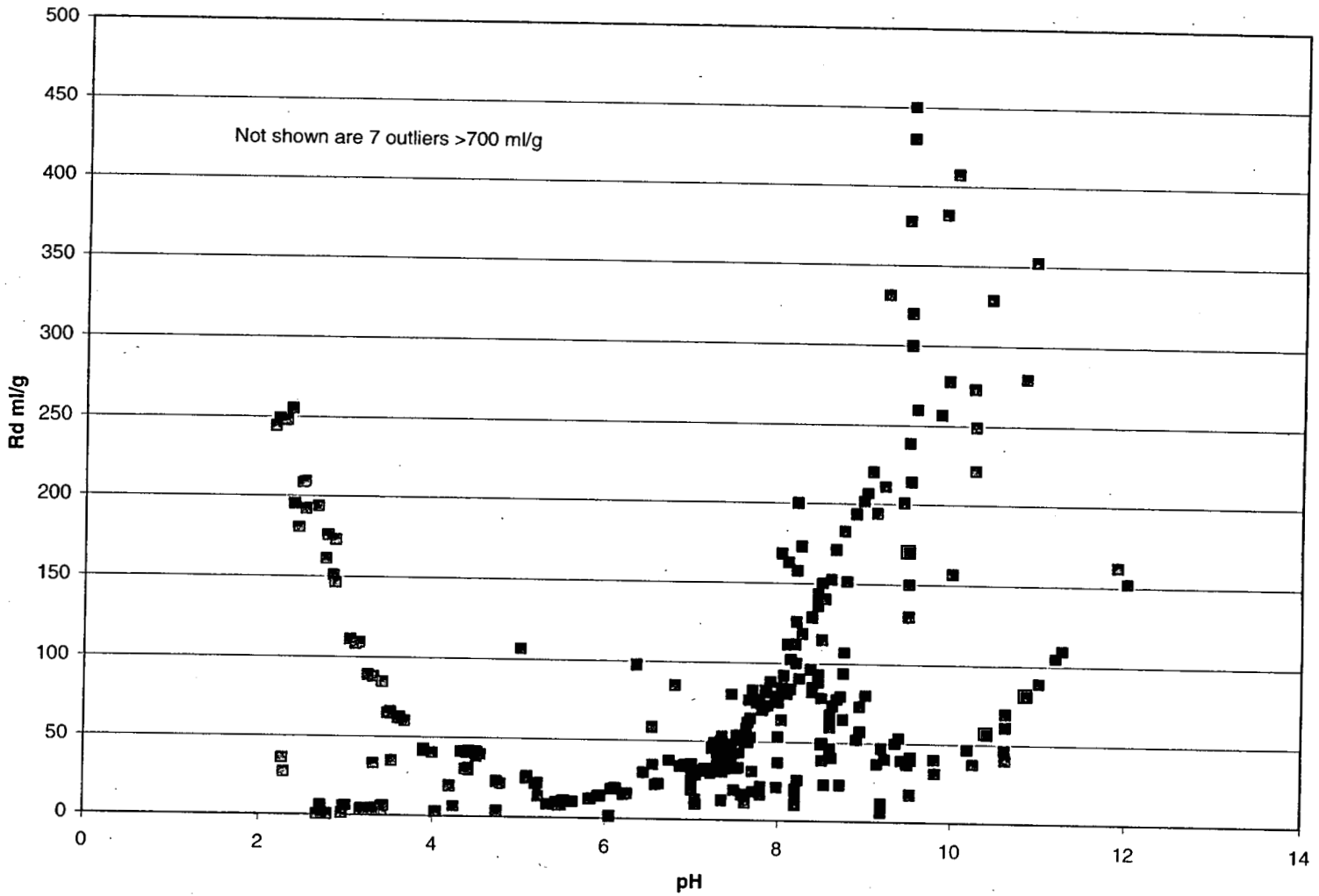

Figure 3. Neptunium Distribution Ratios on Bentonites and Smectites Versus pH.

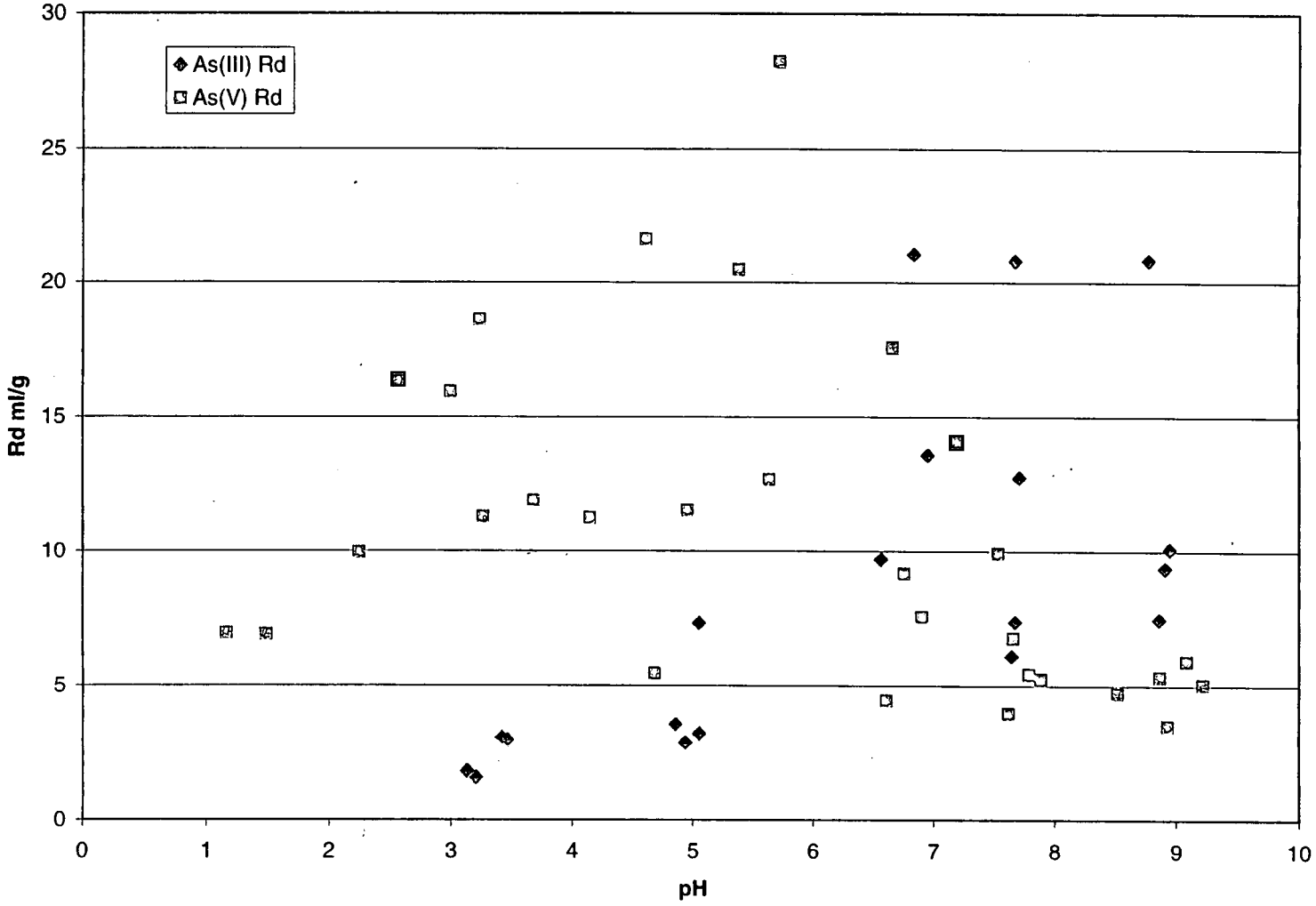

Figure 4. As(III) and As(V) Distribution Ratios on Bentonites and Smectites Versus pH.

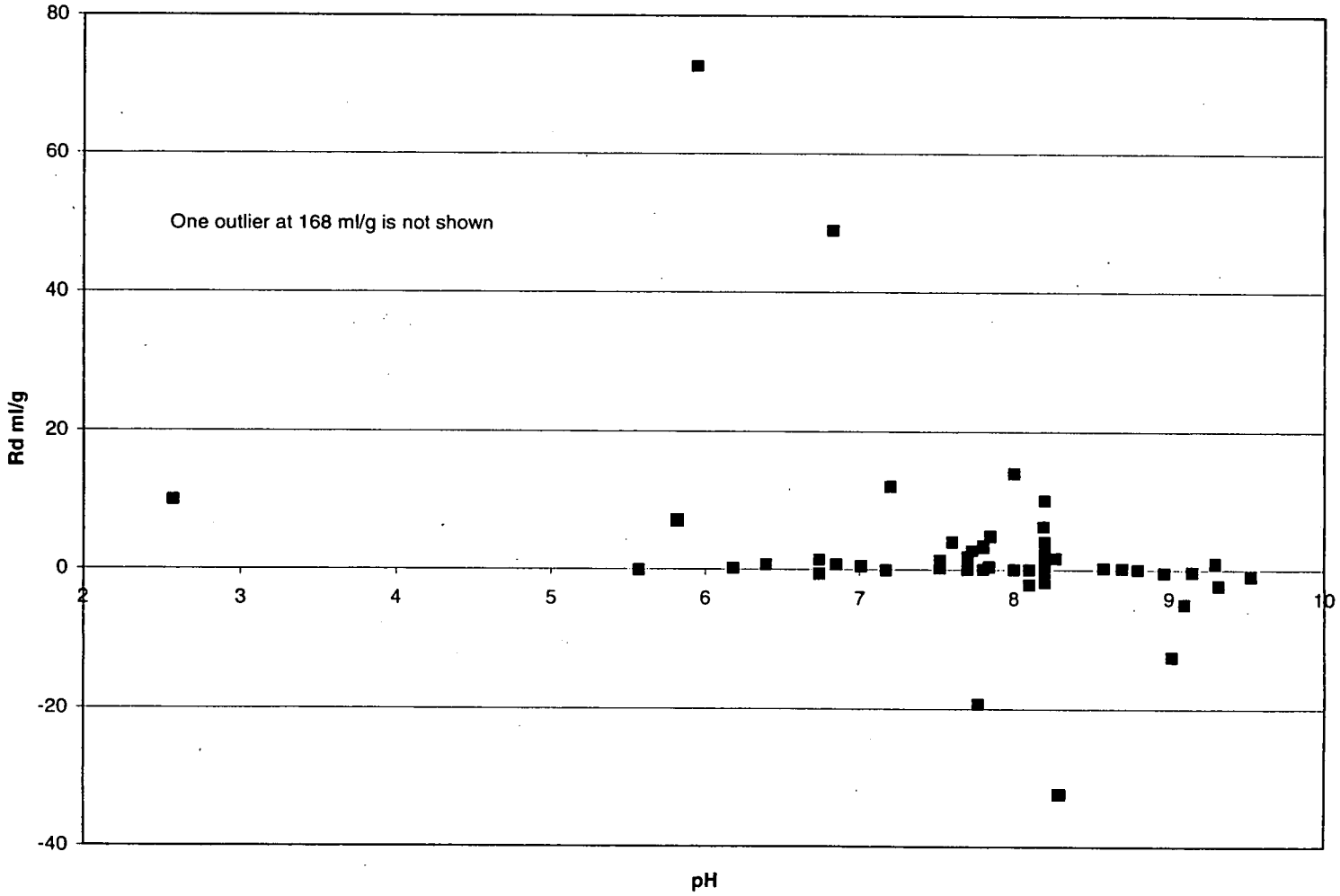

Figure 5. Iodide Distribution Ratios on Bentonites and Smectites Versus pH.

In *Understanding Variation In Partition Coefficient, K_d, Values* (EPA 1999, p. 3.1), the authors indicate that K_ds are sometimes affected by the ratio (V/M) of solution volume to mass of clay sorbent. Such data are captured in Appendix A whenever possible. However, there does not appear to be an obvious effect for the hundreds of cesium R_d values plotted in Figure 6. It is possible that the V/M effect is real, but is obscured in a dataset created by pooling data from various experimenters, each of whom used different experimental conditions.

Nagasaki, Tanaka and Suzuki (1994) also reported a linear dependence of americium R_d values on the ratio of solution volume to clay mass. They attributed this dependence to the formation of Am-bearing colloids. These authors obtained different sets of Am R_d values depending on how they filtered the final solution (ultrafiltration, 0.45 um filter, or no filtration) after equilibration with the clay. Each set of R_d data varied linearly with the V/M ratio. However, like Figure 6, pooling the Am R_d data of various experimenters in Figure 7 fails to show any such correlation.

The distribution ratio for americium does not appear to be strongly pH dependent, at least when the data of various authors was pooled to create Figure 8. Similarly, Hg(II) R_d data do not appear to be pH dependent, Figure 9.

Appendix A R_d data, described above, were determined across a wide pH range from less than pH 1.2 to pH 12.0. Soil-slurry pH values for typical INEEL soils are expected to fall in the near-neutral pH range between pH 7.0 and 8.5. Aerobic to moderately oxidizing redox conditions are expected in pore water of the shallow alluvial, unsaturated zone beneath the ICDF landfill. Therefore, data were selected from Appendix A that met the pH and redox conditions described above, and statistics for this reduced dataset are presented in Table 2.

The majority of the R_d data that form the basis for Table 2 were measured in the presence of various levels of oxygen derived from exposing the sorption experiments to the atmosphere. However, some experimenters used an inert atmosphere (usually nitrogen) to provide anoxic conditions in order to preserve the sorbate oxidation state that was under investigation, and in a few cases, reducing conditions were employed to maintain U and Tc in the IV oxidation state. These U(IV) and Tc(IV) data were included in Table 2 to provide INEEL with R_d statistics for these relatively immobile (median R_d 165,000 and 9,900 ml/g, respectively) oxidation states, although they are not expected to be important under the oxidizing conditions of the ICDF unsaturated zone.

Table 2 adds 10th and 25th percentile (quantile) statistics (the median is the 50th percentile). Note that Table 2 reports nonparametric percentiles (Gilbert, 1987, p. 134) because their parametric counterparts often provided unacceptable negative values. It will be shown later that parametric statistics are poor descriptors of Appendix A R_d data, because the sorption data are generally not normally distributed. Table 2 also includes, for comparison purposes, the median values reported in Table 1. Note that Table 2 medians are generally within a factor of two or three of their Table 1 counterparts. The Sr(II) median is higher and the U(VI) median is lower on Table 2 than they were on Table 1. The Hg(II) median, 43.4 ml/g on Table 2, did not change appreciably from the Table 1 Hg(II) median of 28.4 ml/g. The Am medians also stayed within a factor of two between Table 1 and Table 2. However, the Pb(II) and Cu(II) median R_ds are much larger (more strongly sorbed or precipitated) at near-neutral pH than they were on Table 1, which included low pH data for these metals. No iodate data were available at the restricted pH range of Table 2.

Note that the restrictions on pH and redox conditions greatly reduced the sample sizes of some element and valence state combinations in Table 2. Of course, the statistics will be of lower reliability for elements with low sample sizes. The authors recommend that the Table 2 median values be used by ICDF stakeholders as both representative and reasonably conservative sorption parameters for COC

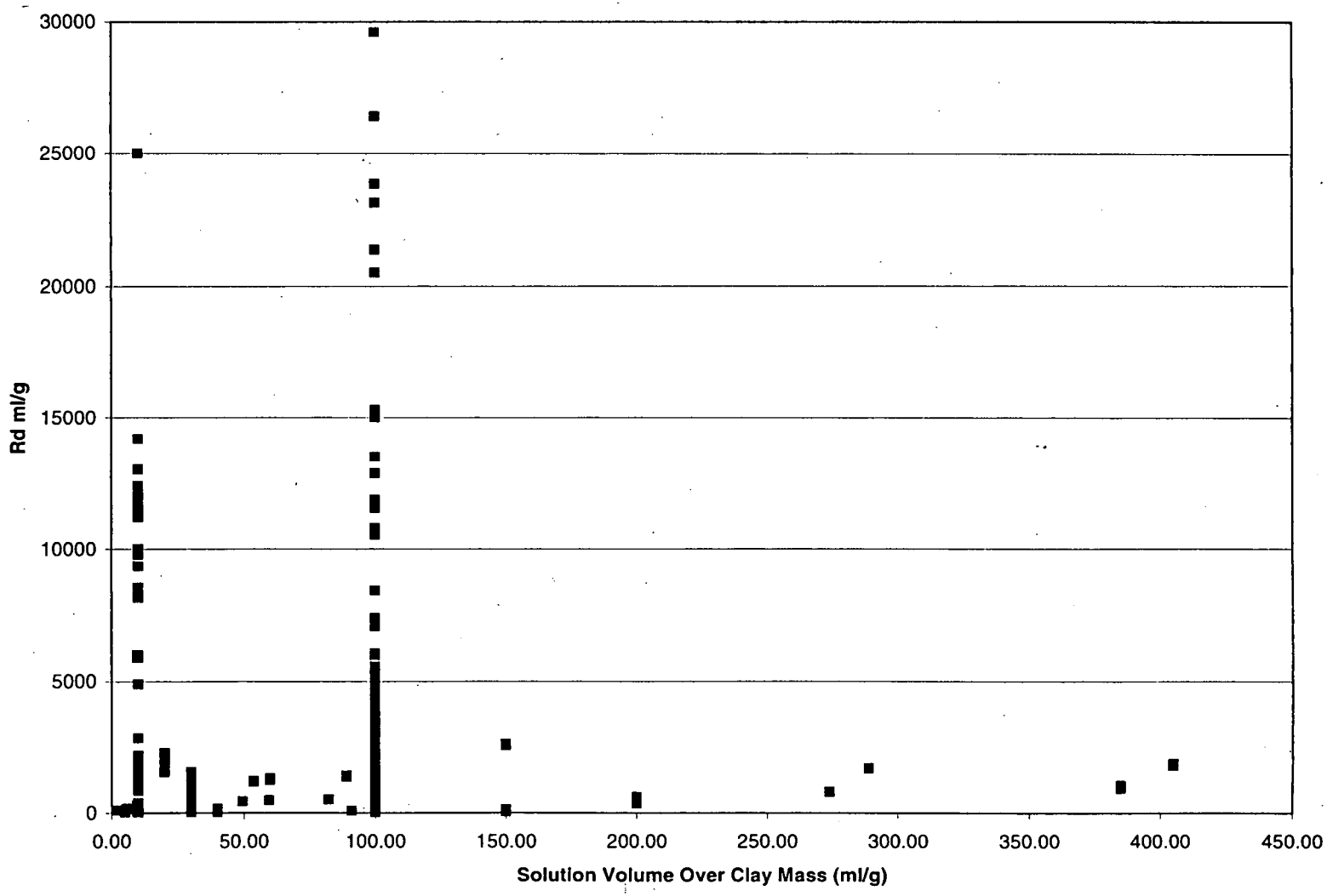

Figure 6. Cesium Rd Versus the Ratio of Solution Volume to Clay Mass.

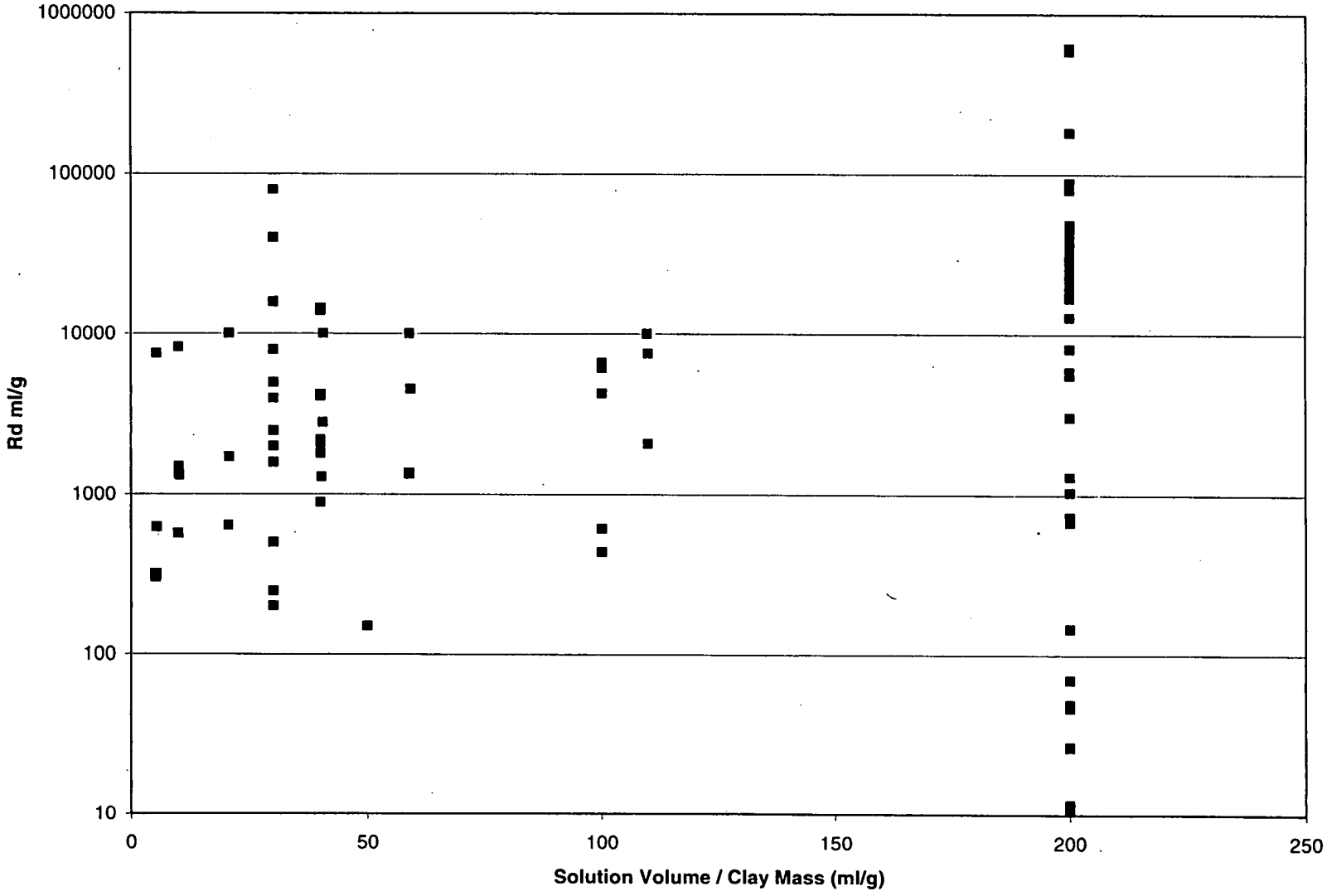

Figure 7. Americium Rd Versus the Ratio of Solution Volume to Clay Mass.

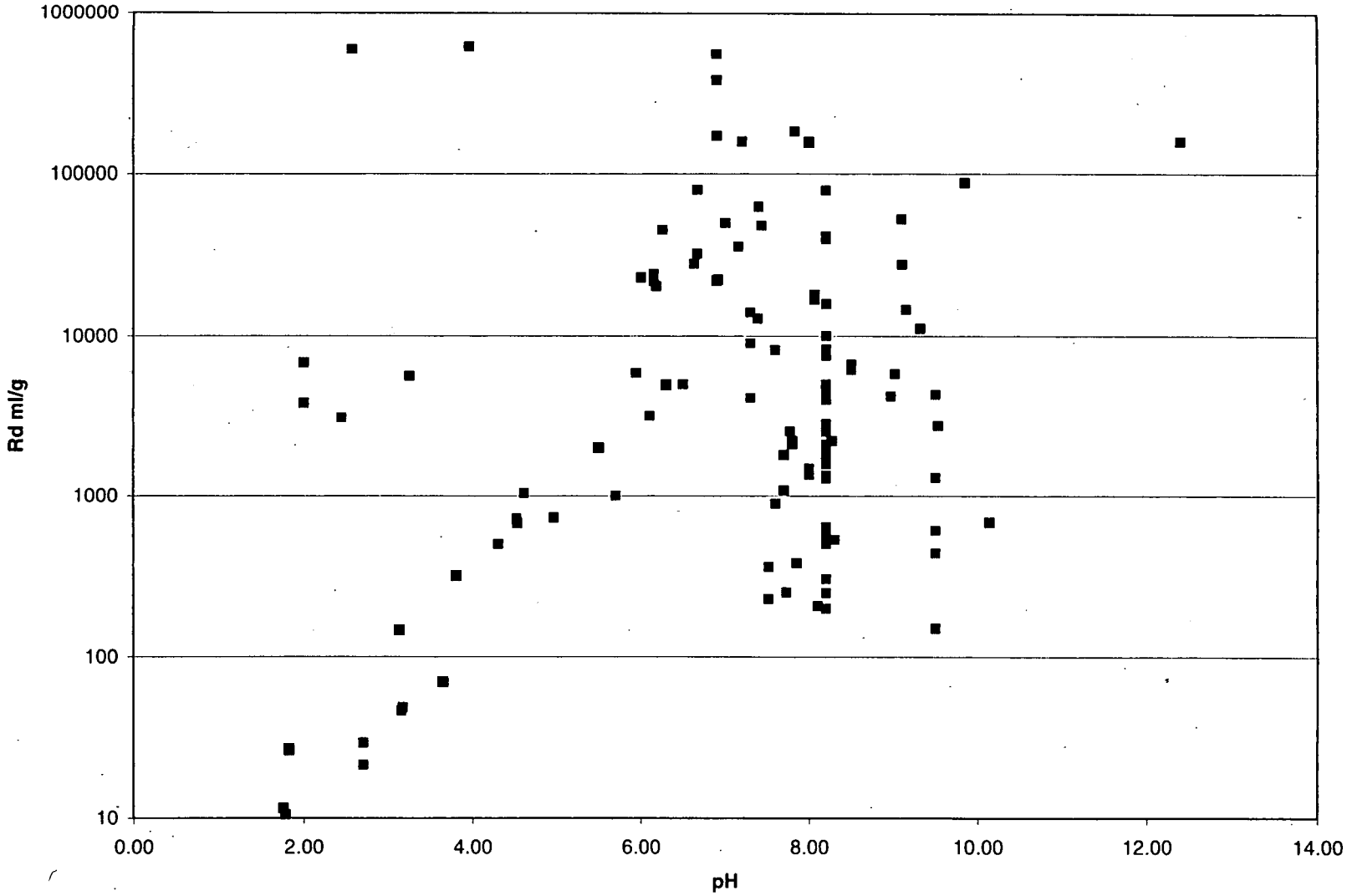

Figure 8. Americium Distribution Ratio Versus pH.

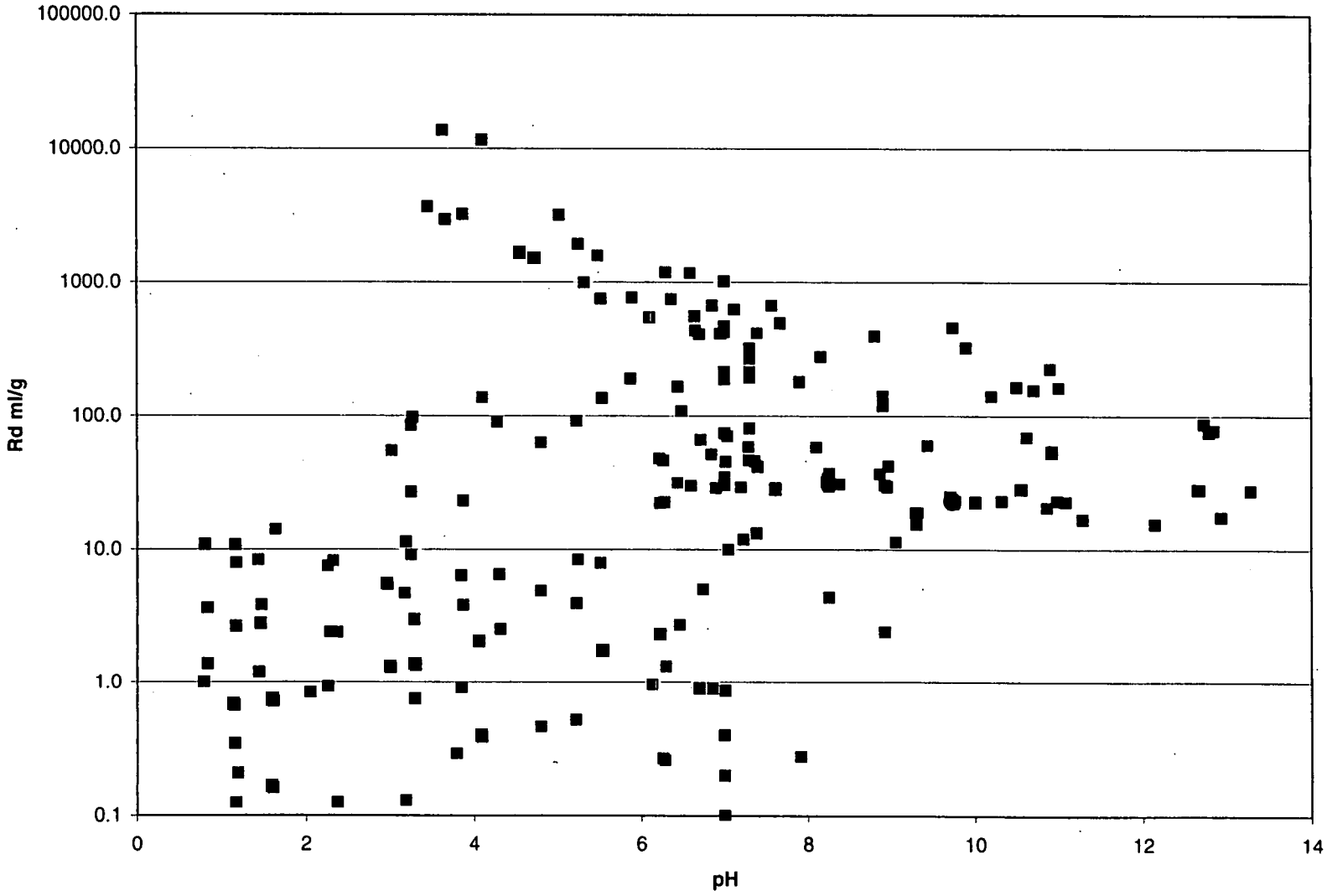

Figure 9. Mercury(II) Distribution Ratio Versus pH.

transport modeling for the ICDF landfill. Table 3 provides a comparison of the Table 1 and 2 median R_d values with Track 1 default K_ds (DOE/ID 1992) and WAG 7 K_ds (Dicke 1997).

Figure 10 compares the R_d ranges between elements at near-neutral pH, in the same manner as Figure 1 compares ranges for all R_d data. When comparing Figure 10 with Figure 1, note that the median-order of the elements differs. The numeric ranges shown on Figure 10 tend to be shorter than their counterparts on Figure 1 because of the narrower pH range and the smaller sample sizes.

Appendix C contains histograms and probability plots of the R_d data in the pH 7 to pH 8.5 range for elements isotopes of greatest interest to the Agencies. Plots were generated only for those element and valence state combinations which contained 30 or more observations. Negative and zero R_d values were necessarily excluded from the lognormal plots. Most of the Appendix C histograms (e.g. Pu, Cs, or iodide) indicate that the R_d distributions are not symmetrical, but are often strongly skewed with a low frequency of high R_d values, and a high frequency of low R_d values. Therefore, nonparametric order statistics such as the median, are appropriate for this analysis (Snedecor and Cochran 1967).

Probability plots are useful tools for visually assessing how well a given dataset fits a particular statistical distribution. For example, data points falling on a straight line on a lognormal probability plot would indicate that the data were drawn from a perfectly lognormal distribution. Inspection of the lognormal and normal probability plots in Appendix C indicates that Pu, Np, Am, iodide, Cs, Tc and U are generally good fits to a lognormal distribution, and poor fits to a normal one. Strontium and Hg(II) R_d data do not closely fit either a single lognormal, or a normal population. In fact, the presence of inflection points implies that the Sr data were drawn from multiple populations. These populations are probably lognormal in character and might be identified (partitioned) by applying the methods of Sinclair (1976).

Fully quality-assuring all of the data entries in Appendix A against their original source documents would have required an effort of similar magnitude to that of the compilation itself. Therefore, about 25% of the R_d values were independently verified by Grant personnel (i.e., personnel not involved with the R_d compilation) against original source documents. In addition, 100% of the R_d calculations performed by Grant were also independently checked by Grant personnel. All of the negative R_d values were also verified against their sources.

Table 3. Comparision of the Median R_d Values with Default Track 1 K_ds and WAG 7 K_ds.

Constituent	Table 1 Median R_d All Values (ml/g)	Table 2 Median R_d pH 7.0 to 8.5 (ml/g)	Track 1 Default K_d (ml/g)	WAG 7 K_d Sediments (ml/g)
Americium	4,584	2,813	340	450
Americium (III)	7,076	7,569	—	—
Arsenic	8	7	3	—
Arsenic (III)	7	10	—	—
Arsenic (V)	10	5	—	—
Cesium (I)	299	250	500	1000
Copper (II)	321	6,370	20	—
Iodide (I)	0.5	1	0	0.1
Iodate (V)	1	—	—	—
Lead (II)	181	64,750	100	270
Manganese (II)	8	10	50	—
Mercury (II)	28	43	100	176
Neptunium	53	49	—	8
Neptunium (V)	47	49	—	—
Plutonium	2,122	1,589	22	5100
Plutonium (IV)	2,800	3,550	—	—
Plutonium (VI)	345	945	—	—
Strontium (II)	88	222	24	60
Technetium	1	0.6	—	0
Technetium (IV)	4,870	9,900	—	—
Technetium (VII)	0	0.3	—	—
Thorium (IV)	316	630	100	500
Uranium	200	97	6	6
Uranium (IV)	175,000	165,000	—	—
Uranium (VI)	200	90	—	—

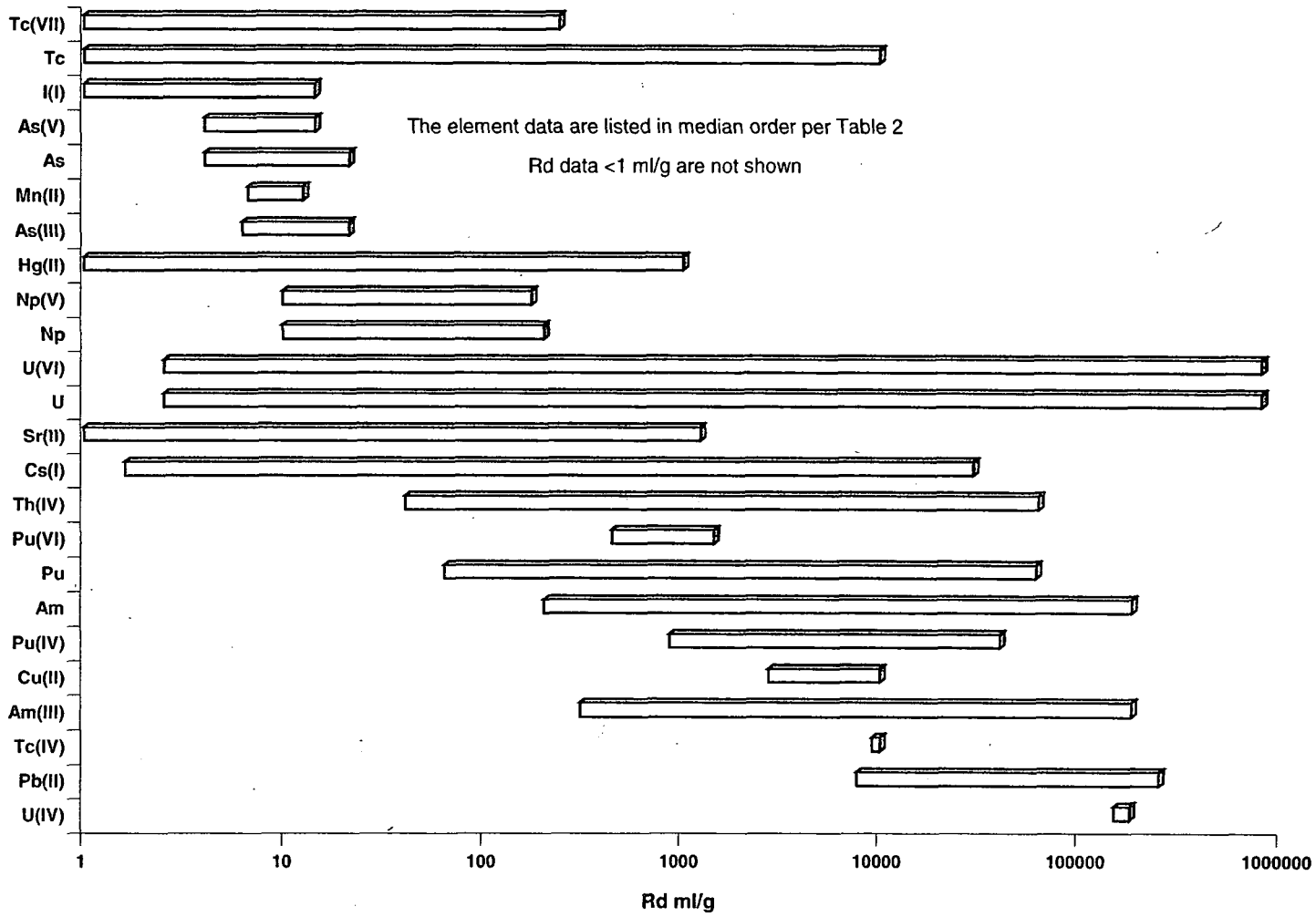

Figure 10. Ranges of Distribution Ratios Measured at pH 7 to pH 8.5.

4. CONCLUSIONS

Approximately 223 papers were reviewed to obtain partition coefficient data describing the sorption of selected elements on bentonite and related smectites. A total of 2,432 partition coefficients were reviewed, representing the sorption behavior of each specified element, except thallium. It is suggested that cesium sorption be used as a surrogate for thallium sorption behavior because of their similar chemical properties. Statistical analyses of the compiled data (at all pHs) indicate that U(IV), Am(III), Tc(IV) and Pu(IV) have median distribution ratios considerably >1000 ml/g indicating strong adsorption on bentonites. Pb(II), U(VI), Cs(I), Th(IV), Cu(II), and Pu(VI) have median distribution ratios >100 and <1000, suggesting that they are moderately sorbed. The remaining elements have median distribution ratios <100 implying that they are relatively poorly sorbed on bentonite. The least sorbed constituents include: Tc(VII), I(I), I(V), As(III), As(V), Mn(II), Hg(II), Np(V), and Sr(II).

Conclusions similar to the above were reached when statistics were performed on the R_d dataset of elements/isotopes of greatest interest to INEEL, i.e. for oxidizing conditions in the near-neutral pH range 7.0 to 8.5. However, in addition to U(IV), Tc(IV), Am(III) and Pu(IV), we find that Cu(II) and Pb(II) have median distribution ratios >1000 ml/g, indicating strong sorption on bentonites. Strontium, Cs(I), Th(IV), and Pu(VI) have median distribution ratios >100 and <1000 ml/g, suggesting that they are moderately sorbed. The least sorbed (most mobile) constituents under oxidizing, near-neutral pH conditions, include: Tc(VII), I(I), As(V), Mn(II), As(III), Hg(II), Np(V), and U(VI). Iodate probably behaves similarly to iodide under these oxidizing, near-neutral pH conditions, although no data was available to evaluate iodate. Probability plots and histograms indicated that the compiled sorption data were often (but not always) well described by lognormal distributions, and nonparametric descriptive statistics (e.g. medians) were computed.

Grant recommends that the Table 2 median sorption values be considered by the Agencies as both representative and reasonably conservative partition coefficients for use in the ICDF performance modeling.

5. ACKNOWLEDGEMENTS

The authors of this report are very grateful for the generous assistance provided by the library staff at INEEL, particularly Bernice Kunkel, in finding and copying documents that we could not obtain in the Denver area.

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Literature references for the compiled sorption data are listed in Appendix B.

Appendix A

Appendix A

Distribution Ratios for Selected Elements on Bentonite and Smectites

Rd Sheet Notes & Symbol Key

Temperature (C) Column

When Rd data were collected at "room temperature", or if no temperature was given, it is assumed to be 20 degrees C.

Solid Medium Column Codes

"Natural Bentonite" means the bentonite was used as is, and not pre-treated, purified, or graded

Solution Medium Column Codes

DI= Deionized water or distilled water was used to dissolve the sorbate in solution

Rd Method Column Codes

A= Axial filtration method
B= Batch method
C= Column method
D= Rd computed from diffusion coefficient data
E= Agitation of samples by use of an end-over-end stirrer device
H= Hydraulic press used to compact the clay sorbent, then the clay was contacted with solution similar to a column study
R= Agitation of samples by a rotation device
S= Agitation of samples by a shaker device

Redox Conditions Column Codes

AA= Ambient atmospheric conditions. Samples potentially exposed to air. No attempt to use inert atmosphere or fix redox state.
"anoxic" means oxygen level was reduced to <2000 PPM for experiments, versus the 200,000 PPM O2 in normal air (p158)
N2 atm.= Experiments conducted under nitrogen atmosphere in a glove box

Sorbent Medium Column Codes

"sat." means water saturated, or saturated with a specified ion such as Na+

Units of Published Rd Column Codes

cc/g= cubic centimeters per gram, nearly identical to ml/g
cd/g= cubic decimeters per gram. cd/g = l/g = cc/mg. ml/g = 1000 X cd/g
l/g = liters per gram. ml/g = 1000 X l/g
l/kg = liters per kilogram. ml/g = l/kg
ml/g= milliliters per gram, the most common unit of Rd values
m3/kg= cubic meters per kilogram. ml/g = 1000 X m3/kg
m3/Mg= cubic meters per megagram. m3/Mg = cc/g, and is nearly identical to ml/g
When Rd values were published in log units, their antilog values were compiled in this spreadsheet.

Sorbent Density Column Notes

Some papers from which Rd data were compiled, reported extremely low values for sorbent "density" (e.g. 0.02 g/ml).
These extremely low values probably indicate grams of suspended clay per ml of solution.

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1	6	Am	71	m3/kg	71000.000	water saturated, compacted, "purified", Na-bentonite, "Kunipia-F", >95% montmorillonite	the clay was saturated with DI, however the sorbate was applied to the clay surface in a matrix of 0.5M HCl	0.2	D, H		
2	6	Am	40	m3/kg	40000.000	water saturated, compacted, "purified", Na-bentonite, "Kunipia-F", >95% montmorillonite	the clay was saturated with DI, however the sorbate was applied to the clay surface in a matrix of 0.5M HCl	0.6	D, H		
3	6	Am	36	m3/kg	36000.000	water saturated, compacted, "purified", Na-bentonite, "Kunipia-F", >95% montmorillonite	the clay was saturated with DI, however the sorbate was applied to the clay surface in a matrix of 0.5M HCl	1.55	D, H		
4	30	Am	6800	ml/g	6800.000	bentonite (70% montmorillonite)	DI		B, S?	7	
5	30	Am	23000	ml/g	23000.000	bentonite (70% montmorillonite)	DI		B, S?	7	
6	30	Am	3800	ml/g	3800.000	bentonite (70% montmorillonite)	synthetic groundwater		B, S?	7	
7	46	Am	>2200	ml/g	>2200	montmorillonite Swy-1	0.46 mg/l fulvic acid, synthetic groundwater B, pH7.8		BS	28	40
8	46	Am	>2100	ml/g	>2100	montmorillonite Swy-1	1.47 mg/l fulvic acid, synthetic groundwater C, pH7.8		BS	28	40
9	46	Am	>1800	ml/g	>1800	montmorillonite Swy-1	No fulvic acid, synthetic groundwater A, pH7.7		BS	28	40
10	46	Am	890	ml/g	890.000	montmorillonite Swy-1	4.84 mg/l fulvic acid, synthetic groundwater D, pH7.6		BS	28	40
11	49	Am	7	m3/kg	7000.000	bentonite					
12	49	Am	29.4	m3/kg	29400.000	bentonite					
13	49	Am	2	m3/kg	2000.000	bentonite					
14	49	Am	5	m3/kg	5000.000	bentonite					
15	49	Am	2.9	m3/kg	2900.000	bentonite					
16	49	Am	0.3	m3/kg	300.000	bentonite and sand mix					
17	63	Am	0.2	m3/kg	200.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
18	63	Am	0.5	m3/kg	500.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
19	63	Am	0.25	m3/kg	250.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1	probably acidic	AA	20			A				Activity of the Am-241 stock solution was 45.3 kBq/ml in 0.5M HCl. 0.05 ml of this solution was contacted with the bentonite.
2	probably acidic	AA	20			A				Activity of the Am-241 stock solution was 45.3 kBq/ml in 0.5M HCl. 0.05 ml of this solution was contacted with the bentonite.
3	probably acidic	AA	20			A				Activity of the Am-241 stock solution was 45.3 kBq/ml in 0.5M HCl. 0.05 ml of this solution was contacted with the bentonite.
4	2	AA	20			A	60	70		Sorbent surface area was apparently reported incorrectly as cm.cm/g instead of m.m/g
5	6	AA	20			A	60	70		Sorbent surface area was apparently reported incorrectly as cm.cm/g instead of m.m/g
6	2	AA	20			A	60	70		Sorbent surface area was apparently reported incorrectly as cm.cm/g instead of m.m/g
7	7.8?	AA	20	1.80E-10		A		31.82		
8	7.8?	AA	20	1.70E-10		A		31.82		
9	7.7?	AA	20	1.80E-10		A		31.82		
10	7.6?	AA	20	1.40E-10		A		31.82		
11										Shaw et al. (1989) SKI database value from p49
12										KBS(1983) database value from p49
13										PAGIS (1988) database value from p49
14										McKinley and Hadermann (1985) NAGRA database value from p49
15										Peltonen et al. (1985) TVO database value from p49
16										Wuschke et al. (1985) AECL database value from p49
17	8.2?	AA	25	1E-8M		A				
18	8.2?	AA	25	1E-8M		A				
19	8.2?	AA	65	1E-8M		A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
20	63	Am	3.98	m3/kg	3980.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
21	63	Am	7.94	m3/kg	7940.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
22	63	Am	1.58	m3/kg	1580.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
23	63	Am	2	m3/kg	2000.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
24	63	Am	5	m3/kg	5000.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
25	63	Am	2.5	m3/kg	2500.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
26	63	Am	39.8	m3/kg	39800.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
27	63	Am	79.4	m3/kg	79400.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
28	63	Am	15.8	m3/kg	15800.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
29	119	Am	9000	ml/g	9000.000	bentonite	brine "B"		BS?		
30	119	Am	316	ml/g	316.000	bentonite			BS?		
31	119	Am	501	ml/g	501.000	bentonite			BS?		
32	119	Am	1995	ml/g	1995.000	bentonite			BS?		
33	119	Am	1000	ml/g	1000.000	bentonite			BS?		
34	119	Am	3160	ml/g	3160.000	bentonite			BS?		
35	119	Am	5010	ml/g	5010.000	bentonite			BS?		
36	119	Am	5010	ml/g	5010.000	bentonite			BS?		
37	119	Am	50120	ml/g	50120.000	bentonite			BS?		
38	119	Am	158500	ml/g	158500.000	bentonite			BS?		
39	119	Am	63100	ml/g	63100.000	bentonite			BS?		
40	119	Am	158500	ml/g	158500.000	bentonite			BS?		
41	119	Am	158500	ml/g	158500.000	bentonite			BS?		
42	120	Am	150	l/kg	150.000	bentonite	DI		BS	1	50
43	120	Am	610	l/kg	610.000	bentonite	DI		BS	1	100
44	120	Am	1300	l/kg	1300.000	bentonite	DI		BS	1	200
45	120	Am	440	l/kg	440.000	bentonite	DI		BS	2	100
46	120	Am	4300	l/kg	4300.000	bentonite	DI		BS	10	100

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
20	8.2?	AA	25	1E-8M		A				
21	8.2?	AA	25	1E-8M		A				
22	8.2?	AA	65	1E-8M		A				
23	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
24	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
25	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
26	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
27	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
28	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
29	7.3	AA?	20			A?				P119 reported data from Novak, 1981
30	3.8	AA?	20			A?	64.26			P119 reported data from Billon, 1982
31	4.3	AA?	20			A?	64.26			P119 reported data from Billon, 1982
32	5.5	AA?	20			A?	64.26			P119 reported data from Billon, 1982
33	5.7	AA?	20			A?	64.26			P119 reported data from Billon, 1982
34	6.1	AA?	20			A?	64.26			P119 reported data from Billon, 1982
35	6.3	AA?	20			A?	64.26			P119 reported data from Billon, 1982
36	6.5	AA?	20			A?	64.26			P119 reported data from Billon, 1982
37	7	AA?	20			A?	64.26			P119 reported data from Billon, 1982
38	7.2	AA?	20			A?	64.26			P119 reported data from Billon, 1982
39	7.4	AA?	20			A?	64.26			P119 reported data from Billon, 1982
40	8	AA?	20			A?	64.26			P119 reported data from Billon, 1982
41	12.4	AA?	20			A?	64.26			P119 reported data from Billon, 1982
42	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
43	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
44	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
45	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
46	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
47	122	Am	1355	ml/g	1355.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
48	122	Am	1489	ml/g	1489.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
49	150	Am	66390	cc/g	66390.000	sat. compacted bentonite	probably DI?	0.2	D		
50	150	Am	38060	cc/g	38060.000	sat. compacted bentonite	probably DI?	0.6	D		
51	150	Am	35700	cc/g	35700.000	sat. compacted bentonite	probably DI?	1.53	D		
52	154	Am	363	ml/g	363.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l			3	
53	154	Am	230	ml/g	230.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l			17	
54	154	Am	1085	ml/g	1085.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l			31	
55	154	Am	2517	ml/g	2517.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l			38	
56	154	Am	252	ml/g	252.000	Na sat. montmorillonite	NaCl at 5130 meq/l			3	
57	154	Am	382	ml/g	382.000	Na sat. montmorillonite	NaCl at 5130 meq/l			17	
58	154	Am	208	ml/g	208.000	Na sat. montmorillonite	NaCl at 5130 meq/l			31	
59	154	Am	535	ml/g	535.000	Na sat. montmorillonite	NaCl at 5130 meq/l			38	
60	154	Am	2812	ml/g	2812.000	Na sat. montmorillonite	NaCl at 30 meq/l			3	
61	154	Am	2188	ml/g	2188.000	Na sat. montmorillonite	NaCl at 30 meq/l			17	
62	154	Am	4195	ml/g	4195.000	Na sat. montmorillonite	NaCl at 30 meq/l			31	
63	154	Am	5817	ml/g	5817.000	Na sat. montmorillonite	NaCl at 30 meq/l			38	
64	154	Am	2742	ml/g	2742.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l			3	
65	154	Am	11150	ml/g	11150.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l			17	
66	154	Am	14568	ml/g	14568.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l			31	
67	154	Am	53100	ml/g	53100.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l			38	
68	68	Am(III)	6.17	m3/kg	6170.000	Wyoming bentonite MX-80	synthetic ground water, TDS of 306 mg/l		BS	6	100
69	68	Am(III)	6.61	m3/kg	6610.000	Wyoming bentonite MX-80	synthetic ground water, TDS of 306 mg/l		BS	6	100
70	72	Am(III)	6.6	m3/kg	6600.000	Wyoming Na bentonite MX-80	Swedish synthetic granitic ground water	2	BS? D?	524	
71	94	Am(III)	305	cc/g	305.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	5.1
72	94	Am(III)	570	cc/g	570.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	9.9
73	94	Am(III)	640	cc/g	640.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	20.5
74	94	Am(III)	1288	cc/g	1288.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	40.3
75	94	Am(III)	1342	cc/g	1342.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	58.9
76	94	Am(III)	2088	cc/g	2088.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	109.9

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
47	8	AA	23	2.09E-10		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
48	8	AA	60	2.09E-10		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
49		AA	20			A				Rd as function of compaction density
50		AA	20			A				Rd as function of compaction density
51		AA	20			A				Rd as function of compaction density
52	7.52		20			A				
53	7.52	447	20			A				
54	7.7	357	20			A				
55	7.77	340	20			D				
56	7.73		20			A				
57	7.85	407	20			A				
58	8.1	325	20			A				
59	8.3	313	20			D				
60	8.2		20			A				
61	8.27	398	20			A				
62	8.97	459	20			A				
63	9.02	323	20			D				
64	9.53		20			A				
65	9.32	392	20			A				
66	9.15	374	20			A				
67	9.1	305	20			D				
68	8.5	AA	25	3E-7M		A	75 to 80			
69	8.5	AA	25	2.5E-9M		A	75 to 80			
70		AA	20	4E-9 moles		A				
71	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was not filtered prior to Am analysis
72	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was not filtered prior to Am analysis
73	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was not filtered prior to Am analysis
74	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was not filtered prior to Am analysis
75	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was not filtered prior to Am analysis
76	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was not filtered prior to Am analysis

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
77	94	Am(III)	623	cc/g	623.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	5.3
78	94	Am(III)	1317	cc/g	1317.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	10.2
79	94	Am(III)	1713	cc/g	1713.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	20.6
80	94	Am(III)	2813	cc/g	2813.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	40.5
81	94	Am(III)	4584	cc/g	4584.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	59.2
82	94	Am(III)	7596	cc/g	7596.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	109.8
83	94	Am(III)	7542	cc/g	7542.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	5.3
84	94	Am(III)	8260	cc/g	8260.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	10.0
85	94	Am(III)	10020	cc/g	10020.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	20.6
86	94	Am(III)	10080	cc/g	10080.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	40.6
87	94	Am(III)	10035	cc/g	10035.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	58.9
88	94	Am(III)	10028	cc/g	10028.000	Na bentonite (Kunigel V1), used as received	pH adjusted with HClO4 in DI		BS	14	109.7
89	105	Am(III)	593500	ml/g	593500.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.01M NaClO4		BS	1	200
90	105	Am(III)	616600	ml/g	616600.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.01M NaClO4		BS	1	200

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
77	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was filtered using a 0.45 um filter prior to Am analysis
78	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was filtered using a 0.45 um filter prior to Am analysis
79	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was filtered using a 0.45 um filter prior to Am analysis
80	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was filtered using a 0.45 um filter prior to Am analysis
81	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was filtered using a 0.45 um filter prior to Am analysis
82	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				the equilibrium solution was filtered using a 0.45 um filter prior to Am analysis
83	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				Ultrafiltration (2nm) was used to separate the equilibrium solution for Am analysis
84	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				Ultrafiltration (2nm) was used to separate the equilibrium solution for Am analysis
85	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				Ultrafiltration (2nm) was used to separate the equilibrium solution for Am analysis
86	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				Ultrafiltration (2nm) was used to separate the equilibrium solution for Am analysis
87	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				Ultrafiltration (2nm) was used to separate the equilibrium solution for Am analysis
88	8.2	N2 atm. Glovebox at 100 to -200 mv	25	1.00E-09		A				Ultrafiltration (2nm) was used to separate the equilibrium solution for Am analysis
89	2.57	AA	20			A	69 (purified)	120 (purified)		
90	3.96	AA	20			A	69 (purified)	120 (purified)		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time In Days	Solution Volume to Sorbent Mass Ratio (ml/g)
91	105	Am(III)	28000	ml/g	28000.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.01M NaClO4		BS	1	200
92	105	Am(III)	12780	ml/g	12780.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.01M NaClO4		BS	1	200
93	105	Am(III)	8130	ml/g	8130.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.01M NaClO4		BS	1	200
94	105	Am(III)	682	ml/g	682.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.01M NaClO4		BS	1	200
95	105	Am(III)	3070	ml/g	3070.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.1M NaClO4		BS	1	200
96	105	Am(III)	5630	ml/g	5630.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.1M NaClO4		BS	1	200

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
91	6.63	AA	20			A	69 (purified)	120 (purified)		
92	7.39	AA	20			A	69 (purified)	120 (purified)		
93	7.60	AA	20			A	69 (purified)	120 (purified)		
94	10.14	AA	20			A	69 (purified)	120 (purified)		
95	2.44	AA	20			A	69 (purified)	120 (purified)		
96	3.25	AA	20			A	69 (purified)	120 (purified)		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
97	105	Am(III)	24200	ml/g	24200.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.1M NaClO4		BS	1	200
98	105	Am(III)	48240	ml/g	48240.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.1M NaClO4		BS	1	200
99	105	Am(III)	183500	ml/g	183500.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.1M NaClO4		BS	1	200
100	105	Am(III)	88500	ml/g	88500.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 0.1M NaClO4		BS	1	200
101	105	Am(III)	69.8	ml/g	69.800	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
102	105	Am(III)	731	ml/g	731.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
97	6.15	AA	20			A	69 (purified)	120 (purified)		
98	7.44	AA	20			A	69 (purified)	120 (purified)		
99	7.83	AA	20			A	69 (purified)	120 (purified)		
100	9.85	AA	20			A	69 (purified)	120 (purified)		
101	3.65	AA	20			A	69 (purified)	120 (purified)		
102	4.96	AA	20			A	69 (purified)	120 (purified)		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
103	105	Am(III)	5890	ml/g	5890.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
104	105	Am(III)	32400	ml/g	32400.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
105	105	Am(III)	35790	ml/g	35790.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
106	105	Am(III)	27770	ml/g	27770.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
107	105	Am(III)	10.5	ml/g	10.500	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 3M NaClO4		BS	1	200
108	105	Am(III)	48.7	ml/g	48.700	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 3M NaClO4		BS	1	200

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
103	5.94	AA	20			A	69 (purified)	120 (purified)		
104	6.67	AA	20			A	69 (purified)	120 (purified)		
105	7.16	AA	20			A	69 (purified)	120 (purified)		
106	9.11	AA	20			A	69 (purified)	120 (purified)		
107	1.79	AA	20			A	69 (purified)	120 (purified)		
108	3.17	AA	20			A	69 (purified)	120 (purified)		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
109	105	Am(III)	676	ml/g	676.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 3M NaClO4		BS	1	200
110	105	Am(III)	20440	ml/g	20440.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 3M NaClO4		BS	1	200
111	105	Am(III)	22390	ml/g	22390.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 3M NaClO4		BS	1	200
112	105	Am(III)	16860	ml/g	16860.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 3M NaClO4		BS	1	200
113	105	Am(III)	11.5	ml/g	11.500	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
114	105	Am(III)	46.4	ml/g	46.400	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
109	4.53	AA	20			A	69 (purified)	120 (purified)		
110	6.18	AA	20			A	69 (purified)	120 (purified)		
111	6.92	AA	20			A	69 (purified)	120 (purified)		
112	8.06	AA	20			A	69 (purified)	120 (purified)		
113	1.76	AA	20			A	69 (purified)	120 (purified)		
114	3.15	AA	20			A	69 (purified)	120 (purified)		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
115	105	Am(III)	717	ml/g	717.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
116	105	Am(III)	21920	ml/g	21920.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
117	105	Am(III)	21980	ml/g	21980.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
118	105	Am(III)	18110	ml/g	18110.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
119	105	Am(III)	26.4	ml/g	26.400	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
120	105	Am(III)	146	ml/g	146.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
115	4.52	AA	20			A	69 (purified)	120 (purified)		
116	6.15	AA	20			A	69 (purified)	120 (purified)		
117	6.90	AA	20			A	69 (purified)	120 (purified)		
118	8.06	AA	20			A	69 (purified)	120 (purified)		
119	1.83	AA	20			D	69 (purified)	120 (purified)		
120	3.13	AA	20			D	69 (purified)	120 (purified)		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
121	105	Am(III)	1040	ml/g	1040.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
122	105	Am(III)	45270	ml/g	45270.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
123	105	Am(III)	80200	ml/g	80200.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
124	105	Am(III)	41610	ml/g	41610.000	93% mixed-layer kaolinite-smectite with 7% pure kaolinite. Net smectite 43.7%, pretreated to remove minor goethite, calcite, & gypsum. The clay was ground and the <50 um fraction used.	pH-adjusted matrix of 1M NaClO4		BS	1	200
125	136	Am(III)	4100	ml/g	4100.000	commercial bentonite	Brine B, 5.0M Na		BS	21	40
126	136	Am(III)	14000	ml/g	14000.000	commercial bentonite	Brine B, 5.0M Na		BS	21	40
127	172	Am(III)	21.5	ml/g	21.500	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
128	172	Am(III)	29.5	ml/g	29.500	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
129	172	Am(III)	171965	ml/g	171965.000	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
130	172	Am(III)	385230	ml/g	385230.000	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
131	172	Am(III)	556310	ml/g	556310.000	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
132	61	As(III)	1.58	ml/g	1.576	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
121	4.61	AA	20			D	69 (purified)	120 (purified)		
122	6.26	AA	20			D	69 (purified)	120 (purified)		
123	6.68	AA	20			D	69 (purified)	120 (purified)		
124	8.20	AA	20			D	69 (purified)	120 (purified)		
125	7.3	AA	22 to 24	5.00E-07	5.00E-09	A	75			85 to 90% montmorillonite
126	7.3	AA	22 to 24	5.00E-07	2.00E-09	A	75			85 to 90% montmorillonite
127	2.7	AA	20	3.60E-06	<3.6e-6	A				The Fe and Mn oxides may be responsible for much of the sorption?
128	2.7	AA	20	3.60E-06	3.55E-06	A				The Fe and Mn oxides may be responsible for much of the sorption?
129	6.9	AA	20	6.70E-09	1.97E-10	A				The Fe and Mn oxides may be responsible for much of the sorption?
130	6.9	AA	20	6.70E-09	9.99E-11	A				The Fe and Mn oxides may be responsible for much of the sorption?
131	6.9	AA	20	6.70E-09	9.86E-11	A				The Fe and Mn oxides may be responsible for much of the sorption?
132	3.21	AA	25	2.40E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
133	61	As(III)	1.81	ml/g	1.810	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
134	61	As(III)	2.87	ml/g	2.873	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
135	61	As(III)	2.97	ml/g	2.974	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
136	61	As(III)	3.06	ml/g	3.063	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
137	61	As(III)	3.21	ml/g	3.212	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
138	61	As(III)	3.55	ml/g	3.550	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
139	61	As(III)	6.10	ml/g	6.100	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
140	61	As(III)	7.32	ml/g	7.324	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
141	61	As(III)	7.37	ml/g	7.374	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
142	61	As(III)	7.47	ml/g	7.470	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
143	61	As(III)	9.37	ml/g	9.372	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
144	61	As(III)	9.70	ml/g	9.702	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
145	61	As(III)	10.09	ml/g	10.086	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
146	61	As(III)	12.76	ml/g	12.756	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
147	61	As(III)	13.60	ml/g	13.598	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
148	61	As(III)	20.79	ml/g	20.793	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
149	61	As(III)	20.82	ml/g	20.822	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
150	61	As(III)	21.04	ml/g	21.043	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
151	61	As(III)	83.24	ml/g	83.241	Ca sat. montmorillonite (southern bentonite)	NaAsO2 in DI		BS	>1	13.1
152	61	As(V)	3.51	ml/g	3.505	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
153	61	As(V)	3.96	ml/g	3.963	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
133	3.13	AA	25	4.40E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
134	4.94	AA	25	4.40E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
135	3.47	AA	25	1.07E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
136	3.42	AA	25	8.90E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
137	5.06	AA	25	8.90E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
138	4.86	AA	25	2.40E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
139	7.65	AA	25	8.90E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
140	5.05	AA	25	1.07E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
141	7.67	AA	25	4.40E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
142	8.86	AA	25	8.90E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
143	8.91	AA	25	4.40E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
144	6.56	AA	25	8.90E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
145	8.95	AA	25	2.40E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
146	7.71	AA	25	2.40E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
147	6.95	AA	25	4.40E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
148	7.68	AA	25	1.07E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
149	8.78	AA	25	1.07E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
150	6.84	AA	25	2.40E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
151	6.89	AA	25	1.07E-04		A				Rd calculated by Grant Env. From data of P61 Figure 4
152	8.93	AA	25	1.71E-03		A				Rd calculated by Grant Env. From data of P61 Figure 1
153	7.62	AA	25	1.71E-03		A				Rd calculated by Grant Env. From data of P61 Figure 1

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
154	61	As(V)	4.45	ml/g	4.453	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
155	61	As(V)	4.72	ml/g	4.725	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
156	61	As(V)	5.05	ml/g	5.045	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
157	61	As(V)	5.23	ml/g	5.234	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
158	61	As(V)	5.33	ml/g	5.326	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
159	61	As(V)	5.42	ml/g	5.419	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
160	61	As(V)	5.45	ml/g	5.450	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
161	61	As(V)	5.91	ml/g	5.908	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
162	61	As(V)	6.77	ml/g	6.767	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
163	61	As(V)	6.91	ml/g	6.911	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
164	61	As(V)	6.95	ml/g	6.955	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
165	61	As(V)	7.56	ml/g	7.560	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
166	61	As(V)	9.17	ml/g	9.174	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
167	61	As(V)	9.92	ml/g	9.921	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
168	61	As(V)	9.95	ml/g	9.955	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
169	61	As(V)	11.25	ml/g	11.249	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
170	61	As(V)	11.28	ml/g	11.282	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
171	61	As(V)	11.53	ml/g	11.528	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
172	61	As(V)	11.89	ml/g	11.895	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
173	61	As(V)	12.67	ml/g	12.675	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
174	61	As(V)	14.09	ml/g	14.093	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
154	6.61	AA	25	1.71E-03		A				Rd calculated by Grant Env. From data of P61 Figure 1
155	8.52	AA	25	7.87E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
156	9.22	AA	25	7.87E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
157	7.89	AA	25	5.27E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
158	8.86	AA	25	7.87E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
159	7.79	AA	25	1.39E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
160	4.68	AA	25	1.71E-03		A				Rd calculated by Grant Env. From data of P61 Figure 1
161	9.08	AA	25	2.84E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
162	7.66	AA	25	7.87E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
163	1.49	AA	25	2.84E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
164	1.16	AA	25	7.87E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
165	6.90	AA	25	7.87E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
166	6.75	AA	25	5.27E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
167	7.53	AA	25	2.84E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
168	2.24	AA	25	7.87E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
169	4.15	AA	25	7.87E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
170	3.26	AA	25	7.87E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
171	4.96	AA	25	7.87E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
172	3.68	AA	25	5.27E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
173	5.64	AA	25	5.27E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
174	7.19	AA	25	1.39E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
175	61	As(V)	15.94	ml/g	15.936	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
176	61	As(V)	16.32	ml/g	16.322	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
177	61	As(V)	17.56	ml/g	17.556	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
178	61	As(V)	18.59	ml/g	18.594	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
179	61	As(V)	20.47	ml/g	20.469	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
180	61	As(V)	21.61	ml/g	21.611	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
181	61	As(V)	28.24	ml/g	28.236	Ca sat. montmorillonite (southern bentonite)	Na2HAsO4 in DI		BS	>1	52.5
182	46	Cs(I)	140	ml/g	140.000	montmorillonite Swy-1	0.46 mg/l fulvic acid, synthetic groundwater B, pH7.8		BS	28	40
183	46	Cs(I)	150	ml/g	150.000	montmorillonite Swy-1	1.47 mg/l fulvic acid, synthetic groundwater C, pH7.8		BS	28	40
184	46	Cs(I)	160	ml/g	160.000	montmorillonite Swy-1	No fulvic acid, synthetic groundwater A, pH7.7		BS	28	40
185	46	Cs(I)	160	ml/g	160.000	montmorillonite Swy-1	4.84 mg/l fulvic acid, synthetic groundwater D, pH7.6		BS	28	40
186	49	Cs(I)	0.02	m3/kg	20.000	bentonite					
187	49	Cs(I)	0.12	m3/kg	120.000	bentonite					
188	49	Cs(I)	0.15	m3/kg	150.000	bentonite					
189	49	Cs(I)	0.2	m3/kg	200.000	bentonite					
190	49	Cs(I)	1	m3/kg	1000.000	bentonite					
191	49	Cs(I)	0.35	m3/kg	350.000	bentonite and sand mix					
192	51	Cs(I)	450	m3/Mg	450.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	1.5 dry	H	600	49.5
193	51	Cs(I)	450	m3/Mg	450.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	1.5 dry	H	600	49.5
194	51	Cs(I)	450	m3/Mg	450.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	1.5 dry	H	600	49.5
195	51	Cs(I)	490	m3/Mg	490.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	1.25 dry	H	600	59.5
196	51	Cs(I)	490	m3/Mg	490.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	1.25 dry	H	600	59.5

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
175	2.99	AA	25	1.39E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
176	2.57	AA	25	2.84E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
177	6.66	AA	25	2.84E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
178	3.23	AA	25	2.84E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
179	5.38	AA	25	2.84E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
180	4.61	AA	25	2.84E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
181	5.72	AA	25	1.39E-04		A				Rd calculated by Grant Env. From data of P61 Figure 1
182	7.8?	AA	20	2.8E-9M		A		31.82		
183	7.8?	AA	20	2.9E-9M		A		31.82		
184	7.7?	AA	20	2.9E-9M		A		31.82		
185	7.6?	AA	20	2.9E-9M		A		31.82		
186										Shaw et al. (1989) SKI database value from p49
187										KBS(1983) database value from p49
188										PAGIS (1988) database value from p49
189										McKinley and Hadermann (1985) NAGRA database value from p49
190										Peltonen et al. (1985) TVO database value from p49
191										Wuschke et al. (1985) AECL database value from p49
192		AA	22			A				
193		AA	22			A				
194		AA	22			A				
195		AA	22			A				
196		AA	22			A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
197	51	Cs(I)	490	m3/Mg	490.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	1.25 dry	H	600	59.5
198	51	Cs(I)	520	m3/Mg	520.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	0.9 dry	H	600	82.2
199	51	Cs(I)	520	m3/Mg	520.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	0.9 dry	H	600	82.2
200	51	Cs(I)	520	m3/Mg	520.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	0.9 dry	H	600	82.2
201	51	Cs(I)	790	m3/Mg	790.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	0.7 dry	H	350	274
202	51	Cs(I)	810	m3/Mg	810.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	0.7 dry	H	350	274
203	51	Cs(I)	920	m3/Mg	920.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	0.5 dry	H	350	385
204	51	Cs(I)	1040	m3/Mg	1040.000	Hydraulically compacted Avonlea bentonite	synthetic granitic ground water, pH7.2	0.5 dry	H	350	385
205	51	Cs(I)	1190	m3/Mg	1190.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	53.7
206	51	Cs(I)	1200	m3/Mg	1200.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	53.7
207	51	Cs(I)	1220	m3/Mg	1220.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	53.7
208	51	Cs(I)	1260	m3/Mg	1260.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	60
209	51	Cs(I)	1280	m3/Mg	1280.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	60
210	51	Cs(I)	1320	m3/Mg	1320.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	60
211	51	Cs(I)	1380	m3/Mg	1380.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	89.1
212	51	Cs(I)	1380	m3/Mg	1380.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	89.1
213	51	Cs(I)	1410	m3/Mg	1410.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	89.1
214	51	Cs(I)	1690	m3/Mg	1690.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	289
215	51	Cs(I)	1710	m3/Mg	1710.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	289
216	51	Cs(I)	1800	m3/Mg	1800.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	405
217	51	Cs(I)	1880	m3/Mg	1880.000	Loose, uncompacted Avonlea bentonite	synthetic granitic ground water, pH7.2		BS	<100	405

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
197		AA	22			A				
198		AA	22			A				
199		AA	22			A				
200		AA	22			A				
201		AA	22			A				
202		AA	22			A				
203		AA	22			A				
204		AA	22			A				
205		AA	22			A				
206		AA	22			A				
207		AA	22			A				
208		AA	22			A				
209		AA	22			A				
210		AA	22			A				
211		AA	22			A				
212		AA	22			A				
213		AA	22			A				
214		AA	22			A				
215		AA	22			A				
216		AA	22			A				
217		AA	22			A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
218	57	Cs(I)	151	ml/g	151.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
219	57	Cs(I)	167	ml/g	167.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
220	57	Cs(I)	212	ml/g	212.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
221	57	Cs(I)	224	ml/g	224.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
222	57	Cs(I)	942	ml/g	942.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
223	57	Cs(I)	1080	ml/g	1080.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
224	57	Cs(I)	1175	ml/g	1175.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
225	57	Cs(I)	2136	ml/g	2136.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
226	57	Cs(I)	5882	ml/g	5882.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
227	57	Cs(I)	8182	ml/g	8182.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
228	57	Cs(I)	8333	ml/g	8333.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
229	57	Cs(I)	8547	ml/g	8547.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
230	57	Cs(I)	9346	ml/g	9346.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
231	57	Cs(I)	9794	ml/g	9794.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
218	8.1	AA, D.O. 5.3mg/l	60	1E-3M		A	71.66	646		
219	8.7	AA, D.O. 5.3mg/l	60	1E-3M		A	71.66	646		
220	8.3	AA, D.O. 8.25mg/l	23	1E-3M		A	71.66	646		
221	9.2	AA, D.O. 8.25mg/l	23	1E-3M		A	71.66	646		
222	8.7	AA, D.O. 5.3mg/l	60	1E-5M		A	71.66	646		
223	8.3	AA, D.O. 8.25mg/l	23	1E-5M		A	71.66	646		
224	8.1	AA, D.O. 5.3mg/l	60	1E-5M		A	71.66	646		
225	9.2	AA, D.O. 8.25mg/l	23	1E-5M		A	71.66	646		
226	9.2	AA, D.O. 8.25mg/l	23	1E-7M		A	71.66	646		
227	8.1	AA, D.O. 5.3mg/l	60	1E-10M		A	71.66	646		
228	9.2	AA, D.O. 8.25mg/l	23	1E-10M		A	71.66	646		
229	9.2	AA, D.O. 8.25mg/l	23	1E-9M		A	71.66	646		
230	8.1	AA, D.O. 5.3mg/l	60	1E-7M		A	71.66	646		
231	8.3	AA, D.O. 8.25mg/l	23	1E-9M		A	71.66	646		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
232	57	Cs(I)	11223	ml/g	11223.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
233	57	Cs(I)	11225	ml/g	11225.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
234	57	Cs(I)	11657	ml/g	11657.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
235	57	Cs(I)	13042	ml/g	13042.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
236	57	Cs(I)	14197	ml/g	14197.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
237	57	Cs(I)	25000	ml/g	25000.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
238	62	Cs(I)	9.0	ml/g	8.965	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.1N CaCl2		BS	0.5	100
239	62	Cs(I)	9.0	ml/g	9.013	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.02N CaCl2		BS	0.5	100
240	62	Cs(I)	9.1	ml/g	9.059	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.01N CaCl2		BS	0.5	100
241	62	Cs(I)	9.1	ml/g	9.098	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.2N CaCl2		BS	0.5	100
242	62	Cs(I)	9.1	ml/g	9.102	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.002N CaCl2		BS	0.5	100
243	62	Cs(I)	49.4	ml/g	49.440	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.2N CaCl2		BS	0.5	100
244	62	Cs(I)	58.7	ml/g	58.735	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.1N CaCl2		BS	0.5	100
245	62	Cs(I)	59.7	ml/g	59.734	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.2N CaCl2		BS	0.5	100
246	62	Cs(I)	65.9	ml/g	65.895	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.1N CaCl2		BS	0.5	100
247	62	Cs(I)	83.3	ml/g	83.330	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.2N CaCl2		BS	0.5	100
248	62	Cs(I)	118.5	ml/g	118.481	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.02N CaCl2		BS	0.5	100
249	62	Cs(I)	125.8	ml/g	125.842	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.1N CaCl2		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
232	8.1	AA, D.O. 5.3mg/l	60	1E-9M		A	71.66	646		
233	8.7	AA, D.O. 5.3mg/l	60	1E-9M		A	71.66	646		
234	8.7	AA, D.O. 5.3mg/l	60	1E-7M		A	71.66	646		
235	8.3	AA, D.O. 8.25mg/l	23	1E-7M		A	71.66	646		
236	8.7	AA, D.O. 5.3mg/l	60	1E-10M		A	71:66	646		
237	8.3	AA, D.O. 8.25mg/l	23	1E-10M		A	71.66	646		
238		AA	20		1.00E-01	A	116			
239		AA	20		1.00E-01	A	116			
240		AA	20		1.00E-01	A	116			
241		AA	20		1.00E-01	A	116			
242		AA	20		1.00E-01	A	116			
243		AA	20		6.46E-03	A	116			
244		AA	20		6.12E-03	A	116			
245		AA	20		6.31E-04	A	116			
246		AA	20		5.45E-04	A	116			
247		AA	20		5.24E-05	A	116			
248		AA	20		4.21E-03	A	116			
249		AA	20		4.12E-05	A	116			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
250	62	Cs(I)	138.6	ml/g	138.643	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.01N CaCl2		BS	0.5	100
251	62	Cs(I)	160.0	ml/g	160.040	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.002N CaCl2		BS	0.5	100
252	62	Cs(I)	191.5	ml/g	191.518	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.02N CaCl2		BS	0.5	100
253	62	Cs(I)	210.9	ml/g	210.877	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.2N CaCl2		BS	0.5	100
254	62	Cs(I)	240.1	ml/g	240.142	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.02N CaCl2		BS	0.5	100
255	62	Cs(I)	282.2	ml/g	282.245	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.1N CaCl2		BS	0.5	100
256	62	Cs(I)	309.0	ml/g	308.991	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.01N CaCl2		BS	0.5	100
257	62	Cs(I)	393.8	ml/g	393.847	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.002N CaCl2		BS	0.5	100
258	62	Cs(I)	476.0	ml/g	475.987	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.2N CaCl2		BS	0.5	100
259	62	Cs(I)	502.1	ml/g	502.115	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.02N CaCl2		BS	0.5	100
260	62	Cs(I)	535.0	ml/g	534.975	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.1N CaCl2		BS	0.5	100
261	62	Cs(I)	576.7	ml/g	576.692	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.01N CaCl2		BS	0.5	100
262	62	Cs(I)	663.9	ml/g	663.866	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.002N CaCl2		BS	0.5	100
263	62	Cs(I)	787.9	ml/g	787.899	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.2N CaCl2		BS	0.5	100
264	62	Cs(I)	888.5	ml/g	888.473	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.1N CaCl2		BS	0.5	100
265	62	Cs(I)	1018.4	ml/g	1018.355	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.02N CaCl2		BS	0.5	100
266	62	Cs(I)	1212.9	ml/g	1212.910	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.01N CaCl2		BS	0.5	100
267	62	Cs(I)	1348.0	ml/g	1347.967	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.002N CaCl2		BS	0.5	100
268	62	Cs(I)	1555.3	ml/g	1555.332	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.02N CaCl2		BS	0.5	100
269	62	Cs(I)	1836.6	ml/g	1836.621	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.01N CaCl2		BS	0.5	100
270	62	Cs(I)	2324.5	ml/g	2324.540	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.002N CaCl2		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
250		AA	20		3.98E-03	A	116			
251		AA	20		3.44E-03	A	116			
252		AA	20		3.26E-04	A	116			
253		AA	20		3.05E-06	A	116			
254		AA	20		2.09E-05	A	116			
255		AA	20		2.36E-06	A	116			
256		AA	20		2.08E-05	A	116			
257		AA	20		1.74E-04	A	116			
258		AA	20		1.61E-07	A	116			
259		AA	20		1.59E-06	A	116			
260		AA	20		1.52E-07	A	116			
261		AA	20		1.37E-06	A	116			
262		AA	20		1.22E-05	A	116			
263		AA	20		1.00E-10	A	116			
264		AA	20		1.00E-10	A	116			
265		AA	20		9.00E-08	A	116			
266		AA	20		7.30E-08	A	116			
267		AA	20		6.45E-07	A	116			
268		AA	20		1.00E-10	A	116			
269		AA	20		1.00E-10	A	116			
270		AA	20		3.90E-08	A	116			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
271	62	Cs(I)	3041.7	ml/g	3041.731	Ca sat. montmorillonite #11 (Santa Rita, NM)	0.002N CaCl2		BS	0.5	100
272	62	Cs(I)	10.1	ml/g	10.126	Ca sat. montmorillonite #21 (Burns, Miss.)	0.002N CaCl2		BS	0.5	100
273	62	Cs(I)	10.1	ml/g	10.131	Ca sat. montmorillonite #21 (Burns, Miss.)	0.02N CaCl2		BS	0.5	100
274	62	Cs(I)	10.2	ml/g	10.182	Ca sat. montmorillonite #21 (Burns, Miss.)	0.2N CaCl2		BS	0.5	100
275	62	Cs(I)	10.2	ml/g	10.234	Ca sat. montmorillonite #21 (Burns, Miss.)	0.1N CaCl2		BS	0.5	100
276	62	Cs(I)	10.3	ml/g	10.330	Ca sat. montmorillonite #21 (Burns, Miss.)	0.01N CaCl2		BS	0.5	100
277	62	Cs(I)	39.2	ml/g	39.174	Ca sat. montmorillonite #21 (Burns, Miss.)	0.2N CaCl2		BS	0.5	100
278	62	Cs(I)	46.0	ml/g	46.006	Ca sat. montmorillonite #21 (Burns, Miss.)	0.2N CaCl2		BS	0.5	100
279	62	Cs(I)	46.3	ml/g	46.318	Ca sat. montmorillonite #21 (Burns, Miss.)	0.1N CaCl2		BS	0.5	100
280	62	Cs(I)	61.2	ml/g	61.209	Ca sat. montmorillonite #21 (Burns, Miss.)	0.1N CaCl2		BS	0.5	100
281	62	Cs(I)	69.4	ml/g	69.414	Ca sat. montmorillonite #21 (Burns, Miss.)	0.2N CaCl2		BS	0.5	100
282	62	Cs(I)	79.2	ml/g	79.203	Ca sat. montmorillonite #21 (Burns, Miss.)	0.1N CaCl2		BS	0.5	100
283	62	Cs(I)	88.4	ml/g	88.369	Ca sat. montmorillonite #21 (Burns, Miss.)	0.02N CaCl2		BS	0.5	100
284	62	Cs(I)	98.5	ml/g	98.502	Ca sat. montmorillonite #21 (Burns, Miss.)	0.2N CaCl2		BS	0.5	100
285	62	Cs(I)	116.3	ml/g	116.269	Ca sat. montmorillonite #21 (Burns, Miss.)	0.01N CaCl2		BS	0.5	100
286	62	Cs(I)	118.3	ml/g	118.333	Ca sat. montmorillonite #21 (Burns, Miss.)	0.1N CaCl2		BS	0.5	100
287	62	Cs(I)	122.2	ml/g	122.161	Ca sat. montmorillonite #21 (Burns, Miss.)	0.02N CaCl2		BS	0.5	100
288	62	Cs(I)	127.0	ml/g	126.996	Ca sat. montmorillonite #21 (Burns, Miss.)	0.2N CaCl2		BS	0.5	100
289	62	Cs(I)	140.2	ml/g	140.229	Ca sat. montmorillonite #21 (Burns, Miss.)	0.01N CaCl2		BS	0.5	100
290	62	Cs(I)	157.7	ml/g	157.664	Ca sat. montmorillonite #21 (Burns, Miss.)	0.002N CaCl2		BS	0.5	100
291	62	Cs(I)	167.5	ml/g	167.545	Ca sat. montmorillonite #21 (Burns, Miss.)	0.02N CaCl2		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	*Rd for D=* Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed *Concentratio* n On the Solid in mmol/g Unless Noted	Notes
271		AA	20		1.00E-10	A	116			
272		AA	20		1.00E-01	A	130			
273		AA	20		1.00E-01	A	130			
274		AA	20		1.00E-01	A	130			
275		AA	20		1.00E-01	A	130			
276		AA	20		1.00E-01	A	130			
277		AA	20		5.99E-03	A	130			
278		AA	20		6.03E-04	A	130			
279		AA	20		5.65E-03	A	130			
280		AA	20		5.07E-04	A	130			
281		AA	20		5.01E-05	A	130			
282		AA	20		4.79E-05	A	130			
283		AA	20		4.16E-03	A	130			
284		AA	20		4.35E-06	A	130			
285		AA	20		3.72E-03	A	130			
286		AA	20		3.92E-06	A	130			
287		AA	20		3.82E-04	A	130			
288		AA	20		3.79E-07	A	130			
289		AA	20		3.46E-04	A	130			
290		AA	20		3.34E-03	A	130			
291		AA	20		3.09E-05	A	130			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
292	62	Cs(I)	212.6	ml/g	212.552	Ca sat. montmorillonite #21 (Burns, Miss.)	0.1N CaCl2		BS	0.5	100
293	62	Cs(I)	212.8	ml/g	212.840	Ca sat. montmorillonite #21 (Burns, Miss.)	0.02N CaCl2		BS	0.5	100
294	62	Cs(I)	243.2	ml/g	243.186	Ca sat. montmorillonite #21 (Burns, Miss.)	0.01N CaCl2		BS	0.5	100
295	62	Cs(I)	313.5	ml/g	313.505	Ca sat. montmorillonite #21 (Burns, Miss.)	0.01N CaCl2		BS	0.5	100
296	62	Cs(I)	318.4	ml/g	318.374	Ca sat. montmorillonite #21 (Burns, Miss.)	0.2N CaCl2		BS	0.5	100
297	62	Cs(I)	325.9	ml/g	325.852	Ca sat. montmorillonite #21 (Burns, Miss.)	0.002N CaCl2		BS	0.5	100
298	62	Cs(I)	416.3	ml/g	416.312	Ca sat. montmorillonite #21 (Burns, Miss.)	0.1N CaCl2		BS	0.5	100
299	62	Cs(I)	489.0	ml/g	488.997	Ca sat. montmorillonite #21 (Burns, Miss.)	0.02N CaCl2		BS	0.5	100
300	62	Cs(I)	513.2	ml/g	513.230	Ca sat. montmorillonite #21 (Burns, Miss.)	0.002N CaCl2		BS	0.5	100
301	62	Cs(I)	614.9	ml/g	614.936	Ca sat. montmorillonite #21 (Burns, Miss.)	0.01N CaCl2		BS	0.5	100
302	62	Cs(I)	672.6	ml/g	672.601	Ca sat. montmorillonite #21 (Burns, Miss.)	0.002N CaCl2		BS	0.5	100
303	62	Cs(I)	914.4	ml/g	914.432	Ca sat. montmorillonite #21 (Burns, Miss.)	0.02N CaCl2		BS	0.5	100
304	62	Cs(I)	1037.5	ml/g	1037.509	Ca sat. montmorillonite #21 (Burns, Miss.)	0.01N CaCl2		BS	0.5	100
305	62	Cs(I)	1053.5	ml/g	1053.493	Ca sat. montmorillonite #21 (Burns, Miss.)	0.002N CaCl2		BS	0.5	100
306	62	Cs(I)	2534.6	ml/g	2534.644	Ca sat. montmorillonite #21 (Burns, Miss.)	0.002N CaCl2		BS	0.5	100
307	62	Cs(I)	7.7	ml/g	7.673	K sat. montmorillonite #11 (Santa Rita, NM)	0.2M KCl		BS	0.5	100
308	62	Cs(I)	8.0	ml/g	7.951	K sat. montmorillonite #11 (Santa Rita, NM)	0.1M KCl		BS	0.5	100
309	62	Cs(I)	8.3	ml/g	8.325	K sat. montmorillonite #11 (Santa Rita, NM)	0.02M KCl		BS	0.5	100
310	62	Cs(I)	8.7	ml/g	8.670	K sat. montmorillonite #11 (Santa Rita, NM)	0.002M KCl		BS	0.5	100
311	62	Cs(I)	8.7	ml/g	8.671	K sat. montmorillonite #11 (Santa Rita, NM)	0.01M KCl		BS	0.5	100
312	62	Cs(I)	40	ml/g	40.488	K sat. montmorillonite #11 (Santa Rita, NM)	0.2M KCl		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
292		AA	20		2.76E-07	A	130			
293		AA	20		2.64E-06	A	130			
294		AA	20		2.41E-05	A	130			
295		AA	20		2.11E-06	A	130			
296		AA	20		1.00E-10	A	130			
297		AA	20		1.86E-04	A	130			
298		AA	20		1.00E-10	A	130			
299		AA	20		1.48E-07	A	130			
300		AA	20		1.33E-05	A	130			
301		AA	20		1.30E-07	A	130			
302		AA	20		1.08E-06	A	130			
303		AA	20		1.00E-10	A	130			
304		AA	20		1.00E-10	A	130			
305		AA	20		7.90E-08	A	130			
306		AA	20		1.00E-10	A	130			
307		AA	20		1.00E-01	A	116			
308		AA	20		1.00E-01	A	116			
309		AA	20		1.00E-01	A	116			
310		AA	20		1.00E-01	A	116			
311		AA	20		1.00E-01	A	116			
312		AA	20		7.05E-03	A	116			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
313	62	Cs(I)	60	ml/g	59.940	K sat. montmorillonite #11 (Santa Rita, NM)	0.1M KCl		BS	0.5	100
314	62	Cs(I)	73	ml/g	72.917	K sat. montmorillonite #11 (Santa Rita, NM)	0.2M KCl		BS	0.5	100
315	62	Cs(I)	93	ml/g	93.336	K sat. montmorillonite #11 (Santa Rita, NM)	0.2M KCl		BS	0.5	100
316	62	Cs(I)	139	ml/g	138.982	K sat. montmorillonite #11 (Santa Rita, NM)	0.02M KCl		BS	0.5	100
317	62	Cs(I)	145	ml/g	145.084	K sat. montmorillonite #11 (Santa Rita, NM)	0.1M KCl		BS	0.5	100
318	62	Cs(I)	154	ml/g	154.154	K sat. montmorillonite #11 (Santa Rita, NM)	0.2M KCl		BS	0.5	100
319	62	Cs(I)	159	ml/g	158.670	K sat. montmorillonite #11 (Santa Rita, NM)	0.01M KCl		BS	0.5	100
320	62	Cs(I)	178	ml/g	178.311	K sat. montmorillonite #11 (Santa Rita, NM)	0.1M KCl		BS	0.5	100
321	62	Cs(I)	196	ml/g	195.903	K sat. montmorillonite #11 (Santa Rita, NM)	0.2M KCl		BS	0.5	100
322	62	Cs(I)	202	ml/g	201.628	K sat. montmorillonite #11 (Santa Rita, NM)	0.002M KCl		BS	0.5	100
323	62	Cs(I)	215	ml/g	215.202	K sat. montmorillonite #11 (Santa Rita, NM)	0.2M KCl		BS	0.5	100
324	62	Cs(I)	299	ml/g	299.058	K sat. montmorillonite #11 (Santa Rita, NM)	0.1M KCl		BS	0.5	100
325	62	Cs(I)	397	ml/g	396.748	K sat. montmorillonite #11 (Santa Rita, NM)	0.1M KCl		BS	0.5	100
326	62	Cs(I)	438	ml/g	438.122	K sat. montmorillonite #11 (Santa Rita, NM)	0.1M KCl		BS	0.5	100
327	62	Cs(I)	584	ml/g	583.513	K sat. montmorillonite #11 (Santa Rita, NM)	0.02M KCl		BS	0.5	100
328	62	Cs(I)	802	ml/g	802.255	K sat. montmorillonite #11 (Santa Rita, NM)	0.02M KCl		BS	0.5	100
329	62	Cs(I)	1044	ml/g	1043.536	K sat. montmorillonite #11 (Santa Rita, NM)	0.01M KCl		BS	0.5	100
330	62	Cs(I)	1319	ml/g	1318.520	K sat. montmorillonite #11 (Santa Rita, NM)	0.02M KCl		BS	0.5	100
331	62	Cs(I)	1406	ml/g	1405.873	K sat. montmorillonite #11 (Santa Rita, NM)	0.01M KCl		BS	0.5	100
332	62	Cs(I)	1697	ml/g	1696.769	K sat. montmorillonite #11 (Santa Rita, NM)	0.02M KCl		BS	0.5	100
333	62	Cs(I)	1797	ml/g	1796.516	K sat. montmorillonite #11 (Santa Rita, NM)	0.02M KCl		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
313		AA	20		6.54E-03	A	116			
314		AA	20		5.66E-04	A	116			
315		AA	20		5.10E-05	A	116			
316		AA	20		4.07E-03	A	116			
317		AA	20		4.30E-04	A	116			
318		AA	20		3.99E-06	A	116			
319		AA	20		3.96E-03	A	116			
320		AA	20		3.56E-05	A	116			
321		AA	20		1.00E-10	A	116			
322		AA	20		3.33E-03	A	116			
323		AA	20		3.13E-07	A	116			
324		AA	20		2.56E-06	A	116			
325		AA	20		2.04E-07	A	116			
326		AA	20		1.00E-10	A	116			
327		AA	20		1.50E-04	A	116			
328		AA	20		1.16E-05	A	116			
329		AA	20		8.47E-05	A	116			
330		AA	20		7.44E-07	A	116			
331		AA	20		6.15E-06	A	116			
332		AA	20		5.30E-08	A	116			
333		AA	20		1.00E-10	A	116			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
334	62	Cs(I)	2173	ml/g	2173.185	K sat. montmorillonite #11 (Santa Rita, NM)	0.01M KCl		BS	0.5	100
335	62	Cs(I)	2930	ml/g	2929.689	K sat. montmorillonite #11 (Santa Rita, NM)	0.01M KCl		BS	0.5	100
336	62	Cs(I)	2958	ml/g	2957.680	K sat. montmorillonite #11 (Santa Rita, NM)	0.01M KCl		BS	0.5	100
337	62	Cs(I)	3566	ml/g	3565.975	K sat. montmorillonite #11 (Santa Rita, NM)	0.002M KCl		BS	0.5	100
338	62	Cs(I)	4755	ml/g	4755.219	K sat. montmorillonite #11 (Santa Rita, NM)	0.002M KCl		BS	0.5	100
339	62	Cs(I)	8438	ml/g	8438.148	K sat. montmorillonite #11 (Santa Rita, NM)	0.002M KCl		BS	0.5	100
340	62	Cs(I)	10801	ml/g	10800.753	K sat. montmorillonite #11 (Santa Rita, NM)	0.002M KCl		BS	0.5	100
341	62	Cs(I)	21362	ml/g	21361.942	K sat. montmorillonite #11 (Santa Rita, NM)	0.002M KCl		BS	0.5	100
342	62	Cs(I)	6.6	ml/g	6.571	K sat. montmorillonite #21 (Burns, Miss.)	0.2M KCl		BS	0.5	100
343	62	Cs(I)	7.3	ml/g	7.345	K sat. montmorillonite #21 (Burns, Miss.)	0.1M KCl		BS	0.5	100
344	62	Cs(I)	7.4	ml/g	7.382	K sat. montmorillonite #21 (Burns, Miss.)	0.02M KCl		BS	0.5	100
345	62	Cs(I)	7.7	ml/g	7.650	K sat. montmorillonite #21 (Burns, Miss.)	0.01M KCl		BS	0.5	100
346	62	Cs(I)	8.2	ml/g	8.171	K sat. montmorillonite #21 (Burns, Miss.)	0.002M KCl		BS	0.5	100
347	62	Cs(I)	26	ml/g	26.026	K sat. montmorillonite #21 (Burns, Miss.)	0.2M KCl		BS	0.5	100
348	62	Cs(I)	59	ml/g	58.960	K sat. montmorillonite #21 (Burns, Miss.)	0.1M KCl		BS	0.5	100
349	62	Cs(I)	67	ml/g	66.993	K sat. montmorillonite #21 (Burns, Miss.)	0.2M KCl		BS	0.5	100
350	62	Cs(I)	88	ml/g	87.743	K sat. montmorillonite #21 (Burns, Miss.)	0.2M KCl		BS	0.5	100
351	62	Cs(I)	120	ml/g	119.560	K sat. montmorillonite #21 (Burns, Miss.)	0.02M KCl		BS	0.5	100
352	62	Cs(I)	125	ml/g	125.201	K sat. montmorillonite #21 (Burns, Miss.)	0.1M KCl		BS	0.5	100
353	62	Cs(I)	146	ml/g	145.993	K sat. montmorillonite #21 (Burns, Miss.)	0.2M KCl		BS	0.5	100
354	62	Cs(I)	162	ml/g	162.201	K sat. montmorillonite #21 (Burns, Miss.)	0.01M KCl		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
334		AA	20		4.71E-07	A	116			
335		AA	20		1.00E-10	A	116			
336		AA	20		3.50E-08	A	116			
337		AA	20		2.72E-05	A	116			
338		AA	20		2.08E-06	A	116			
339		AA	20		1.02E-07	A	116			
340		AA	20		9.00E-09	A	116			
341		AA	20		1.00E-10	A	116			
342		AA	20		1.00E-01	A	130			
343		AA	20		1.00E-01	A	130			
344		AA	20		1.00E-01	A	130			
345		AA	20		1.00E-01	A	130			
346		AA	20		1.00E-01	A	130			
347		AA	20		8.05E-03	A	130			
348		AA	20		6.71E-03	A	130			
349		AA	20		6.26E-04	A	130			
350		AA	20		5.82E-05	A	130			
351		AA	20		4.68E-03	A	130			
352		AA	20		4.80E-04	A	130			
353		AA	20		4.51E-06	A	130			
354		AA	20		4.13E-03	A	130			

Compilation of Sorption Values

Data Row	Data Source Citation #	*Sorbate* (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
355	62	Cs(I)	165	ml/g	164.815	K sat. montmorillonite #21 (Burns, Miss.)	0.1M KCl		BS	0.5	100
356	62	Cs(I)	190	ml/g	189.868	K sat. montmorillonite #21 (Burns, Miss.)	0.2M KCl		BS	0.5	100
357	62	Cs(I)	191	ml/g	190.930	K sat. montmorillonite #21 (Burns, Miss.)	0.002M KCl		BS	0.5	100
358	62	Cs(I)	206	ml/g	205.513	K sat. montmorillonite #21 (Burns, Miss.)	0.2M KCl		BS	0.5	100
359	62	Cs(I)	283	ml/g	282.928	K sat. montmorillonite #21 (Burns, Miss.)	0.1M KCl		BS	0.5	100
360	62	Cs(I)	411	ml/g	410.555	K sat. montmorillonite #21 (Burns, Miss.)	0.1M KCl		BS	0.5	100
361	62	Cs(I)	423	ml/g	423.315	K sat. montmorillonite #21 (Burns, Miss.)	0.1M KCl		BS	0.5	100
362	62	Cs(I)	542	ml/g	542.477	K sat. montmorillonite #21 (Burns, Miss.)	0.02M KCl		BS	0.5	100
363	62	Cs(I)	752	ml/g	751.782	K sat. montmorillonite #21 (Burns, Miss.)	0.02M KCl		BS	0.5	100
364	62	Cs(I)	1113	ml/g	1112.634	K sat. montmorillonite #21 (Burns, Miss.)	0.01M KCl		BS	0.5	100
365	62	Cs(I)	1172	ml/g	1171.935	K sat. montmorillonite #21 (Burns, Miss.)	0.02M KCl		BS	0.5	100
366	62	Cs(I)	1639	ml/g	1639.301	K sat. montmorillonite #21 (Burns, Miss.)	0.01M KCl		BS	0.5	100
367	62	Cs(I)	1865	ml/g	1864.931	K sat. montmorillonite #21 (Burns, Miss.)	0.02M KCl		BS	0.5	100
368	62	Cs(I)	1910	ml/g	1910.371	K sat. montmorillonite #21 (Burns, Miss.)	0.02M KCl		BS	0.5	100
369	62	Cs(I)	2417	ml/g	2416.919	K sat. montmorillonite #21 (Burns, Miss.)	0.01M KCl		BS	0.5	100
370	62	Cs(I)	3022	ml/g	3021.516	K sat. montmorillonite #21 (Burns, Miss.)	0.002M KCl		BS	0.5	100
371	62	Cs(I)	3867	ml/g	3867.422	K sat. montmorillonite #21 (Burns, Miss.)	0.01M KCl		BS	0.5	100
372	62	Cs(I)	3998	ml/g	3998.357	K sat. montmorillonite #21 (Burns, Miss.)	0.01M KCl		BS	0.5	100
373	62	Cs(I)	6047	ml/g	6046.759	K sat. montmorillonite #21 (Burns, Miss.)	0.002M KCl		BS	0.5	100
374	62	Cs(I)	11738	ml/g	11738.415	K sat. montmorillonite #21 (Burns, Miss.)	0.002M KCl		BS	0.5	100
375	62	Cs(I)	11869	ml/g	11868.785	K sat. montmorillonite #21 (Burns, Miss.)	0.002M KCl		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
355		AA	20		4.46E-05	A	130			
356		AA	20		1.00E-10	A	130			
357		AA	20		3.55E-03	A	130			
358		AA	20		3.32E-07	A	130			
359		AA	20		2.93E-06	A	130			
360		AA	20		2.19E-07	A	130			
361		AA	20		1.00E-10	A	130			
362		AA	20		1.67E-04	A	130			
363		AA	20		1.35E-05	A	130			
364		AA	20		8.95E-05	A	130			
365		AA	20		8.84E-07	A	130			
366		AA	20		6.70E-06	A	130			
367		AA	20		5.40E-08	A	130			
368		AA	20		1.00E-10	A	130			
369		AA	20		4.32E-07	A	130			
370		AA	20		3.39E-05	A	130			
371		AA	20		1.00E-10	A	130			
372		AA	20		3.90E-08	A	130			
373		AA	20		1.73E-06	A	130			
374		AA	20		8.80E-08	A	130			
375		AA	20		1.00E-10	A	130			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
376	62	Cs(I)	15314	ml/g	15313.761	K sat. montmorillonite #21 (Burns, Miss.)	0.002M KCl		BS	0.5	100
377	62	Cs(I)	8.4	ml/g	8.382	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.002N MgCl2		BS	0.5	100
378	62	Cs(I)	8.4	ml/g	8.383	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.2N MgCl2		BS	0.5	100
379	62	Cs(I)	8.4	ml/g	8.428	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.01N MgCl2		BS	0.5	100
380	62	Cs(I)	8.5	ml/g	8.513	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.02N MgCl2		BS	0.5	100
381	62	Cs(I)	8.8	ml/g	8.774	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.1N MgCl2		BS	0.5	100
382	62	Cs(I)	44.0	ml/g	44.041	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.2N MgCl2		BS	0.5	100
383	62	Cs(I)	57.1	ml/g	57.054	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.1N MgCl2		BS	0.5	100
384	62	Cs(I)	58.1	ml/g	58.057	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.2N MgCl2		BS	0.5	100
385	62	Cs(I)	76.1	ml/g	76.071	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.1N MgCl2		BS	0.5	100
386	62	Cs(I)	81.9	ml/g	81.923	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.02N MgCl2		BS	0.5	100
387	62	Cs(I)	102.3	ml/g	102.344	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.2N MgCl2		BS	0.5	100
388	62	Cs(I)	106.4	ml/g	106.406	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.02N MgCl2		BS	0.5	100
389	62	Cs(I)	111.8	ml/g	111.757	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.01N MgCl2		BS	0.5	100
390	62	Cs(I)	126.3	ml/g	126.259	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.1N MgCl2		BS	0.5	100
391	62	Cs(I)	135.7	ml/g	135.715	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.002N MgCl2		BS	0.5	100
392	62	Cs(I)	156.4	ml/g	156.421	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.02N MgCl2		BS	0.5	100
393	62	Cs(I)	217.5	ml/g	217.486	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.01N MgCl2		BS	0.5	100
394	62	Cs(I)	246.8	ml/g	246.834	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.2N MgCl2		BS	0.5	100
395	62	Cs(I)	257.9	ml/g	257.922	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.01N MgCl2		BS	0.5	100
396	62	Cs(I)	344.0	ml/g	343.979	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.1N MgCl2		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
376		AA	20		6.00E-09	A	130			
377		AA	20		1.00E-01	A	116			
378		AA	20		1.00E-01	A	116			
379		AA	20		1.00E-01	A	116			
380		AA	20		1.00E-01	A	116			
381		AA	20		1.00E-01	A	116			
382		AA	20		5.96E-03	A	116			
383		AA	20		5.78E-03	A	116			
384		AA	20		5.79E-04	A	116			
385		AA	20		4.94E-04	A	116			
386		AA	20		4.78E-03	A	116			
387		AA	20		4.75E-05	A	116			
388		AA	20		4.46E-04	A	116			
389		AA	20		4.19E-03	A	116			
390		AA	20		3.82E-05	A	116			
391		AA	20		3.56E-03	A	116			
392		AA	20		3.34E-05	A	116			
393		AA	20		2.64E-04	A	116			
394		AA	20		2.53E-06	A	116			
395		AA	20		2.39E-05	A	116			
396		AA	20		1.99E-06	A	116			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
397	62	Cs(I)	433.4	ml/g	433.419	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.002N MgCl2		BS	0.5	100
398	62	Cs(I)	619.0	ml/g	618.974	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.02N MgCl2		BS	0.5	100
399	62	Cs(I)	656.8	ml/g	656.821	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.002N MgCl2		BS	0.5	100
400	62	Cs(I)	665.5	ml/g	665.491	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.01N MgCl2		BS	0.5	100
401	62	Cs(I)	723.1	ml/g	723.085	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.2N MgCl2		BS	0.5	100
402	62	Cs(I)	1034.1	ml/g	1034.088	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.2N MgCl2		BS	0.5	100
403	62	Cs(I)	1279.9	ml/g	1279.863	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.002N MgCl2		BS	0.5	100
404	62	Cs(I)	1349.8	ml/g	1349.831	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.1N MgCl2		BS	0.5	100
405	62	Cs(I)	1429.9	ml/g	1429.884	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.1N MgCl2		BS	0.5	100
406	62	Cs(I)	1465.0	ml/g	1464.976	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.02N MgCl2		BS	0.5	100
407	62	Cs(I)	2008.5	ml/g	2008.464	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.02N MgCl2		BS	0.5	100
408	62	Cs(I)	2105.5	ml/g	2105.529	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.002N MgCl2		BS	0.5	100
409	62	Cs(I)	5158.3	ml/g	5158.288	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.01N MgCl2		BS	0.5	100
410	62	Cs(I)	5975.0	ml/g	5974.976	Mg sat. montmorillonite #11 (Santa Rita, NM)	0.002N MgCl2		BS	0.5	100
411	62	Cs(I)	10.6	ml/g	10.589	Mg sat. montmorillonite #21 (Burns, Miss.)	0.2N MgCl2		BS	0.5	100
412	62	Cs(I)	10.6	ml/g	10.593	Mg sat. montmorillonite #21 (Burns, Miss.)	0.1N MgCl2		BS	0.5	100
413	62	Cs(I)	10.6	ml/g	10.645	Mg sat. montmorillonite #21 (Burns, Miss.)	0.02N MgCl2		BS	0.5	100
414	62	Cs(I)	10.8	ml/g	10.811	Mg sat. montmorillonite #21 (Burns, Miss.)	0.01N MgCl2		BS	0.5	100
415	62	Cs(I)	11.0	ml/g	10.976	Mg sat. montmorillonite #21 (Burns, Miss.)	0.002N MgCl2		BS	0.5	100
416	62	Cs(I)	43.8	ml/g	43.842	Mg sat. montmorillonite #21 (Burns, Miss.)	0.2N MgCl2		BS	0.5	100
417	62	Cs(I)	52.9	ml/g	52.935	Mg sat. montmorillonite #21 (Burns, Miss.)	0.2N MgCl2		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
397		AA	20		1.55E-04	A	116			
398		AA	20		1.26E-06	A	116			
399		AA	20		1.16E-05	A	116			
400		AA	20		1.08E-06	A	116			
401		AA	20		1.12E-07	A	116			
402		AA	20		1.00E-10	A	116			
403		AA	20		6.43E-07	A	116			
404		AA	20		6.30E-08	A	116			
405		AA	20		1.00E-10	A	116			
406		AA	20		5.80E-08	A	116			
407		AA	20		1.00E-10	A	116			
408		AA	20		4.40E-08	A	116			
409		AA	20		1.00E-10	A	116			
410		AA	20		1.00E-10	A	116			
411		AA	20		1.00E-01	A	130			
412		AA	20		1.00E-01	A	130			
413		AA	20		8.56E-02	A	130			
414		AA	20		1.00E-01	A	130			
415		AA	20		1.00E-01	A	130			
416		AA	20		5.99E-03	A	130			
417		AA	20		5.45E-04	A	130			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
418	62	Cs(I)	57.2	ml/g	57.151	Mg sat. montmorillonite #21 (Burns, Miss.)	0.1N MgCl2		BS	0.5	100
419	62	Cs(I)	57.5	ml/g	57.499	Mg sat. montmorillonite #21 (Burns, Miss.)	0.1N MgCl2		BS	0.5	100
420	62	Cs(I)	74.9	ml/g	74.888	Mg sat. montmorillonite #21 (Burns, Miss.)	0.2N MgCl2		BS	0.5	100
421	62	Cs(I)	87.7	ml/g	87.657	Mg sat. montmorillonite #21 (Burns, Miss.)	0.2N MgCl2		BS	0.5	100
422	62	Cs(I)	100.3	ml/g	100.297	Mg sat. montmorillonite #21 (Burns, Miss.)	0.1N MgCl2		BS	0.5	100
423	62	Cs(I)	102.8	ml/g	102.754	Mg sat. montmorillonite #21 (Burns, Miss.)	0.1N MgCl2		BS	0.5	100
424	62	Cs(I)	108.0	ml/g	108.043	Mg sat. montmorillonite #21 (Burns, Miss.)	0.01N MgCl2		BS	0.5	100
425	62	Cs(I)	120.7	ml/g	120.676	Mg sat. montmorillonite #21 (Burns, Miss.)	0.2N MgCl2		BS	0.5	100
426	62	Cs(I)	134.5	ml/g	134.508	Mg sat. montmorillonite #21 (Burns, Miss.)	0.02N MgCl2		BS	0.5	100
427	62	Cs(I)	141.8	ml/g	141.753	Mg sat. montmorillonite #21 (Burns, Miss.)	0.2N MgCl2		BS	0.5	100
428	62	Cs(I)	147.7	ml/g	147.685	Mg sat. montmorillonite #21 (Burns, Miss.)	0.002N MgCl2		BS	0.5	100
429	62	Cs(I)	187.5	ml/g	187.541	Mg sat. montmorillonite #21 (Burns, Miss.)	0.02N MgCl2		BS	0.5	100
430	62	Cs(I)	198.6	ml/g	198.646	Mg sat. montmorillonite #21 (Burns, Miss.)	0.01N MgCl2		BS	0.5	100
431	62	Cs(I)	232.0	ml/g	231.958	Mg sat. montmorillonite #21 (Burns, Miss.)	0.1N MgCl2		BS	0.5	100
432	62	Cs(I)	247.0	ml/g	247.044	Mg sat. montmorillonite #21 (Burns, Miss.)	0.02N MgCl2		BS	0.5	100
433	62	Cs(I)	269.8	ml/g	269.831	Mg sat. montmorillonite #21 (Burns, Miss.)	0.01N MgCl2		BS	0.5	100
434	62	Cs(I)	315.9	ml/g	315.905	Mg sat. montmorillonite #21 (Burns, Miss.)	0.02N MgCl2		BS	0.5	100
435	62	Cs(I)	390.1	ml/g	390.131	Mg sat. montmorillonite #21 (Burns, Miss.)	0.01N MgCl2		BS	0.5	100
436	62	Cs(I)	412.1	ml/g	412.118	Mg sat. montmorillonite #21 (Burns, Miss.)	0.002N MgCl2		BS	0.5	100
437	62	Cs(I)	498.9	ml/g	498.877	Mg sat. montmorillonite #21 (Burns, Miss.)	0.01N MgCl2		BS	0.5	100
438	62	Cs(I)	545.6	ml/g	545.628	Mg sat. montmorillonite #21 (Burns, Miss.)	0.002N MgCl2		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
418		AA	20		5.39E-04	A	130			
419		AA	20		5.50E-03	A	130			
420		AA	20		4.81E-05	A	130			
421		AA	20		4.60E-06	A	130			
422		AA	20		4.14E-05	A	130			
423		AA	20		4.23E-06	A	130			
424		AA	20		3.82E-03	A	130			
425		AA	20		1.00E-10	A	130			
426		AA	20		3.47E-04	A	130			
427		AA	20		3.59E-07	A	130			
428		AA	20		3.28E-03	A	130			
429		AA	20		2.80E-05	A	130			
430		AA	20		2.72E-04	A	130			
431		AA	20		2.64E-07	A	130			
432		AA	20		2.45E-06	A	130			
433		AA	20		2.35E-05	A	130			
434		AA	20		1.92E-07	A	130			
435		AA	20		1.77E-06	A	130			
436		AA	20		1.47E-04	A	130			
437		AA	20		1.38E-07	A	130			
438		AA	20		1.29E-05	A	130			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
439	62	Cs(I)	566.4	ml/g	566.354	Mg sat. montmorillonite #21 (Burns, Miss.)	0.02N MgCl2		BS	0.5	100
440	62	Cs(I)	567.8	ml/g	567.837	Mg sat. montmorillonite #21 (Burns, Miss.)	0.002N MgCl2		BS	0.5	100
441	62	Cs(I)	785.3	ml/g	785.304	Mg sat. montmorillonite #21 (Burns, Miss.)	0.01N MgCl2		BS	0.5	100
442	62	Cs(I)	792.2	ml/g	792.156	Mg sat. montmorillonite #21 (Burns, Miss.)	0.002N MgCl2		BS	0.5	100
443	62	Cs(I)	1175.0	ml/g	1174.978	Mg sat. montmorillonite #21 (Burns, Miss.)	0.002N MgCl2		BS	0.5	100
444	62	Cs(I)	9.3	ml/g	9.254	Na sat. montmorillonite #11 (Santa Rita, NM)	0.01M NaCl		BS	0.5	100
445	62	Cs(I)	9.3	ml/g	9.300	Na sat. montmorillonite #11 (Santa Rita, NM)	0.02M NaCl		BS	0.5	100
446	62	Cs(I)	9.5	ml/g	9.488	Na sat. montmorillonite #11 (Santa Rita, NM)	0.002M NaCl		BS	0.5	100
447	62	Cs(I)	9.5	ml/g	9.490	Na sat. montmorillonite #11 (Santa Rita, NM)	0.1M NaCl		BS	0.5	100
448	62	Cs(I)	9.5	ml/g	9.537	Na sat. montmorillonite #11 (Santa Rita, NM)	0.2M NaCl		BS	0.5	100
449	62	Cs(I)	104.5	ml/g	104.530	Na sat. montmorillonite #11 (Santa Rita, NM)	0.2M NaCl		BS	0.5	100
450	62	Cs(I)	131.3	ml/g	131.331	Na sat. montmorillonite #11 (Santa Rita, NM)	0.1M NaCl		BS	0.5	100
451	62	Cs(I)	159.5	ml/g	159.530	Na sat. montmorillonite #11 (Santa Rita, NM)	0.2M NaCl		BS	0.5	100
452	62	Cs(I)	185.8	ml/g	185.780	Na sat. montmorillonite #11 (Santa Rita, NM)	0.01M NaCl		BS	0.5	100
453	62	Cs(I)	251.4	ml/g	251.431	Na sat. montmorillonite #11 (Santa Rita, NM)	0.2M NaCl		BS	0.5	100
454	62	Cs(I)	291.6	ml/g	291.629	Na sat. montmorillonite #11 (Santa Rita, NM)	0.2M NaCl		BS	0.5	100
455	62	Cs(I)	364.7	ml/g	364.681	Na sat. montmorillonite #11 (Santa Rita, NM)	0.1M NaCl		BS	0.5	100
456	62	Cs(I)	419.0	ml/g	419.026	Na sat. montmorillonite #11 (Santa Rita, NM)	0.2M NaCl		BS	0.5	100
457	62	Cs(I)	511.8	ml/g	511.840	Na sat. montmorillonite #11 (Santa Rita, NM)	0.2M NaCl		BS	0.5	100
458	62	Cs(I)	529.7	ml/g	529.716	Na sat. montmorillonite #11 (Santa Rita, NM)	0.1M NaCl		BS	0.5	100
459	62	Cs(I)	617.5	ml/g	617.470	Na sat. montmorillonite #11 (Santa Rita, NM)	0.1M NaCl		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
439		AA	20		1.00E-10	A	130			
440		AA	20		1.26E-06	A	130			
441		AA	20		1.00E-10	A	130			
442		AA	20		9.50E-08	A	130			
443		AA	20		1.00E-10	A	130			
444		AA	20		9.45E-02	A	116			
445		AA	20		9.54E-02	A	116			
446		AA	20		9.79E-02	A	116			
447		AA	20		9.64E-02	A	116			
448		AA	20		9.74E-02	A	116			
449		AA	20		4.48E-03	A	116			
450		AA	20		4.38E-03	A	116			
451		AA	20		3.75E-04	A	116			
452		AA	20		3.41E-03	A	116			
453		AA	20		2.58E-05	A	116			
454		AA	20		2.37E-06	A	116			
455		AA	20		1.96E-04	A	116			
456		AA	20		1.87E-07	A	116			
457		AA	20		1.00E-10	A	116			
458		AA	20		1.43E-05	A	116			
459		AA	20		1.32E-06	A	116			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
460	62	Cs(I)	712.6	ml/g	712.601	Na sat. montmorillonite #11 (Santa Rita, NM)	0.1M NaCl		BS	0.5	100
461	62	Cs(I)	935.3	ml/g	935.286	Na sat. montmorillonite #11 (Santa Rita, NM)	0.1M NaCl		BS	0.5	100
462	62	Cs(I)	1637.3	ml/g	1637.338	Na sat. montmorillonite #11 (Santa Rita, NM)	0.02M NaCl		BS	0.5	100
463	62	Cs(I)	2505.5	ml/g	2505.464	Na sat. montmorillonite #11 (Santa Rita, NM)	0.02M NaCl		BS	0.5	100
464	62	Cs(I)	2541.8	ml/g	2541.752	Na sat. montmorillonite #11 (Santa Rita, NM)	0.01M NaCl		BS	0.5	100
465	62	Cs(I)	3056.1	ml/g	3056.095	Na sat. montmorillonite #11 (Santa Rita, NM)	0.02M NaCl		BS	0.5	100
466	62	Cs(I)	3442.0	ml/g	3442.002	Na sat. montmorillonite #11 (Santa Rita, NM)	0.02M NaCl		BS	0.5	100
467	62	Cs(I)	3561.9	ml/g	3561.886	Na sat. montmorillonite #11 (Santa Rita, NM)	0.01M NaCl		BS	0.5	100
468	62	Cs(I)	4470.4	ml/g	4470.430	Na sat. montmorillonite #11 (Santa Rita, NM)	0.01M NaCl		BS	0.5	100
469	62	Cs(I)	4478.0	ml/g	4477.987	Na sat. montmorillonite #11 (Santa Rita, NM)	0.02M NaCl		BS	0.5	100
470	62	Cs(I)	5311.2	ml/g	5311.154	Na sat. montmorillonite #11 (Santa Rita, NM)	0.01M NaCl		BS	0.5	100
471	62	Cs(I)	5538.7	ml/g	5538.704	Na sat. montmorillonite #11 (Santa Rita, NM)	0.01M NaCl		BS	0.5	100
472	62	Cs(I)	7066.3	ml/g	7066.343	Na sat. montmorillonite #11 (Santa Rita, NM)	0.002M NaCl		BS	0.5	100
473	62	Cs(I)	23123.4	ml/g	23123.396	Na sat. montmorillonite #11 (Santa Rita, NM)	0.002M NaCl		BS	0.5	100
474	62	Cs(I)	11.4	ml/g	11.363	Na sat. montmorillonite #21 (Burns, Miss.)	0.2M NaCl		BS	0.5	100
475	62	Cs(I)	11.4	ml/g	11.418	Na sat. montmorillonite #21 (Burns, Miss.)	0.002M NaCl		BS	0.5	100
476	62	Cs(I)	11.5	ml/g	11.536	Na sat. montmorillonite #21 (Burns, Miss.)	0.1M NaCl		BS	0.5	100
477	62	Cs(I)	11.7	ml/g	11.655	Na sat. montmorillonite #21 (Burns, Miss.)	0.02M NaCl		BS	0.5	100
478	62	Cs(I)	11.8	ml/g	11.833	Na sat. montmorillonite #21 (Burns, Miss.)	0.01M NaCl		BS	0.5	100
479	62	Cs(I)	109.9	ml/g	109.922	Na sat. montmorillonite #21 (Burns, Miss.)	0.2M NaCl		BS	0.5	100
480	62	Cs(I)	136.1	ml/g	136.091	Na sat. montmorillonite #21 (Burns, Miss.)	0.2M NaCl		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
460		AA	20		1.21E-07	A	116			
461		AA	20		1.00E-10	A	116			
462		AA	20		5.19E-05	A	116			
463		AA	20		3.45E-07	A	116			
464		AA	20		3.34E-05	A	116			
465		AA	20		2.89E-06	A	116			
466		AA	20		2.50E-08	A	116			
467		AA	20		2.55E-06	A	116			
468		AA	20		2.98E-07	A	116			
469		AA	20		1.00E-10	A	116			
470		AA	20		1.80E-08	A	116			
471		AA	20		1.00E-10	A	116			
472		AA	20		1.23E-05	A	116			
473		AA	20		1.00E-10	A	116			
474		AA	20		1.00E-01	A	130			
475		AA	20		1.01E-01	A	130			
476		AA	20		1.00E-01	A	130			
477		AA	20		1.00E-01	A	130			
478		AA	20		1.00E-01	A	130			
479		AA	20		4.51E-03	A	130			
480		AA	20		4.26E-04	A	130			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
481	62	Cs(I)	151.0	ml/g	150.980	Na sat. montmorillonite #21 (Burns, Miss.)	0.1M NaCl		BS	0.5	100
482	62	Cs(I)	194.6	ml/g	194.598	Na sat. montmorillonite #21 (Burns, Miss.)	0.2M NaCl		BS	0.5	100
483	62	Cs(I)	215.4	ml/g	215.354	Na sat. montmorillonite #21 (Burns, Miss.)	0.2M NaCl		BS	0.5	100
484	62	Cs(I)	255.4	ml/g	255.429	Na sat. montmorillonite #21 (Burns, Miss.)	0.2M NaCl		BS	0.5	100
485	62	Cs(I)	257.1	ml/g	257.147	Na sat. montmorillonite #21 (Burns, Miss.)	0.02M NaCl		BS	0.5	100
486	62	Cs(I)	272.2	ml/g	272.247	Na sat. montmorillonite #21 (Burns, Miss.)	0.2M NaCl		BS	0.5	100
487	62	Cs(I)	320.3	ml/g	320.312	Na sat. montmorillonite #21 (Burns, Miss.)	0.1M NaCl		BS	0.5	100
488	62	Cs(I)	320.5	ml/g	320.459	Na sat. montmorillonite #21 (Burns, Miss.)	0.01M NaCl		BS	0.5	100
489	62	Cs(I)	456.7	ml/g	456.672	Na sat. montmorillonite #21 (Burns, Miss.)	0.002M NaCl		BS	0.5	100
490	62	Cs(I)	474.1	ml/g	474.085	Na sat. montmorillonite #21 (Burns, Miss.)	0.1M NaCl		BS	0.5	100
491	62	Cs(I)	512.7	ml/g	512.735	Na sat. montmorillonite #21 (Burns, Miss.)	0.1M NaCl		BS	0.5	100
492	62	Cs(I)	572.8	ml/g	572.803	Na sat. montmorillonite #21 (Burns, Miss.)	0.1M NaCl		BS	0.5	100
493	62	Cs(I)	636.7	ml/g	636.715	Na sat. montmorillonite #21 (Burns, Miss.)	0.1M NaCl		BS	0.5	100
494	62	Cs(I)	1637.5	ml/g	1637.505	Na sat. montmorillonite #21 (Burns, Miss.)	0.02M NaCl		BS	0.5	100
495	62	Cs(I)	2027.9	ml/g	2027.906	Na sat. montmorillonite #21 (Burns, Miss.)	0.02M NaCl		BS	0.5	100
496	62	Cs(I)	2222.3	ml/g	2222.315	Na sat. montmorillonite #21 (Burns, Miss.)	0.02M NaCl		BS	0.5	100
497	62	Cs(I)	2260.0	ml/g	2260.008	Na sat. montmorillonite #21 (Burns, Miss.)	0.002M NaCl		BS	0.5	100
498	62	Cs(I)	2717.0	ml/g	2716.960	Na sat. montmorillonite #21 (Burns, Miss.)	0.02M NaCl		BS	0.5	100
499	62	Cs(I)	2923.0	ml/g	2923.048	Na sat. montmorillonite #21 (Burns, Miss.)	0.01M NaCl		BS	0.5	100
500	62	Cs(I)	3218.4	ml/g	3218.361	Na sat. montmorillonite #21 (Burns, Miss.)	0.01M NaCl		BS	0.5	100
501	62	Cs(I)	3451.3	ml/g	3451.260	Na sat. montmorillonite #21 (Burns, Miss.)	0.02M NaCl		BS	0.5	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
481		AA	20		3.85E-03	A	130			
482		AA	20		3.33E-05	A	130			
483		AA	20		3.12E-06	A	130			
484		AA	20		1.00E-10	A	130			
485		AA	20		2.89E-03	A	130			
486		AA	20		2.73E-07	A	130			
487		AA	20		2.33E-04	A	130			
488		AA	20		2.60E-03	A	130			
489		AA	20		1.85E-03	A	130			
490		AA	20		1.85E-06	A	130			
491		AA	20		1.65E-05	A	130			
492		AA	20		1.46E-07	A	130			
493		AA	20		1.00E-10	A	130			
494		AA	20		5.57E-05	A	130			
495		AA	20		1.00E-10	A	130			
496		AA	20		4.40E-07	A	130			
497		AA	20		4.98E-05	A	130			
498		AA	20		3.86E-06	A	130			
499		AA	20		3.54E-05	A	130			
500		AA	20		3.31E-06	A	130			
501		AA	20		3.00E-08	A	130			

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
502	62	Cs(I)	3947.4	ml/g	3947.393	Na sat. montmorillonite #21 (Burns, Miss.)	0.01M NaCl		BS	0.5	100
503	62	Cs(I)	4340.4	ml/g	4340.413	Na sat. montmorillonite #21 (Burns, Miss.)	0.01M NaCl		BS	0.5	100
504	62	Cs(I)	4898.5	ml/g	4898.509	Na sat. montmorillonite #21 (Burns, Miss.)	0.002M NaCl		BS	0.5	100
505	62	Cs(I)	7378.7	ml/g	7378.696	Na sat. montmorillonite #21 (Burns, Miss.)	0.002M NaCl		BS	0.5	100
506	62	Cs(I)	10543.7	ml/g	10543.716	Na sat. montmorillonite #21 (Burns, Miss.)	0.002M NaCl		BS	0.5	100
507	63	Cs(I)	0.0063	m3/kg	6.300	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
508	63	Cs(I)	0.0079	m3/kg	7.900	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
509	63	Cs(I)	0.016	m3/kg	16.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
510	63	Cs(I)	0.016	m3/kg	16.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
511	63	Cs(I)	0.02	m3/kg	20.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
512	63	Cs(I)	0.025	m3/kg	25.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
513	63	Cs(I)	0.025	m3/kg	25.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
514	63	Cs(I)	0.025	m3/kg	25.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
515	63	Cs(I)	0.032	m3/kg	32.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
516	63	Cs(I)	0.032	m3/kg	32.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
517	63	Cs(I)	0.032	m3/kg	32.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
518	63	Cs(I)	0.04	m3/kg	40.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
519	63	Cs(I)	0.0063	m3/kg	63.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
520	63	Cs(I)	0.0079	m3/kg	79.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
521	63	Cs(I)	0.016	m3/kg	160.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
522	63	Cs(I)	0.016	m3/kg	160.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
502		AA	20		2.73E-07	A	130			
503		AA	20		3.00E-09	A	130			
504		AA	20		2.13E-07	A	130			
505		AA	20		1.40E-08	A	130			
506		AA	20		1.00E-10	A	130			
507	8.2?	AA	65	1E-5M		A				
508	8.2?	AA	65	1E-8M		A				
509	8.2?	AA	65	1E-8M		A				
510	8.2?	AA	65	1E-5M		A				
511	8.2?	AA	25	1E-5M		A				
512	8.2?	AA	25	1E-5M		A				
513	8.2?	AA	25	1E-8M		A				
514	8.2?	AA	25	1E-5M		A				
515	8.2?	AA	25	1E-8M		A				
516	8.2?	AA	25	1E-5M		A				
517	8.2?	AA	25	1E-8M		A				
518	8.2?	AA	25	1E-8M		A				
519	8.2?	AA	65	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
520	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
521	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
522	8.2?	AA	65	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
523	63	Cs(I)	0.02	m3/kg	200.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
524	63	Cs(I)	0.025	m3/kg	250.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
525	63	Cs(I)	0.025	m3/kg	250.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
526	63	Cs(I)	0.025	m3/kg	250.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
527	63	Cs(I)	0.032	m3/kg	320.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
528	63	Cs(I)	0.032	m3/kg	320.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
529	63	Cs(I)	0.032	m3/kg	320.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
530	63	Cs(I)	0.04	m3/kg	400.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
531	83	Cs(I)	0.001	m3/kg	1.000	10% Wyoming bentonite MX-80, 90% silica sand	1M KCl		BS	3 or 8	10
532	83	Cs(I)	0.003	m3/kg	3.000	10% Wyoming bentonite MX-80, 90% silica sand	0.5M KCl		BS	3 or 8	10
533	83	Cs(I)	0.015	m3/kg	15.000	10% Wyoming bentonite MX-80, 90% silica sand	1M MgCl2		BS	3 or 8	10
534	83	Cs(I)	0.018	m3/kg	18.000	10% Wyoming bentonite MX-80, 90% silica sand	0.5M MgCl2		BS	3 or 8	10
535	83	Cs(I)	0.02	m3/kg	20.000	10% Wyoming bentonite MX-80, 90% silica sand	0.05M KCl		BS	3 or 8	10
536	83	Cs(I)	0.025	m3/kg	25.000	10% Wyoming bentonite MX-80, 90% silica sand	0.05M MgCl2		BS	3 or 8	10
537	83	Cs(I)	0.03	m3/kg	30.000	10% Wyoming bentonite MX-80, 90% silica sand	Aspo (Swedish saline ground water, ionic strength .455M)		BS	3 or 8	5
538	83	Cs(I)	0.033	m3/kg	33.000	10% Wyoming bentonite MX-80, 90% silica sand	0.5M KCl		BS	3 or 8	100
539	83	Cs(I)	0.093	m3/kg	93.000	10% Wyoming bentonite MX-80, 90% silica sand	.25M CaCl2		BS	3 or 8	100
540	83	Cs(I)	0.01	m3/kg	10.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
541	83	Cs(I)	0.015	m3/kg	15.000	Wyoming bentonite MX-80	1M KCl		BS	3 or 8	10
542	83	Cs(I)	0.015	m3/kg	15.000	Wyoming bentonite MX-80	1M KCl		BS	3 or 8	100
543	83	Cs(I)	0.028	m3/kg	28.000	Wyoming bentonite MX-80	0.5M KCl		BS	3 or 8	100
544	83	Cs(I)	0.03	m3/kg	30.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
523	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
524	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
525	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
526	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
527	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
528	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
529	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
530	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
531	9.3	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
532	9.1	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
533	7	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
534	7.31	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
535	9.3	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
536	8.01	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
537	7.45	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
538	9.13	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
539	7.9	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
540	9.15	AA	20	1E-1M		A				the final pH value was calculated by a model
541	8.07	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
542	9.43	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
543	9.34	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
544	9.08	AA	20	3E-2M		A				the final pH value was calculated by a model

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
545	83	Cs(I)	0.034	m3/kg	34.000	Wyoming bentonite MX-80	1M NaCl		BS	3 or 8	9.8
546	83	Cs(I)	0.036	m3/kg	36.000	Wyoming bentonite MX-80	0.5M KCl		BS	3 or 8	10
547	83	Cs(I)	0.036	m3/kg	36.000	Wyoming bentonite MX-80	1M MgCl2		BS	3 or 8	10
548	83	Cs(I)	0.045	m3/kg	45.000	Wyoming bentonite MX-80	0.5M MgCl2		BS	3 or 8	10
549	83	Cs(I)	0.047	m3/kg	47.000	Wyoming bentonite MX-80	0.25M Ca(NO3)2		BS	3 or 8	9.7
550	83	Cs(I)	0.053	m3/kg	53.000	Wyoming bentonite MX-80	0.25M CaCl2		BS	3 or 8	9.6
551	83	Cs(I)	0.054	m3/kg	54.000	Wyoming bentonite MX-80	0.5M NaCl		BS	3 or 8	9.6
552	83	Cs(I)	0.056	m3/kg	56.000	Wyoming bentonite MX-80	0.5M NaCl		BS	3 or 8	9.6
553	83	Cs(I)	0.072	m3/kg	72.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
554	83	Cs(I)	0.08	m3/kg	80.000	Wyoming bentonite MX-80	0.5M NaCl		BS	3 or 8	90.9
555	83	Cs(I)	0.084	m3/kg	84.000	Wyoming bentonite MX-80	1M MgCl2		BS	3 or 8	100
556	83	Cs(I)	0.089	m3/kg	89.000	Wyoming bentonite MX-80	0.5M MgCl2		BS	3 or 8	100
557	83	Cs(I)	0.117	m3/kg	117.000	Wyoming bentonite MX-80	0.05M MgCl2		BS	3 or 8	10
558	83	Cs(I)	0.124	m3/kg	124.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
559	83	Cs(I)	0.133	m3/kg	133.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
560	83	Cs(I)	0.133	m3/kg	133.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
561	83	Cs(I)	0.14	m3/kg	140.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
562	83	Cs(I)	0.148	m3/kg	148.000	Wyoming bentonite MX-80	0.25M CaCl2		BS	3 or 8	100
563	83	Cs(I)	0.15	m3/kg	150.000	Wyoming bentonite MX-80	0.05M MgCl2		BS	3 or 8	100
564	83	Cs(I)	0.152	m3/kg	152.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
565	83	Cs(I)	0.158	m3/kg	158.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
566	83	Cs(I)	0.167	m3/kg	167.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
567	83	Cs(I)	0.172	m3/kg	172.000	Wyoming bentonite MX-80	Aspo (Swedish saline ground water, ionic strength .455M)		BS	3 or 8	5.6
568	83	Cs(I)	0.183	m3/kg	183.000	Wyoming bentonite MX-80	0.025M CaCl2		BS	3 or 8	9.7
569	83	Cs(I)	0.188	m3/kg	188.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
570	83	Cs(I)	0.2	m3/kg	200.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
545	7.38	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
546	8.03	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
547	6.96	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
548	7.05	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
549	6.61	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
550	6.61	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
551	7.55	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
552	7.41	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
553	9.09	AA	20	1E-2M		A				the final pH value was calculated by a model
554	8.81	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
555	7.54	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
556	7.62	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
557	7.72	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
558	9.14	AA	20	3E-3M		A				the final pH value was calculated by a model
559	9.17	AA	20	1E-3M		A				the final pH value was calculated by a model
560	9.18	AA	20	3E-4M		A				the final pH value was calculated by a model
561	9.18	AA	20	1E-4M		A				the final pH value was calculated by a model
562	7.15	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
563	8.09	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
564	9.18	AA	20	3E-5M		A				the final pH value was calculated by a model
565	9.18	AA	20	1E-5M		A				the final pH value was calculated by a model
566	9.18	AA	20	3E-6M		A				the final pH value was calculated by a model
567	7.16	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
568	7.39	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
569	9.18	AA	20	1E-6M		A				the final pH value was calculated by a model
570	9.18	AA	20	3E-7M		A				the final pH value was calculated by a model

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
571	83	Cs(I)	0.222	m3/kg	222.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
572	83	Cs(I)	0.224	m3/kg	224.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
573	83	Cs(I)	0.231	m3/kg	231.000	Wyoming bentonite MX-80	0.1M (Cs,Na)Cl		BS	3 or 8	100
574	83	Cs(I)	0.28	m3/kg	280.000	Wyoming bentonite MX-80	0.05M KCl		BS	3 or 8	100
575	83	Cs(I)	0.309	m3/kg	309.000	Wyoming bentonite MX-80	0.05M NaCl		BS	3 or 8	100
576	83	Cs(I)	0.31	m3/kg	310.000	Wyoming bentonite MX-80	0.05M NaCl		BS	3 or 8	9.6
577	83	Cs(I)	0.342	m3/kg	342.000	Wyoming bentonite MX-80	0.05M KCl		BS	3 or 8	10
578	83	Cs(I)	1	m3/kg	1000.000	Wyoming bentonite MX-80	Allard (Swedish granitic ground water, ionic strength .004M)		BS	3 or 8	100
579	85	Cs(I)	891	ml/g	891.251	montmorillonite (Belle Fourche)	0.01M NaCl		BS?		
580	85	Cs(I)	912	ml/g	912.011	montmorillonite (Belle Fourche)	0.01M NaCl		BS?		
581	85	Cs(I)	1122	ml/g	1122.018	montmorillonite (Belle Fourche)	0.01M NaCl		BS?		
582	85	Cs(I)	1380	ml/g	1380.384	montmorillonite (Belle Fourche)	0.01M NaCl		BS?		
583	85	Cs(I)	1479	ml/g	1479.108	montmorillonite (Belle Fourche)	0.01M NaCl		BS?		
584	95	Cs(I)	100	m3/Mg	100.000	Avonlea bentonite (80% montmorillonite, 10% illite, 5% quartz)	synthetic ground water (SGW) pH7.2, ionic strength 0.22M		BS	10	2
585	97	Cs(I)	37.8	ml/g	37.800	montmorillonite (Crook Co., WY)	synthetic ground water, pH7.9		BS	14	100 or 200
586	97	Cs(I)	40	ml/g	40.000	montmorillonite (Crook Co., WY)	synthetic ground water, pH7.9		BS	14	100 or 200
587	97	Cs(I)	40.1	ml/g	40.100	montmorillonite (Crook Co., WY)	synthetic ground water, pH7.9		BS	14	100 or 200
588	97	Cs(I)	141.6	ml/g	141.600	montmorillonite (Crook Co., WY)	synthetic ground water, pH7.9		BS	14	100 or 200
589	97	Cs(I)	141.6	ml/g	141.600	montmorillonite (Crook Co., WY)	synthetic ground water, pH7.9		BS	14	100 or 200
590	97	Cs(I)	145.2	ml/g	145.200	montmorillonite (Crook Co., WY)	synthetic ground water, pH7.9		BS	14	100 or 200

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
571	9.18	AA	20	1E-7M		A				the final pH value was calculated by a model
572	9.18	AA	20	3E-8M		A				the final pH value was calculated by a model
573	9.18	AA	20	1E-8M		A				the final pH value was calculated by a model
574	9.33	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
575	9.37	AA	20	1E-9M		A				the final pH value was calculated by a model
576	8.12	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
577	8.66	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
578	9.53	AA	20	1E-8M to 1E-9M		A				the final pH value was calculated by a model
579	7	AA	20		9.12E-05	A				Rd values were calculated by Grant Env. from data in P85 Figure 13. Those data originated with Silva et al. (1980)
580	7	AA	20		9.55E-06	A				Rd values were calculated by Grant Env. from data in P85 Figure 13. Those data originated with Silva et al. (1980)
581	7	AA	20		8.32E-07	A				Rd values were calculated by Grant Env. from data in P85 Figure 13. Those data originated with Silva et al. (1980)
582	7	AA	20		8.13E-09	A				Rd values were calculated by Grant Env. from data in P85 Figure 13. Those data originated with Silva et al. (1980)
583	7	AA	20		7.59E-11	A				Rd values were calculated by Grant Env. from data in P85 Figure 13. Those data originated with Silva et al. (1980)
584	>7.2?	AA	24			A				
585		AA	20		7.38E-6M	A				3.73E-6M final equilibrated Ba concentration (as a competing cation)
586		AA	20		7.38E-6M	A				1.7E-7M final equilibrated Ba concentration (as a competing cation)
587		AA	20		7.38E-6M	A				4.1E-8M final equilibrated Ba concentration (as a competing cation)
588		AA	20		4.42E-7M	A				1.7E-7M final equilibrated Ba concentration (as a competing cation)
589		AA	20		4.42E-7M	A				3.73E-6M final equilibrated Ba concentration (as a competing cation)
590		AA	20		4.42E-7M	A				4.1E-8M final equilibrated Ba concentration (as a competing cation)

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time In Days	Solution Volume to Sorbent Mass Ratio (ml/g)
591	97	Cs(I)	2560	ml/g	2560.000	montmorillonite (Crook Co., WY)	synthetic ground water, pH7.9		BS	14	100 or 200
592	97	Cs(I)	2560	ml/g	2560.000	montmorillonite (Crook Co., WY)	synthetic ground water, pH7.9		BS	14	100 or 200
593	97	Cs(I)	2635	ml/g	2635.000	montmorillonite (Crook Co., WY)	synthetic ground water, pH7.9		BS	14	100 or 200
594	101	Cs(I)	425	cc/g	425.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
595	101	Cs(I)	485	cc/g	485.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
596	101	Cs(I)	560	cc/g	560.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
597	101	Cs(I)	730	cc/g	730.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
598	101	Cs(I)	910	cc/g	910.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
599	101	Cs(I)	975	cc/g	975.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
600	101	Cs(I)	1270	cc/g	1270.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
601	101	Cs(I)	1390	cc/g	1390.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
602	101	Cs(I)	11550	cc/g	11550.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
603	101	Cs(I)	12880	cc/g	12880.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
604	101	Cs(I)	13500	cc/g	13500.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
605	101	Cs(I)	15000	cc/g	15000.000	nat. montmorillonite (S-2, Toledo, Spain)	granitic ground water, ionic strength .004	2.78	BS	150	100
606	101	Cs(I)	130	cc/g	130.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
607	101	Cs(I)	130	cc/g	130.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
608	101	Cs(I)	160	cc/g	160.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
609	101	Cs(I)	190	cc/g	190.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
610	101	Cs(I)	620	cc/g	620.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
611	101	Cs(I)	715	cc/g	715.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
591		AA	20		4.3E-9M	A				1.7E-7M final equilibrated Ba concentration (as a competing cation)
592		AA	20		4.3E-9M	A				3.73E-6M final equilibrated Ba concentration (as a competing cation)
593		AA	20		4.3E-9M	A				4.1E-8M final equilibrated Ba concentration (as a competing cation)
594	7.42	AA	25	1E-3M		A	88	569		
595	7.47	AA	25	1E-3M		A	88	569		
596	7.93	AA	25	1E-3M		A	88	569		
597	8.19	AA	25	1E-3M		A	88	569		
598	7.25	AA	25	1E-5M		A	88	569		
599	7.65	AA	25	1E-5M		A	88	569		
600	8.04	AA	25	1E-5M		A	88	569		
601	8.24	AA	25	1E-5M		A	88	569		
602	7.42	AA	25	1E-7M or 1E-9M		A	88	569		
603	7.8	AA	25	1E-7M or 1E-9M		A	88	569		
604	8	AA	25	1E-7M or 1E-9M		A	88	569		
605	8.33	AA	25	1E-7M or 1E-9M		A	88	569		
606	7.35	AA	25	1E-3M		A	56	434		
607	7.74	AA	25	1E-3M		A	56	434		
608	8.07	AA	25	1E-3M		A	56	434		
609	8.4	AA	25	1E-3M		A	56	434		
610	7.45	AA	25	1E-5M		A	56	434		
611	7.79	AA	25	1E-5M		A	56	434		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
612	101	Cs(I)	790	cc/g	790.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
613	101	Cs(I)	790	cc/g	790.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
614	101	Cs(I)	20500	cc/g	20500.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
615	101	Cs(I)	23850	cc/g	23850.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
616	101	Cs(I)	26400	cc/g	26400.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
617	101	Cs(I)	29600	cc/g	29600.000	nat. saponite (MCAC, Toledo, Spain)	granitic ground water, ionic strength .004	2.68	BS	95	100
618	106	Cs(I)	1.4	m3/kg	1400.000	Compacted Wyoming Na bentonite MX-80	synthetic ground water	2	BD	53	
619	108	Cs(I)	427	l/kg	426.580	Compacted, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	1.5 dry	hydraulic press	600	
620	108	Cs(I)	468	l/kg	467.735	Compacted, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	1.25 dry	hydraulic press	600	
621	108	Cs(I)	525	l/kg	524.807	Compacted, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.9 dry	hydraulic press	600	
622	108	Cs(I)	794	l/kg	794.328	Compacted, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.7 dry	hydraulic press	600	
623	108	Cs(I)	1000	l/kg	1000.000	Compacted, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.5 dry	hydraulic press	600	
624	108	Cs(I)	1200	l/kg	1200.000	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0186	BS	<7	
625	108	Cs(I)	1290	l/kg	1290.000	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0167	BS	<7	
626	108	Cs(I)	1390	l/kg	1390.000	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0112	BS	<7	
627	108	Cs(I)	1700	l/kg	1700.000	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0035	BS	<7	

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
612	8.13	AA	25	1E-5M		A	56	434		
613	8.39	AA	25	1E-5M		A	56	434		
614	7.6	AA	25	1E-7M or 1E-9M		A	56	434		
615	7.83	AA	25	1E-7M or 1E-9M		A	56	434		
616	8.16	AA	25	1E-7M or 1E-9M		A	56	434		
617	8.35	AA	25	1E-7M or 1E-9M		A	56	434		
618		AA	20	1E-9M		A				
619	11.1	AA	20			A	60 cmol/kg	4.80E+05		
620	11.1	AA	20			A	60 cmol/kg	4.80E+05		
621	11.1	AA	20			A	60 cmol/kg	4.80E+05		
622	11.1	AA	20			A	60 cmol/kg	4.80E+05		
623	11.1	AA	20			A	60 cmol/kg	4.80E+05		
624	7.8	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
625	7.8	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
626	7.8	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
627	7.8	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
628	108	Cs(I)	1840	l/kg	1840.000	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0024	BS	<7	
629	116	Cs(I)	40.5	cc/g	40.500	Wyoming Na-bentonite	NASK saline ground water pH7.7 ionic str. .218	1.8 dry	D		
630	116	Cs(I)	46.6	cc/g	46.600	Wyoming Na-bentonite	NASK saline ground water pH7.7 ionic str. .218	1.8 dry	D		
631	116	Cs(I)	46.8	cc/g	46.800	Wyoming Na-bentonite	NASK saline ground water pH7.7 ionic str. .218	1.8 dry	D		
632	116	Cs(I)	80	cc/g	80.000	Wyoming Na-bentonite	NASK saline ground water pH7.7 ionic str. .218	1.8 dry	D		
633	116	Cs(I)	85	cc/g	85.000	Wyoming Na-bentonite	Allard ground water pH8-8.2 ionic str. .018	1.8 dry	D		
634	116	Cs(I)	270	cc/g	270.000	Wyoming Na-bentonite	Allard ground water pH8-8.2 ionic str. .019	1.8 dry	D		
635	116	Cs(I)	270	cc/g	270.000	Wyoming Na-bentonite	Allard ground water pH8-8.2 ionic str. .020	1.8 dry	D		
636	116	Cs(I)	450	cc/g	450.000	Wyoming Na-bentonite	Allard ground water pH8-8.2 ionic str. .021	1.8 dry	D		
637	122	Cs(I)	153	ml/g	153.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
638	122	Cs(I)	167	ml/g	167.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
639	122	Cs(I)	212	ml/g	212.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
640	122	Cs(I)	228	ml/g	228.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
641	122	Cs(I)	960	ml/g	960.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
642	122	Cs(I)	1080	ml/g	1080.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
643	122	Cs(I)	1162	ml/g	1162.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
644	122	Cs(I)	1432	ml/g	1432.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
645	122	Cs(I)	2125	ml/g	2125.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
646	122	Cs(I)	4885	ml/g	4885.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
647	122	Cs(I)	5968	ml/g	5968.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
628	7.8	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
629		AA	20	1E-2M		A				
630		AA	20	1E-4M		A				
631		AA	20	1E-6M		A				
632		AA	20	1E-8M		A				
633		AA	20	1E-2M		A				
634		AA	20	1E-4M		A				
635		AA	20	1E-6M		A				
636		AA	20	1E-8M		A				
637	10	AA	60	1E-3M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
638	8	AA	60	1E-3M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
639	8	AA	23	1E-3M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
640	10	AA	23	1E-3M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
641	8	AA	60	1E-5M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
642	8	AA	23	1E-5M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
643	10	AA	60	1E-5M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
644	8	AA	60	8.76E-10M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
645	10	AA	23	1E-5M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
646	10	AA	60	1E-10M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
647	10	AA	23	1E-7M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
648	122	Cs(I)	9795	ml/g	9795.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
649	122	Cs(I)	10000	ml/g	10000.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
650	122	Cs(I)	11600	ml/g	11600.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
651	122	Cs(I)	11800	ml/g	11800.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
652	122	Cs(I)	12400	ml/g	12400.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
653	122	Cs(I)	>10000	ml/g	>10000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
654	122	Cs(I)	>10000	ml/g	>10000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
655	122	Cs(I)	>10000	ml/g	>10000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
656	122	Cs(I)	>10000	ml/g	>10000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
657	122	Cs(I)	>12000	ml/g	>12000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
658	122	Cs(I)	>12000	ml/g	>12000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
659	136	Cs(I)	3	ml/g	3.000	commercial bentonite	Brine A, 1.8M Na		BS	7	40
660	136	Cs(I)	3.6	ml/g	3.600	commercial bentonite	Brine B, 5.0M Na		BS	7	40
661	136	Cs(I)	4.4	ml/g	4.400	commercial bentonite	Brine B, 5.0M Na		BS	7	40
662	136	Cs(I)	4.9	ml/g	4.900	commercial bentonite	Brine A, 1.8M Na		BS	7	40
663	136	Cs(I)	0.4	ml/g	0.400	commercial hectorite	Brine A, 1.8M Na		BS	7	40
664	136	Cs(I)	0.7	ml/g	0.700	commercial hectorite	Brine A, 1.8M Na		BS	7	40
665	136	Cs(I)	1.6	ml/g	1.600	commercial hectorite	Brine B, 5.0M Na		BS	7	40
666	136	Cs(I)	3.4	ml/g	3.400	commercial hectorite	Brine B, 5.0M Na		BS	7	40
667	150	Cs(I)	19	cc/g	19.000	sat. compacted bentonite	DI?	1.8	D		
668	150	Cs(I)	19	cc/g	19.000	sat. compacted bentonite	DI?	2	D		
669	150	Cs(I)	21	cc/g	21.000	sat. compacted bentonite	DI?	1.6	D		
670	150	Cs(I)	24	cc/g	24.000	sat. compacted bentonite	DI?	1.4	D		
671	150	Cs(I)	29	cc/g	29.000	sat. compacted bentonite	DI?	1.2	D		
672	150	Cs(I)	36	cc/g	36.000	sat. compacted bentonite	DI?	1	D		
673	150	Cs(I)	53	cc/g	53.000	sat. compacted bentonite	DI?	0.8	D		
674	150	Cs(I)	90	cc/g	90.000	sat. compacted bentonite	DI?	0.6	D		
675	150	Cs(I)	130	cc/g	130.000	sat. compacted bentonite	DI?	0.4	D		
676	150	Cs(I)	300	cc/g	300.000	sat. compacted bentonite	DI?	0.2	D		
677	158	Cs(I)	228	ml/g	228.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	3	30
678	158	Cs(I)	296	ml/g	296.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	10	30

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
648	10	AA	23	1E-9M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
649	8	AA	23	1E-7M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
650	8	AA	60	1E-9M		A	71.66	546		Sorbent is 98% smectite; identified as nontronite, with minor Fe oxides, calcite and silicates
651	8	AA	60	1E-10M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
652	8	AA	60	1E-7M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
653	8	AA	23	8.76E-10M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
654	10	AA	23	1E-10M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
655	10	AA	60	1E-7M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
656	10	AA	60	1E-9M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
657	8	AA	23	1E-9M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
658	8	AA	23	1E-10M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
659	6.5	AA	22 to 24	1E-5M		A	75			85 to 90% montmorillonite
660	7	AA	22 to 24	1E-5M		A	75			85 to 90% montmorillonite
661	7.2	AA	22 to 24	1E-5M		A	75			85 to 90% montmorillonite
662	6.5	AA	22 to 24	1E-5M		A	75			85 to 90% montmorillonite
663	6.4	AA	22 to 24	1E-5M		A	104			50% hectorite, rest calcite & dolomite
664	6.5	AA	22 to 24	1E-5M		A	104			50% hectorite, rest calcite & dolomite
665	7.7	AA	22 to 24	1E-5M		A	104			50% hectorite, rest calcite & dolomite
666	7.7	AA	22 to 24	1E-5M		A	104			50% hectorite, rest calcite & dolomite
667		AA?	20?			A				Rd as function of compaction density
668		AA?	20?			A				Rd as function of compaction density
669		AA?	20?			A				Rd as function of compaction density
670		AA?	20?			A				Rd as function of compaction density
671		AA?	20?			A				Rd as function of compaction density
672		AA?	20?			A				Rd as function of compaction density
673		AA?	20?			A				Rd as function of compaction density
674		AA?	20?			A				Rd as function of compaction density
675		AA?	20?			A				Rd as function of compaction density
676		AA?	20?			A				Rd as function of compaction density
677	8	anoxic	20				87.4	722.2		
678	7.8	anoxic	20				87.4	722.2		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
679	158	Cs(I)	462	ml/g	462.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	30	30
680	158	Cs(I)	758	ml/g	758.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	30	30
681	158	Cs(I)	13	ml/g	13.000	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	3	30
682	158	Cs(I)	14.6	ml/g	14.600	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	10	30
683	158	Cs(I)	15.9	ml/g	15.900	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	30	30
684	158	Cs(I)	21.3	ml/g	21.300	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	30	30
685	158	Cs(I)	763	ml/g	763.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	30	30
686	158	Cs(I)	848	ml/g	848.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	10	30
687	158	Cs(I)	881	ml/g	881.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	3	30
688	158	Cs(I)	933	ml/g	933.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	10	30
689	158	Cs(I)	985	ml/g	985.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	30	30
690	158	Cs(I)	1036	ml/g	1036.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	30	30
691	158	Cs(I)	1067	ml/g	1067.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	3	30
692	158	Cs(I)	1180	ml/g	1180.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	30	30
693	161	Cs(I)	218	ml/g	218.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	29	30
694	161	Cs(I)	276	ml/g	276.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	3	30
695	161	Cs(I)	341	ml/g	341.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	10	30
696	161	Cs(I)	31.6	ml/g	31.600	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	10	30
697	161	Cs(I)	33.2	ml/g	33.200	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	29	30
698	161	Cs(I)	34	ml/g	34.000	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	3	30
699	161	Cs(I)	1020	ml/g	1020.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	29	30
700	161	Cs(I)	1036	ml/g	1036.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	10	30
701	161	Cs(I)	1100	ml/g	1100.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	3	30
702	161	Cs(I)	1223	ml/g	1223.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	10	30
703	161	Cs(I)	1300	ml/g	1300.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	3	30
704	161	Cs(I)	1560	ml/g	1560.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	29	30
705	163	Cs(I)	14	l/kg	14.000	montmorillonite	.65M NaCl and .1M Na Acetate				
706	163	Cs(I)	15	l/kg	15.000	montmorillonite	.65M NaCl and .1M Na bicarbonate				
707	163	Cs(I)	20	l/kg	20.000	montmorillonite	.65M NaCl and well No.27				
708	163	Cs(I)	33	l/kg	33.000	montmorillonite	.65M NaCl and .1M Ca bicarbonate				
709	163	Cs(I)	64	l/kg	64.000	montmorillonite	.65M NaCl and well No.31				
710	166	Cs(I)	1420	ml/g	1420.000	natural bentonite	NV Test Site Well RNM-2S		BS	11.6	10
711	166	Cs(I)	1480	ml/g	1480.000	natural bentonite	NV Test Site Well RNM-2S		BS	27.6	10
712	166	Cs(I)	1570	ml/g	1570.000	natural bentonite	NV Test Site Well RNM-2S		BS	11.6	20
713	166	Cs(I)	1580	ml/g	1580.000	natural bentonite	NV Test Site Well RNM-2S		BS	2.8	10
714	166	Cs(I)	1780	ml/g	1780.000	natural bentonite	NV Test Site Well RNM-2S		BS	2.8	20
715	166	Cs(I)	1800	ml/g	1800.000	natural bentonite	NV Test Site Well RNM-2S		BS	144.6	10
716	166	Cs(I)	1890	ml/g	1890.000	natural bentonite	NV Test Site Well RNM-2S		BS	41.8	10
717	166	Cs(I)	1940	ml/g	1940.000	natural bentonite	NV Test Site Well RNM-2S		BS	41.8	20
718	166	Cs(I)	1960	ml/g	1960.000	natural bentonite	NV Test Site Well RNM-2S		BS	141.1	10

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
679	7.7	anoxic	20				87.4	722.2		
680	8.1	anoxic	20				87.4	722.2		
681	8.4	anoxic	20				87.4	722.2		
682	8.3	anoxic	20				87.4	722.2		
683	7.9	anoxic	20				87.4	722.2		
684	8.5	anoxic	20				87.4	722.2		
685	8.4	anoxic	20				87.4	722.2		
686	8.9	anoxic	20				87.4	722.2		
687	9.3	anoxic	20				87.4	722.2		
688	9.5	anoxic	20				87.4	722.2		
689	9.1	anoxic	20				87.4	722.2		
690	8.6	anoxic	20				87.4	722.2		
691	9	anoxic	20				87.4	722.2		
692	9.6	anoxic	20				87.4	722.2		
693	7.8	AA	20				87.4	722.2		
694	7.8	AA	20				87.4	722.2		
695	7.8	AA	20				87.4	722.2		
696	8.1	AA	20				87.4	722.2		
697	8.1	AA	20				87.4	722.2		
698	8.1	AA	20				87.4	722.2		
699	8.6	AA	20				87.4	722.2		
700	9.2	AA	20				87.4	722.2		
701	8.6	AA	20				87.4	722.2		
702	8.6	AA	20				87.4	722.2		
703	9.2	AA	20				87.4	722.2		
704	9.2	AA	20				87.4	722.2		
705	5			1E-3M						
706	8			1E-3M						
707	8			1E-3M						
708	8			1E-3M						
709	8			1E-3M						
710	9	AA	20			A	56 to 72	33.8		
711	9	AA	20			A	56 to 72	33.8		
712	9	AA	20			A	56 to 72	33.8		
713	9	AA	20			A	56 to 72	33.8		
714	9	AA	20			A	56 to 72	33.8		
715	9	AA	20			D	56 to 72	33.8		
716	9	AA	20			A	56 to 72	33.8		
717	9	AA	20			A	56 to 72	33.8		
718	9	AA	20			D	56 to 72	33.8		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
719	166	Cs(I)	2040	ml/g	2040.000	natural bentonite	NV Test Site Well RNM-2S		BS	39	20
720	166	Cs(I)	2080	ml/g	2080.000	natural bentonite	NV Test Site Well RNM-2S		BS	27.6	20
721	166	Cs(I)	2150	ml/g	2150.000	natural bentonite	NV Test Site Well RNM-2S		BS	144.6	20
722	166	Cs(I)	2190	ml/g	2190.000	natural bentonite	NV Test Site Well RNM-2S		BS	39	10
723	166	Cs(I)	2280	ml/g	2280.000	natural bentonite	NV Test Site Well RNM-2S		BS	141.1	20
724	168	Cs(I)	0.0577	m3/kg	57.682	compacted Na bentonite	1M NaCl		BS		10
725	168	Cs(I)	0.0934	m3/kg	93.438	compacted Na bentonite	.5M NaCl		BS		10
726	168	Cs(I)	0.3243	m3/kg	324.283	compacted Na bentonite	.1M NaCl		BS		10
727	168	Cs(I)	1.2077	m3/kg	1207.703	compacted Na bentonite	.01M NaCl		BS		10
728	168	Cs(I)	2.8561	m3/kg	2856.121	compacted Na bentonite	.001M NaCl		BS		10
729	168	Cs(I)	0.05	m3/kg	50.000	Na sat. compacted bentonite	1.2M NaCl	2.03	BS	28	10
730	168	Cs(I)	0.09	m3/kg	90.000	Na sat. compacted bentonite	0.6M NaCl	1.98	BS	28	10
731	168	Cs(I)	0.184	m3/kg	184.000	Na sat. compacted bentonite	ground water, total salt 10g/l, +EDTA at 0.5g/l		BS	28	10
732	168	Cs(I)	0.184	m3/kg	184.000	Na sat. compacted bentonite	ground water, total salt 10g/l, +EDTA at 0.5g/l		BS	28	10
733	168	Cs(I)	0.21	m3/kg	210.000	Na sat. compacted bentonite	0.2M NaCl	1.87	BS	28	10
734	168	Cs(I)	0.393	m3/kg	393.000	Na sat. compacted bentonite	ground water, total salt 10g/l		BS	28	10
735	168	Cs(I)	0.393	m3/kg	393.000	Na sat. compacted bentonite	ground water, total salt 10g/l		BS	28	10
736	168	Cs(I)	0.85	m3/kg	850.000	Na sat. compacted bentonite	0.02M NaCl	1.91	BS	28	10
737	168	Cs(I)	1.8	m3/kg	1800.000	Na sat. compacted bentonite	0.003M NaCl	1.94	BS	28	10
738	190	Cs(I)	0.36	cd/g	360.000	Ca sat. montmorillonite	sorbate's chloride in DI with Aldrich humic acid at 0.21g/l		BS	0.083	200
739	190	Cs(I)	0.38	cd/g	380.000	Ca sat. montmorillonite	sorbate's chloride in DI with Aldrich humic acid at 0.09g/l		BS	0.083	200
740	190	Cs(I)	0.46	cd/g	460.000	Ca sat. montmorillonite	sorbate's chloride in DI with Aldrich humic acid at 0.02g/l		BS	0.083	200
741	190	Cs(I)	0.46	cd/g	460.000	Ca sat. montmorillonite	sorbate's chloride in DI with Aldrich humic acid at 0.04g/l		BS	0.083	200
742	190	Cs(I)	0.62	cd/g	620.000	Ca sat. montmorillonite	sorbate's chloride in DI with Aldrich humic acid at 0.0g/l		BS	0.083	200
743	37	Cu(II)	88	l/kg	88.000	Gramada clay (76% smectite, 19% illite, 6% kaolinite)	.01M Ca(NO3)2		BS	2	200
744	37	Cu(II)	358	l/kg	358.000	Gramada clay (76% smectite, 19% illite, 6% kaolinite)	.01M Ca(NO3)2		BS	2	200
745	37	Cu(II)	401	l/kg	401.000	Gramada clay (76% smectite, 19% illite, 6% kaolinite)	.01M Ca(NO3)2		BS	2	200
746	37	Cu(II)	546	l/kg	546.000	Gramada clay (76% smectite, 19% illite, 6% kaolinite)	.01M Ca(NO3)2		BS	2	200
747	37	Cu(II)	797	l/kg	797.000	Gramada clay (76% smectite, 19% illite, 6% kaolinite)	.01M Ca(NO3)2		BS	2	200

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
719	9	AA	20			D	56 to 72	33.8		
720	9	AA	20			A	56 to 72	33.8		
721	9	AA	20			D	56 to 72	33.8		
722	9	AA	20			D	56 to 72	33.8		
723	9	AA	20			D	56 to 72	33.8		
724		AA	20			A				
725		AA	20			A				
726		AA	20			A				
727		AA	20			A				
728		AA	20			A				
729		AA	20			A				
730		AA	20			A				
731		AA	20			A				
732		AA	20			A				
733		AA	20			A				
734		AA	20			A				
735		AA	20			A				
736		AA	20			A				
737		AA	20			A				
738	7.0-7.3	aerobic	20	1E-4M		A				
739	7.0-7.3	aerobic	20	1E-4M		A				
740	7.0-7.3	aerobic	20	1E-4M		A				
741	7.0-7.3	aerobic	20	1E-4M		A				
742	7.0-7.3	aerobic	20	1E-4M		A				
743	4.03	AA	20		10 mg/l	A	67.9	74.3		
744	4.03	AA	20		1 mg/l	A	67.9	74.3		
745	5.3	AA	20		5 mg/l	A	67.9	74.3		
746	4.03	AA	20		0.5 mg/l	A	67.9	74.3		
747	5.3	AA	20		1 mg/l	A	67.9	74.3		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-lzed to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
748	37	Cu(II)	1072	l/kg	1072.000	Gramada clay (76% smectite, 19% illite, 6% kaolinite)	.01M Ca(NO3)2		BS	2	200
749	37	Cu(II)	58	l/kg	58.000	Surnevo clay (35% smectite, 25% illite, 24% vermiculite, 12% kaolinite)	.01M Ca(NO3)2		BS	2	200
750	37	Cu(II)	216	l/kg	216.000	Surnevo clay (35% smectite, 25% illite, 24% vermiculite, 12% kaolinite)	.01M Ca(NO3)2		BS	2	200
751	37	Cu(II)	250	l/kg	250.000	Surnevo clay (35% smectite, 25% illite, 24% vermiculite, 12% kaolinite)	.01M Ca(NO3)2		BS	2	200
752	37	Cu(II)	270	l/kg	270.000	Surnevo clay (35% smectite, 25% illite, 24% vermiculite, 12% kaolinite)	.01M Ca(NO3)2		BS	2	200
753	37	Cu(II)	286	l/kg	286.000	Surnevo clay (35% smectite, 25% illite, 24% vermiculite, 12% kaolinite)	.01M Ca(NO3)2		BS	2	200
754	37	Cu(II)	321	l/kg	321.000	Surnevo clay (35% smectite, 25% illite, 24% vermiculite, 12% kaolinite)	.01M Ca(NO3)2		BS	2	200
755	48	Cu(II)	310	ml/g	310.476	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500
756	48	Cu(II)	907	ml/g	906.690	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500
757	48	Cu(II)	3395	ml/g	3395.365	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500
758	48	Cu(II)	4291	ml/g	4290.784	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500
759	48	Cu(II)	4795	ml/g	4795.094	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
748	5.3	AA	20		0.5 mg/l	A	67.9	74.3		
749	4.54	AA	20		10 mg/l	A	26.7	68.2		
750	4.54	AA	20		1 mg/l	A	26.7	68.2		
751	5.23	AA	20		0.5 mg/l	A	26.7	68.2		
752	5.23	AA	20		1 mg/l	A	26.7	68.2		
753	5.23	AA	20		5 mg/l	A	26.7	68.2		
754	4.54	AA	20		0.5 mg/l	A	26.7	68.2		
755	4.9	AA	20		1.21E-03	A				Rd calculated by Grant Env. from data of P48 Figure 3c
756	4.9	AA	20		3.56E-04	A				Rd calculated by Grant Env. from data of P48 Figure 3c
757	4.9	AA	20		6.64E-05	A				Rd calculated by Grant Env. from data of P48 Figure 3c
758	4.9	AA	20		5.24E-06	A				Rd calculated by Grant Env. from data of P48 Figure 3c
759	4.9	AA	20		2.47E-05	A				Rd calculated by Grant Env. from data of P48 Figure 3c

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
760	48	Cu(II)	5495	ml/g	5494.958	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500
761	75	Cu(II)	3.18	ml/g	3.178	Ca sat. montmorillonite (probably from Spur, WY)	0.05M CaCl2		BS	1	200
762	75	Cu(II)	3.48	ml/g	3.484	Ca sat. montmorillonite (probably from Spur, WY)	0.05M CaCl2		BS	1	200
763	75	Cu(II)	24.08	ml/g	24.080	Ca sat. montmorillonite (probably from Spur, WY)	0.05M CaCl2		BS	1	200
764	75	Cu(II)	30.54	ml/g	30.545	Ca sat. montmorillonite (probably from Spur, WY)	0.05M CaCl2		BS	1	200
765	75	Cu(II)	157.44	ml/g	157.443	Ca sat. montmorillonite (probably from Spur, WY)	0.05M CaCl2		BS	1	200
766	75	Cu(II)	207.81	ml/g	207.814	Ca sat. montmorillonite (probably from Spur, WY)	0.05M CaCl2		BS	1	200
767	75	Cu(II)	638.36	ml/g	638.364	Ca sat. montmorillonite (probably from Spur, WY)	0.05M CaCl2		BS	1	200
768	75	Cu(II)	2739.45	ml/g	2739.447	Ca sat. montmorillonite (probably from Spur, WY)	0.05M CaCl2		BS	1	200
769	75	Cu(II)	>10000	ml/g	>10000	Ca sat. montmorillonite (probably from Spur, WY)	0.05M CaCl2		BS	1	200
770	200	Hg(II)	7.9	ml/g	7.872	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
771	200	Hg(II)	14.1	ml/g	14.058	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
772	200	Hg(II)	55.1	ml/g	55.086	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
773	200	Hg(II)	97.9	ml/g	97.897	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
774	200	Hg(II)	137.3	ml/g	137.282	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
775	200	Hg(II)	135.8	ml/g	135.812	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
760	4.9	AA	20		8.83E-06	A				Rd calculated by Grant Env. from data of P48 Figure 3c
761	3.316	AA	30	7.87E-5M		A				Rd values were calculated by Grant Env. from data in P75 Figure 1.
762	2.649	AA	30	7.87E-5M		A				Rd values were calculated by Grant Env. from data in P75 Figure 1.
763	4.088	AA	30	7.87E-5M		A				Rd values were calculated by Grant Env. from data in P75 Figure 1.
764	4.579	AA	30	7.87E-5M		A				Rd values were calculated by Grant Env. from data in P75 Figure 1.
765	5.144	AA	30	7.87E-5M		A				Rd values were calculated by Grant Env. from data in P75 Figure 1.
766	6.075	AA	30	7.87E-5M		A				Rd values were calculated by Grant Env. from data in P75 Figure 1.
767	6.477	AA	30	7.87E-5M		A				Rd values were calculated by Grant Env. from data in P75 Figure 1.
768	7.152	AA	30	7.87E-5M		A				Rd values were calculated by Grant Env. from data in P75 Figure 1.
769	7.337	AA	30	7.87E-5M		A				Rd values were calculated by Grant Env. from data in P75 Figure 1.
770	1.17	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
771	1.64	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
772	3.02	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
773	3.27	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
774	4.10	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
775	5.54	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
776	200	Hg(II)	108.6	ml/g	108.634	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
777	200	Hg(II)	66.6	ml/g	66.595	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
778	200	Hg(II)	70.8	ml/g	70.843	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
779	200	Hg(II)	58.6	ml/g	58.592	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
780	200	Hg(II)	45.8	ml/g	45.807	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
781	200	Hg(II)	28.8	ml/g	28.809	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
782	200	Hg(II)	37.3	ml/g	37.320	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
783	200	Hg(II)	29.7	ml/g	29.652	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
784	200	Hg(II)	28.2	ml/g	28.244	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
785	200	Hg(II)	28.0	ml/g	28.022	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	pH adjusted DI		BS	1	20
786	200	Hg(II)	0.7	ml/g	0.666	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
787	200	Hg(II)	0.7	ml/g	0.718	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
788	200	Hg(II)	5.4	ml/g	5.423	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
789	200	Hg(II)	3.0	ml/g	2.964	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
776	6.48	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
777	6.72	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
778	7.03	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
779	7.29	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
780	7.36	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
781	7.61	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
782	8.26	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
783	8.96	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
784	10.56	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
785	12.67	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
786	1.15	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
787	1.61	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
788	2.97	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
789	3.29	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
790	200	Hg(II)	2.0	ml/g	2.003	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
791	200	Hg(II)	7.9	ml/g	7.877	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
792	200	Hg(II)	31.6	ml/g	31.557	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
793	200	Hg(II)	45.4	ml/g	45.368	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
794	200	Hg(II)	46.7	ml/g	46.702	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
795	200	Hg(II)	41.5	ml/g	41.508	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
796	200	Hg(II)	28.0	ml/g	28.022	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
797	200	Hg(II)	34.1	ml/g	34.083	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
798	200	Hg(II)	30.3	ml/g	30.297	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
799	200	Hg(II)	28.4	ml/g	28.370	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
800	200	Hg(II)	28.1	ml/g	28.146	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-3M NaCl		BS	1	20
801	200	Hg(II)	0.1	ml/g	0.125	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
802	200	Hg(II)	0.2	ml/g	0.161	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
803	200	Hg(II)	1.3	ml/g	1.287	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
790	4.06	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
791	5.51	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
792	6.44	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
793	7.01	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
794	7.29	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
795	7.40	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
796	7.60	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
797	8.24	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
798	8.92	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
799	10.56	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
800	12.66	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
801	1.17	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
802	1.61	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
803	3.00	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
804	200	Hg(II)	1.3	ml/g	1.341	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
805	200	Hg(II)	0.4	ml/g	0.388	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
806	200	Hg(II)	1.7	ml/g	1.728	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
807	200	Hg(II)	2.7	ml/g	2.720	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
808	200	Hg(II)	5.0	ml/g	4.981	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
809	200	Hg(II)	10.0	ml/g	9.956	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
810	200	Hg(II)	11.9	ml/g	11.900	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
811	200	Hg(II)	13.2	ml/g	13.223	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
812	200	Hg(II)	27.9	ml/g	27.897	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
813	200	Hg(II)	30.8	ml/g	30.787	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
814	200	Hg(II)	29.5	ml/g	29.461	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
815	200	Hg(II)	28.2	ml/g	28.244	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
816	200	Hg(II)	28.1	ml/g	28.091	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	1E-2M NaCl		BS	1	20
817	200	Hg(II)	0.8	ml/g	0.834	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
804	3.30	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
805	4.10	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
806	5.55	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
807	6.46	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
808	6.75	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
809	7.05	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
810	7.23	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
811	7.39	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
812	7.61	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
813	8.24	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
814	8.95	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
815	10.54	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
816	12.68	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
817	2.05	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time In Days	Solution Volume to Sorbent Mass Ratio (ml/g)
818	200	Hg(II)	0.8	ml/g	0.751	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
819	200	Hg(II)	1.0	ml/g	0.957	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
820	200	Hg(II)	0.9	ml/g	0.889	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
821	200	Hg(II)	0.9	ml/g	0.886	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
822	200	Hg(II)	0.9	ml/g	0.863	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
823	200	Hg(II)	0.3	ml/g	0.277	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
824	200	Hg(II)	2.4	ml/g	2.402	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
825	200	Hg(II)	16.8	ml/g	16.762	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
826	200	Hg(II)	15.5	ml/g	15.516	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
827	200	Hg(II)	17.5	ml/g	17.507	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
828	200	Hg(II)	27.6	ml/g	27.624	Ca-bentonite, 93% montmorillonite (Niederbayern, FRG)	5E-1M NaCl		BS	1	20
829	200	Hg(II)	10.9	ml/g	10.900	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
830	200	Hg(II)	10.8	ml/g	10.815	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
831	200	Hg(II)	8.3	ml/g	8.337	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
832	200	Hg(II)	7.4	ml/g	7.427	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
818	3.30	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
819	6.14	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
820	6.70	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
821	6.86	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
822	7.01	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
823	7.92	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
824	8.93	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
825	11.29	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
826	12.15	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
827	12.94	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
828	13.29	AA	20	1.25E-06		A	92	62.4		Rd calculated by Grant Env. using data from P200
829	0.80	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
830	1.16	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
831	1.43	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
832	2.26	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
833	200	Hg(II)	8.2	ml/g	8.169	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
834	200	Hg(II)	11.3	ml/g	11.342	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
835	200	Hg(II)	23.1	ml/g	23.092	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
836	200	Hg(II)	90.0	ml/g	90.035	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
837	200	Hg(II)	63.2	ml/g	63.222	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
838	200	Hg(II)	91.4	ml/g	91.433	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
839	200	Hg(II)	47.8	ml/g	47.760	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
840	200	Hg(II)	46.4	ml/g	46.383	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
841	200	Hg(II)	32.2	ml/g	32.236	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
842	200	Hg(II)	19.0	ml/g	18.953	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
843	200	Hg(II)	24.9	ml/g	24.903	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
844	200	Hg(II)	23.1	ml/g	23.059	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
845	200	Hg(II)	77.3	ml/g	77.314	Na-bentonite, 75% montmorillonite (Wyoming)	pH adjusted DI		BS	1	20
846	200	Hg(II)	3.6	ml/g	3.608	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
847	200	Hg(II)	2.6	ml/g	2.646	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
848	200	Hg(II)	3.8	ml/g	3.790	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
849	200	Hg(II)	6.3	ml/g	6.344	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
850	200	Hg(II)	6.5	ml/g	6.456	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
851	200	Hg(II)	4.9	ml/g	4.873	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
852	200	Hg(II)	8.4	ml/g	8.351	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
853	200	Hg(II)	22.2	ml/g	22.230	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
833	2.33	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
834	3.19	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
835	3.87	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
836	4.28	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
837	4.80	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
838	5.23	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
839	6.22	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
840	6.27	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
841	8.24	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
842	9.33	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
843	9.71	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
844	10.98	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
845	12.80	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
846	0.83	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
847	1.17	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
848	1.47	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
849	3.85	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
850	4.30	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
851	4.80	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
852	5.24	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
853	6.23	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time In Days	Solution Volume to Sorbent Mass Ratio (ml/g)
854	200	Hg(II)	22.6	ml/g	22.629	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
855	200	Hg(II)	31.9	ml/g	31.862	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
856	200	Hg(II)	19.0	ml/g	18.980	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
857	200	Hg(II)	22.8	ml/g	22.783	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
858	200	Hg(II)	22.8	ml/g	22.805	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
859	200	Hg(II)	75.6	ml/g	75.584	Na-bentonite, 75% montmorillonite (Wyoming)	1E-3M NaCl		BS	1	20
860	200	Hg(II)	1.4	ml/g	1.371	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
861	200	Hg(II)	0.3	ml/g	0.346	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
862	200	Hg(II)	2.8	ml/g	2.767	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
863	200	Hg(II)	2.4	ml/g	2.387	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
864	200	Hg(II)	2.4	ml/g	2.381	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
865	200	Hg(II)	4.7	ml/g	4.663	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
866	200	Hg(II)	3.8	ml/g	3.780	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
867	200	Hg(II)	2.5	ml/g	2.517	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
868	200	Hg(II)	0.5	ml/g	0.463	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
869	200	Hg(II)	3.9	ml/g	3.903	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
870	200	Hg(II)	2.3	ml/g	2.280	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
871	200	Hg(II)	1.3	ml/g	1.314	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
872	200	Hg(II)	29.7	ml/g	29.652	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
873	200	Hg(II)	15.4	ml/g	15.433	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
874	200	Hg(II)	22.0	ml/g	22.038	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
854	6.28	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
855	8.23	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
856	9.29	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
857	10.01	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
858	11.08	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
859	12.79	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
860	0.83	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
861	1.16	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
862	1.46	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
863	2.29	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
864	2.37	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
865	3.17	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
866	3.87	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
867	4.32	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
868	4.80	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
869	5.23	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
870	6.24	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
871	6.30	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
872	8.26	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
873	9.30	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
874	9.75	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
875	200	Hg(II)	20.5	ml/g	20.506	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
876	200	Hg(II)	78.4	ml/g	78.406	Na-bentonite, 75% montmorillonite (Wyoming)	1E-2M NaCl		BS	1	20
877	200	Hg(II)	1.0	ml/g	1.002	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
878	200	Hg(II)	0.2	ml/g	0.208	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
879	200	Hg(II)	1.2	ml/g	1.184	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
880	200	Hg(II)	0.9	ml/g	0.923	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
881	200	Hg(II)	0.1	ml/g	0.125	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
882	200	Hg(II)	0.1	ml/g	0.130	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
883	200	Hg(II)	0.3	ml/g	0.291	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
884	200	Hg(II)	0.9	ml/g	0.907	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
885	200	Hg(II)	0.1	ml/g	0.093	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
886	200	Hg(II)	0.0	ml/g	0.035	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
887	200	Hg(II)	0.5	ml/g	0.519	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
888	200	Hg(II)	0.3	ml/g	0.267	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
889	200	Hg(II)	0.3	ml/g	0.259	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
890	200	Hg(II)	4.4	ml/g	4.353	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
891	200	Hg(II)	11.4	ml/g	11.383	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
892	200	Hg(II)	22.9	ml/g	22.882	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
893	200	Hg(II)	87.3	ml/g	87.342	Na-bentonite, 75% montmorillonite (Wyoming)	5E-1M NaCl		BS	1	20
894	203	Hg(II)	1012.8	ml/g	1012.800	montmorillonite	apparently DI without chloride ion		B	0.167	
895	203	Hg(II)	468	ml/g	468.000	montmorillonite	apparently DI without chloride ion		B	0.167	
896	203	Hg(II)	423.3	ml/g	423.300	montmorillonite	apparently DI without chloride ion		B	0.167	
897	203	Hg(II)	214.1	ml/g	214.100	montmorillonite	apparently DI without chloride ion		B	0.167	

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
875	10.86	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
876	12.85	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
877	0.79	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
878	1.19	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
879	1.44	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
880	2.27	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
881	2.37	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
882	3.19	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
883	3.79	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
884	3.85	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
885	4.32	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
886	4.82	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
887	5.22	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
888	6.26	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
889	6.29	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
890	8.25	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
891	9.06	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
892	10.01	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
893	12.73	AA	20	1.25E-06		A	73	94.8		Rd calculated by Grant Env. using data from P200
894	7	AA	25		6.44E-08	A				Rd calculated by Grant Env. using data from P203
895	7	AA	25		8.25E-07	A				Rd calculated by Grant Env. using data from P203
896	7	AA	25		1.13E-06	A				Rd calculated by Grant Env. using data from P203
897	7	AA	25		1.07E-05	A				Rd calculated by Grant Env. using data from P203

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
898	203	Hg(II)	187.1	ml/g	187.100	montmorillonite	apparently DI without chloride ion		B	0.167	
899	203	Hg(II)	0.4	ml/g	0.400	montmorillonite	apparently DI without chloride ion		B	0.167	
900	203	Hg(II)	0.2	ml/g	0.200	montmorillonite	apparently DI without chloride ion		B	0.167	
901	203	Hg(II)	0.2	ml/g	0.200	montmorillonite	apparently DI without chloride ion		B	0.167	
902	203	Hg(II)	0.1	ml/g	0.100	montmorillonite	apparently DI without chloride ion		B	0.167	
903	203	Hg(II)	34.9	ml/g	34.900	montmorillonite	apparently DI without chloride ion		B	0.167	
904	203	Hg(II)	33.2	ml/g	33.200	montmorillonite	apparently DI without chloride ion		B	0.167	
905	203	Hg(II)	30.2	ml/g	30.200	montmorillonite	apparently DI without chloride ion		B	0.167	
906	208	Hg(II)	84.9	ml/g	84.900	natural Na bentonite, not pretreated, 80% montmorillonite with minor illite and quartz (Wilcox, Saskatchewan)	wastewater from City of Regina Municipal Wastewater Treatment Plant (pH adjusted)	2.55	BS	0.167	80
907	208	Hg(II)	27	ml/g	27.000	natural Na bentonite, not pretreated, 80% montmorillonite with minor illite and quartz (Wilcox, Saskatchewan)	wastewater from City of Regina Municipal Wastewater Treatment Plant (pH adjusted)	2.55	BS	0.167	80
908	208	Hg(II)	9.1	ml/g	9.100	natural Na bentonite, not pretreated, 80% montmorillonite with minor illite and quartz (Wilcox, Saskatchewan)	wastewater from City of Regina Municipal Wastewater Treatment Plant (pH adjusted)	2.55	BS	0.167	80
909	211	Hg(II)	81.1	ml/g	81.100	bentonite suspended to separate and use the <2 micron montmorillonite fraction (Upton, WY)	0.28M NaCl		BS	2	500
910	211	Hg(II)	268	ml/g	268.000	bentonite suspended to separate and use the <2 micron montmorillonite fraction (Upton, WY)	0.28M NaClO4		BS	2	500
911	211	Hg(II)	193.7	ml/g	193.700	bentonite suspended to separate and use the <2 micron montmorillonite fraction (Upton, WY)	0.28M NaNO3		BS	2	500

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
898	7	AA	25		1.75E-05	A				Rd calculated by Grant Env. using data from P203
899	7	AA	25		2.43E-05	A				Rd calculated by Grant Env. using data from P203. This Rd appears low; units may be incorrect on P203 Fig. 14 x-axis?
900	7	AA	25		2.82E-04	A				Rd calculated by Grant Env. using data from P203. This Rd appears low; units may be incorrect on P203 Fig. 14 x-axis?
901	7	AA	25		4.15E-04	A				Rd calculated by Grant Env. using data from P203. This Rd appears low; units may be incorrect on P203 Fig. 14 x-axis?
902	7	AA	25		3.48E-03	A				Rd calculated by Grant Env. using data from P203. This Rd appears low; units may be incorrect on P203 Fig. 14 x-axis?
903	7	AA	25		4.61E-07	A				Rd calculated by Grant Env. using data from P203
904	7	AA	25		2.76E-06	A				Rd calculated by Grant Env. using data from P203
905	7	AA	25		2.76E-05	A				Rd calculated by Grant Env. using data from P203
906	3.0 to 3.5	AA	21	4.74E-06		A		74.5		Rd estimated by Grant Env. using Langmuir constants from p208 and assuming Hg concentration approaches zero
907	3.0 to 3.5	AA	15	5.16E-06		A		74.5		Rd estimated by Grant Env. using Langmuir constants from p208 and assuming Hg concentration approaches zero
908	3.0 to 3.5	AA	10	4.91E-06		A		74.5		Rd estimated by Grant Env. using Langmuir constants from p208 and assuming Hg concentration approaches zero
909	7.3	AA	25			A				Rd calculated by Grant Env. using data from p211
910	7.3	AA	25			A				Rd calculated by Grant Env. using data from p211
911	7.3	AA	25			A				Rd calculated by Grant Env. using data from p211

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
912	211	Hg(II)	74.5	ml/g	74.500	bentonite suspended to separate and use the <2 micron montmorillonite fraction (Upton, WY)	0.14M CaCl2		BS	2	500
913	211	Hg(II)	198.5	ml/g	198.500	bentonite suspended to separate and use the <2 micron montmorillonite fraction (Upton, WY)	0.14M Ca(NO3)2		BS	2	500
914	211	Hg(II)	318.1	ml/g	318.100	bentonite suspended to separate and use the <2 micron montmorillonite fraction (Upton, WY)	DI		BS	2	500
915	216	Hg(II)	13684.0	ml/g	13683.955	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M sulfate ion		BE	>1	4000
916	216	Hg(II)	11554.0	ml/g	11553.989	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M sulfate ion		BE	>1	4000
917	216	Hg(II)	1516.7	ml/g	1516.671	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M sulfate ion		BE	>1	4000
918	216	Hg(II)	188.9	ml/g	188.948	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M sulfate ion		BE	>1	4000
919	216	Hg(II)	164.9	ml/g	164.904	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M sulfate ion		BE	>1	4000
920	216	Hg(II)	51.4	ml/g	51.402	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M sulfate ion		BE	>1	4000
921	216	Hg(II)	31.0	ml/g	31.039	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M sulfate ion		BE	>1	4000

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
912	7	AA	25			A				Rd calculated by Grant Env. using data from p211
913	7	AA	25			A				Rd calculated by Grant Env. using data from p211
914	7.3	AA	25			A				Rd calculated by Grant Env. using data from p211
915	3.64	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
916	4.11	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
917	4.73	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
918	5.87	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
919	6.44	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
920	6.84	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
921	8.38	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time In Days	Solution Volume to Sorbent Mass Ratio (ml/g)
922	216	Hg(II)	23.1	ml/g	23.057	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M sulfate ion		BE	>1	4000
923	216	Hg(II)	2943.2	ml/g	2943.164	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
924	216	Hg(II)	1645.4	ml/g	1645.432	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
925	216	Hg(II)	3180.4	ml/g	3180.362	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
926	216	Hg(II)	988.4	ml/g	988.425	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
927	216	Hg(II)	749.7	ml/g	749.748	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
928	216	Hg(II)	763.1	ml/g	763.110	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
929	216	Hg(II)	543.0	ml/g	543.002	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
930	216	Hg(II)	740.1	ml/g	740.144	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
931	216	Hg(II)	411.5	ml/g	411.481	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
922	10.32	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
923	3.66	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
924	4.55	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
925	5.03	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
926	5.32	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
927	5.52	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
928	5.89	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
929	6.10	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
930	6.36	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
931	6.96	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
932	216	Hg(II)	415.3	ml/g	415.316	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
933	216	Hg(II)	36.9	ml/g	36.913	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
934	216	Hg(II)	42.3	ml/g	42.267	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
935	216	Hg(II)	23.1	ml/g	23.057	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-2M phosphate ion		BE	>1	4000
936	216	Hg(II)	3228.0	ml/g	3228.045	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M sulfate ion		BE	>1	4000
937	216	Hg(II)	1933.4	ml/g	1933.398	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M sulfate ion		BE	>1	4000
938	216	Hg(II)	1180.9	ml/g	1180.928	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M sulfate ion		BE	>1	4000
939	216	Hg(II)	1167.8	ml/g	1167.750	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M sulfate ion		BE	>1	4000
940	216	Hg(II)	668.3	ml/g	668.262	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M sulfate ion		BE	>1	4000
941	216	Hg(II)	666.8	ml/g	666.832	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M sulfate ion		BE	>1	4000

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
932	7.39	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
933	8.86	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
934	8.97	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
935	9.77	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
936	3.87	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
937	5.25	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
938	6.30	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
939	6.59	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
940	6.85	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
941	7.57	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
942	216	Hg(II)	458.6	ml/g	458.594	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M sulfate ion		BE	>1	4000
943	216	Hg(II)	323.9	ml/g	323.857	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M sulfate ion		BE	>1	4000
944	216	Hg(II)	69.3	ml/g	69.254	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M sulfate ion		BE	>1	4000
945	216	Hg(II)	54.6	ml/g	54.636	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M sulfate ion		BE	>1	4000
946	216	Hg(II)	3647.0	ml/g	3646.996	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M phosphate ion		BE	>1	4000
947	216	Hg(II)	1579.3	ml/g	1579.287	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M phosphate ion		BE	>1	4000
948	216	Hg(II)	555.9	ml/g	555.906	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M phosphate ion		BE	>1	4000
949	216	Hg(II)	434.6	ml/g	434.590	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M phosphate ion		BE	>1	4000
950	216	Hg(II)	622.2	ml/g	622.240	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M phosphate ion		BE	>1	4000
951	216	Hg(II)	492.8	ml/g	492.773	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M phosphate ion		BE	>1	4000

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
942	9.74	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
943	9.90	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
944	10.62	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
945	10.92	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
946	3.45	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
947	5.49	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
948	6.65	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
949	6.65	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
950	7.12	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
951	7.67	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
952	216	Hg(II)	277.7	ml/g	277.732	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M phosphate ion		BE	>1	4000
953	216	Hg(II)	395.6	ml/g	395.574	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M phosphate ion		BE	>1	4000
954	216	Hg(II)	60.0	ml/g	60.038	Na sat. montmorillonite (Polkville, MS), organic matter was removed by pretreatment with peroxide	Hg(II) nitrate in pH adjusted DI with 1E-4M phosphate ion		BE	>1	4000
955	217	Hg(II)	408.1	ml/g	408.100	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M Ca(NO3)2		B	1	500
956	217	Hg(II)	214.1	ml/g	214.100	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M Ca(NO3)2		B	1	500
957	217	Hg(II)	179	ml/g	179.000	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M Ca(NO3)2		B	1	500
958	217	Hg(II)	119.1	ml/g	119.100	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M Ca(NO3)2		B	1	500
959	217	Hg(II)	140.8	ml/g	140.800	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M Ca(NO3)2		B	1	500
960	217	Hg(II)	156	ml/g	156.000	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M Ca(NO3)2		B	1	500
961	217	Hg(II)	162.9	ml/g	162.900	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M Ca(NO3)2		B	1	500
962	217	Hg(II)	30	ml/g	30.000	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M CaCl2		B	1	500
963	217	Hg(II)	28.9	ml/g	28.900	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M CaCl2		B	1	500
964	217	Hg(II)	29.2	ml/g	29.200	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M CaCl2		B	1	500
965	217	Hg(II)	58.5	ml/g	58.500	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M CaCl2		B	1	500
966	217	Hg(II)	141.4	ml/g	141.400	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M CaCl2		B	1	500
967	217	Hg(II)	164.4	ml/g	164.400	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M CaCl2		B	1	500
968	217	Hg(II)	224	ml/g	224.000	Ca sat. Wyoming bentonite (0.08 to 0.2 micron fraction)	0.01M CaCl2		B	1	500
969	49	I	0.001	m3/kg	1.000	bentonite					

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
952	8.16	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
953	8.80	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
954	9.44	AA, sealed glass containers	25	1.60E-04		A				Rd calculated by Grant Env. using data from P216
955	6.7	AA	20	1E-6M		A				
956	7.3	AA	20	1E-6M		A				
957	7.9	AA	20	1E-6M		A				
958	8.9	AA	20	1E-6M		A				
959	10.2	AA	20	1E-6M		A				
960	10.7	AA	20	1E-6M		A				
961	11	AA	20	1E-6M		A				
962	6.6	AA	20	1E-6M		A				
963	6.9	AA	20	1E-6M		A				
964	7.2	AA	20	1E-6M		A				
965	8.1	AA	20	1E-6M		A				
966	8.9	AA	20	1E-6M		A				
967	10.5	AA	20	1E-6M		A				
968	10.9	AA	20	1E-6M		A				
969										Shaw et al. (1989) SKI database value from p49

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
970	49	I	0.005	m3/kg	5.000	bentonite					
971	49	I	0.013	m3/kg	13.000	bentonite					
972	49	I	8.50E-06	m3/kg	0.009	bentonite and sand mix					
973	27	I(I)	0	ml/g	0.000	natural(?) Kunipia F smectite (montmorillonite)	1E-6M KI		BS	1	20
974	27	I(I)	0	ml/g	0.000	natural(?) Kunipia F smectite (montmorillonite)	1E-6M KI		BS	5	20
975	27	I(I)	0	ml/g	0.000	natural(?) Kunipia F smectite (montmorillonite)	1E-6M KI		BS	8	20
976	27	I(I)	0	ml/g	0.000	natural(?) Kunipia F smectite (montmorillonite)	1E-6M KI		BS	8	20
977	27	I(I)	0	ml/g	0.000	natural(?) Kunipia F smectite (montmorillonite)	1E-6M KI		BS	8	20
978	27	I(I)	0.202	ml/g	0.202	natural(?) Kunipia F smectite (montmorillonite)	1E-6M KI		BS	13	20
979	27	I(I)	0.964	ml/g	0.964	natural(?) Kunipia F smectite (montmorillonite)	1E-6M KI		BS	20	20
980	46	I(I)	1.9	ml/g	1.900	montmorillonite Swy-1	No fulvic acid, synthetic groundwater A, pH7.7		BS	28	40
981	46	I(I)	3.2	ml/g	3.200	montmorillonite Swy-1	1.52 mg/l fulvic acid, synthetic groundwater C, pH7.8		BS	28	40
982	46	I(I)	3.5	ml/g	3.500	montmorillonite Swy-1	0.5 mg/l fulvic acid, synthetic groundwater B, pH7.8		BS	28	40
983	46	I(I)	4	ml/g	4.000	montmorillonite Swy-1	5.02 mg/l fulvic acid, synthetic groundwater D, pH7.6		BS	28	40
984	63	I(I)	0.00025	m3/kg	0.250	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
985	63	I(I)	0.00032	m3/kg	0.320	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
986	63	I(I)	0.00032	m3/kg	0.320	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
987	63	I(I)	0.0004	m3/kg	0.400	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
988	63	I(I)	<0.001	m3/kg	<1	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
989	63	I(I)	<0.001	m3/kg	<1	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
990	63	I(I)	<0.001	m3/kg	<1	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
970										McKinley and Hadermann (1985) NAGRA database value from p49
971										KBS(1983) database value from p49
972										Wuschke et al. (1985) AECL database value from p49
973	8.2	AA	20	1E-6M		A		19.8		
974	8.8	AA	20	1E-6M		A		19.8		
975	7.7	AA	20	1E-6M		A		19.8		initial pH 3.7
976	7.8	AA	20	1E-6M		A		19.8		initial pH 6.3
977	8.1	AA	20	1E-6M		A		19.8		initial pH 10
978	8.7	AA	20	1E-6M		A		19.8		
979	9.3	AA	20	1E-6M		A		19.8		
980	7.7?	AA	20	6.3E-11M		A		31.82		
981	7.8?	AA	20	6.4E-11M		A		31.82		
982	7.8?	AA	20	6.3E-11M		A		31.82		
983	7.6?	AA	20	6.6E-11M		A		31.82		
984	8.2?	AA	25	1E-8M		A				
985	8.2?	AA	25	1E-8M		A				
986	8.2?	AA	25	1E-5M		A				
987	8.2?	AA	25	1E-5M		A				
988	8.2?	AA	65	1E-8M		A				
989	8.2?	AA	65	1E-8M		A				
990	8.2?	AA	65	1E-5M		A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
991	63	I(I)	<0.001	m3/kg	<1	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
992	63	I(I)	0.00025	m3/kg	2.500	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
993	63	I(I)	0.00032	m3/kg	3.200	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
994	63	I(I)	0.00032	m3/kg	3.200	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
995	63	I(I)	0.0004	m3/kg	4.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
996	63	I(I)	<0.001	m3/kg	<10	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
997	63	I(I)	<0.001	m3/kg	<10	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
998	63	I(I)	<0.001	m3/kg	<10	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
999	63	I(I)	<0.001	m3/kg	<10	100% bentonite	synthetic standard ground water. Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1000	95	I(I)	12	m3/Mg	12.000	Lake Agassiz clay (35% montmorillonite, 20% illite, 15% quartz, 10% kaolinite, 10% calcite)	synthetic ground water (SGW) pH7.2, ionic strength 0.22M		BS	10	2
1001	100	I(I)	0	ml/g	0.000	Wyoming Ca bentonite MX-80	synthetic ground water or DI		BS	7	50
1002	100	I(I)	0	ml/g	0.000	Wyoming Ca bentonite MX-80	synthetic ground water or DI		BS	7	50
1003	100	I(I)	0	ml/g	0.000	Wyoming Ca bentonite MX-80	synthetic ground water or DI		BS	7?	50
1004	100	I(I)	0	ml/g	0.000	Wyoming Ca bentonite MX-80	synthetic ground water or DI		BS	7?	50
1005	100	I(I)	670	ml/g	670.000	Wyoming Ca bentonite MX-80	synthetic ground water or DI		BS	7	50
1006	100	I(I)	770	ml/g	770.000	Wyoming Ca bentonite MX-80	synthetic ground water or DI		BS	7?	50
1007	100	I(I)	980	ml/g	980.000	Wyoming Ca bentonite MX-80	synthetic ground water or DI		BS	7	50
1008	100	I(I)	1100	ml/g	1100.000	Wyoming Ca bentonite MX-80	synthetic ground water or DI		BS	7?	50
1009	100	I(I)	0	ml/g	0.000	Wyoming Na bentonite MX-80	synthetic ground water or DI		BS	7	50
1010	100	I(I)	0	ml/g	0.000	Wyoming Na bentonite MX-80	synthetic ground water or DI		BS	7	50
1011	100	I(I)	0	ml/g	0.000	Wyoming Na bentonite MX-80	synthetic ground water or DI		BS	7?	50
1012	100	I(I)	0	ml/g	0.000	Wyoming Na bentonite MX-80	synthetic ground water or DI		BS	7?	50
1013	100	I(I)	1010	ml/g	1010.000	Wyoming Na bentonite MX-80	synthetic ground water or DI		BS	7?	50
1014	100	I(I)	1100	ml/g	1100.000	Wyoming Na bentonite MX-80	synthetic ground water or DI		BS	7	50
1015	100	I(I)	2480	ml/g	2480.000	Wyoming Na bentonite MX-80	synthetic ground water or DI		BS	7?	50
1016	100	I(I)	4260	ml/g	4260.000	Wyoming Na bentonite MX-80	synthetic ground water or DI		BS	7	50
1017	106	I(I)	0.001	m3/kg	1.000	Compacted Wyoming Na bentonite MX-80. 0.5% native iron added as a reductant	synthetic ground water	2	BD	194	

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
991	8.2?	AA	65	1E-5M		A				
992	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
993	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
994	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
995	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
996	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
997	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
998	8.2?	AA	65	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
999	8.2?	AA	65	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1000	>7.2?	AA	24			A				
1001		AA	22			A	76			44 mg/g sorbed quaternary alkylammonium ion
1002		AA	22			A	76			99 mg/g sorbed quaternary alkylammonium ion
1003		AA	22			D	76			44 mg/g sorbed quaternary alkylammonium ion
1004		AA	22			D	76			99 mg/g sorbed quaternary alkylammonium ion
1005		AA	22			A	76			188 mg/g sorbed quaternary alkylammonium ion
1006		AA	22			D	76			188 mg/g sorbed quaternary alkylammonium ion
1007		AA	22			A	76			250 mg/g sorbed quaternary alkylammonium ion
1008		AA	22			D	76			250 mg/g sorbed quaternary alkylammonium ion
1009		AA	22			A	76			48 mg/g sorbed quaternary alkylammonium ion
1010		AA	22			A	76			110 mg/g sorbed quaternary alkylammonium ion
1011		AA	22			D	76			48 mg/g sorbed quaternary alkylammonium ion
1012		AA	22			D	76			110 mg/g sorbed quaternary alkylammonium ion
1013		AA	22			D	76			192 mg/g sorbed quaternary alkylammonium ion
1014		AA	22			A	76			192 mg/g sorbed quaternary alkylammonium ion
1015		AA	22			D	76			306 mg/g sorbed quaternary alkylammonium ion
1016		AA	22			A	76			306 mg/g sorbed quaternary alkylammonium ion
1017		AA	20	1E-9M		A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1018	106	I(I)	0.001	m3/kg	1.000	Compacted Wyoming Na bentonite MX-80. 1% native iron added as a reductant	synthetic ground water	2	BD	213	
1019	122	I(I)	0	ml/g	0.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1020	122	I(I)	14	ml/g	14.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1021	150	I(I)	0.061	cc/g	0.061	sat. compacted bentonite	DI?	2	D		
1022	150	I(I)	0.075	cc/g	0.075	sat. compacted bentonite	DI?	1.6	D		
1023	150	I(I)	0.075	cc/g	0.075	sat. compacted bentonite	DI?	1.8	D		
1024	150	I(I)	0.135	cc/g	0.135	sat. compacted bentonite	DI?	1.4	D		
1025	150	I(I)	0.15	cc/g	0.150	sat. compacted bentonite	DI?	1.2	D		
1026	150	I(I)	0.18	cc/g	0.180	sat. compacted bentonite	DI?	1	D		
1027	150	I(I)	0.22	cc/g	0.220	sat. compacted bentonite	DI?	0.8	D		
1028	150	I(I)	0.28	cc/g	0.280	sat. compacted bentonite	DI?	0.6	D		
1029	150	I(I)	0.39	cc/g	0.390	sat. compacted bentonite	DI?	0.4	D		
1030	150	I(I)	0.55	cc/g	0.550	sat. compacted bentonite	DI?	0.2	D		
1031	154	I(I)	-19.3	ml/g	-19.300	Ca sat. montmorillonite	CaCl2 at 30 meq/l			38	
1032	154	I(I)	0.26	ml/g	0.260	Ca sat. montmorillonite	CaCl2 at 30 meq/l			17	
1033	154	I(I)	0.54	ml/g	0.540	Ca sat. montmorillonite	CaCl2 at 30 meq/l			31	
1034	154	I(I)	1.391	ml/g	1.391	Ca sat. montmorillonite	CaCl2 at 30 meq/l			3	
1035	154	I(I)	-32.367	ml/g	-32.367	Na sat. montmorillonite	NaCl at 5130 meq/l			38	
1036	154	I(I)	-12.567	ml/g	-12.567	Na sat. montmorillonite	NaCl at 30 meq/l			38	
1037	154	I(I)	-5	ml/g	-5.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l			38	
1038	154	I(I)	-2.243	ml/g	-2.243	Na sat. montmorillonite	NaHCO3 at 30 meq/l			17	
1039	154	I(I)	-2.15	ml/g	-2.150	Na sat. montmorillonite	NaCl at 5130 meq/l			31	
1040	154	I(I)	-1.765	ml/g	-1.765	Na sat. montmorillonite	NaCl at 30 meq/l			3	
1041	154	I(I)	-0.968	ml/g	-0.968	Na sat. montmorillonite	NaHCO3 at 30 meq/l			3	
1042	154	I(I)	-0.449	ml/g	-0.449	Na sat. montmorillonite	NaCl at 30 meq/l			31	
1043	154	I(I)	-0.35	ml/g	-0.350	Na sat. montmorillonite	NaHCO3 at 30 meq/l			31	
1044	154	I(I)	1.67	ml/g	1.670	Na sat. montmorillonite	NaCl at 30 meq/l			17	
1045	154	I(I)	2.773	ml/g	2.773	Na sat. montmorillonite	NaCl at 5130 meq/l			3	
1046	154	I(I)	4.79	ml/g	4.790	Na sat. montmorillonite	NaCl at 5130 meq/l			17	
1047	155	I(I)	-0.58	l/kg	-0.580	montmorillonite	4.0M NaCl		B	5?	40
1048	155	I(I)	-0.1	l/kg	-0.100	montmorillonite	4.0M NaCl		B	5?	40
1049	155	I(I)	-0.097	l/kg	-0.097	montmorillonite	4.0M NaCl		B	5?	40
1050	155	I(I)	0.181	l/kg	0.181	montmorillonite	4.0M NaCl		B	5?	40
1051	155	I(I)	0.24	l/kg	0.240	montmorillonite	4.0M NaCl		B	5?	40
1052	155	I(I)	0.4	l/kg	0.400	montmorillonite	4.0M NaCl		B	5?	40
1053	155	I(I)	0.75	l/kg	0.750	montmorillonite	4.0M NaCl		B	5?	40
1054	155	I(I)	1.42	l/kg	1.420	montmorillonite	4.0M NaCl		B	5?	40
1055	173	I(I)	0.0005	m3/kg	0.500	montmorillonite	synthetic groundwater		BS	1	90 or 225

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
1018		AA	20	1E-9M		A				
1019	8	AA	60	4.24E-14M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1020	8	AA	23	4.24E-14M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1021		AA?	20?			A				Rd as function of compaction density
1022		AA?	20?			A				Rd as function of compaction density
1023		AA?	20?			A				Rd as function of compaction density
1024		AA?	20?			A				Rd as function of compaction density
1025		AA?	20?			A				Rd as function of compaction density
1026		AA?	20?			A				Rd as function of compaction density
1027		AA?	20?			A				Rd as function of compaction density
1028		AA?	20?			A				Rd as function of compaction density
1029		AA?	20?			A				Rd as function of compaction density
1030		AA?	20?			A				Rd as function of compaction density
1031	7.77	340	20			D				
1032	7.52	447	20			A				
1033	7.7	357	20			A				
1034	7.52		20			A				
1035	8.3	313	20			D				
1036	9.02	323	20			D				
1037	9.1	305	20			D				
1038	9.32	392	20			A				
1039	8.1	325	20			A				
1040	8.2		20			A				
1041	9.53		20			A				
1042	8.97	459	20			A				
1043	9.15	374	20			A				
1044	8.27	398	20			A				
1045	7.73		20			A				
1046	7.85	407	20			A				
1047	6.74	AA	20	1E-5M		A				
1048	7.17	AA	20	1E-5M		A				
1049	5.57	AA	20	1E-5M		A				
1050	6.18	AA	20	1E-5M		A				
1051	8.58	AA	20	1E-5M		A				
1052	7.84	AA	20	1E-5M		A				
1053	6.85	AA	20	1E-5M		A				
1054	6.74	AA	20	1E-5M		A				
1055	7.01	AA	22			A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1056	173	I(I)	0.0007	m3/kg	0.700	montmorillonite	synthetic groundwater		BS	1	90 or 225
1057	173	I(I)	0.0062	m3/kg	6.200	montmorillonite	4M NaCl		BS	1	90 or 225
1058	173	I(I)	0.007	m3/kg	7.000	montmorillonite	synthetic groundwater		BS	1	90 or 225
1059	173	I(I)	0.01	m3/kg	10.000	montmorillonite	synthetic groundwater		BS	1	90 or 225
1060	173	I(I)	0.0489	m3/kg	48.900	montmorillonite	4M NaCl		BS	1	90 or 225
1061	173	I(I)	0.0727	m3/kg	72.700	montmorillonite	4M NaCl		BS	1	90 or 225
1062	173	I(I)	0.1678	m3/kg	167.800	montmorillonite	4M NaCl		BS	1	90 or 225
1063	106	I(V)	0.001	m3/kg	1.000	Compacted Wyoming Na bentonite MX-80. 1% KMnO4 added as an oxidant	synthetic ground water	2	BD	210	
1064	79	Mn(II)	2.63	ml/g	2.630	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1065	79	Mn(II)	3.49	ml/g	3.492	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1066	79	Mn(II)	4.66	ml/g	4.655	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1067	79	Mn(II)	4.66	ml/g	4.655	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1068	79	Mn(II)	4.71	ml/g	4.711	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1069	79	Mn(II)	5.42	ml/g	5.416	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1070	79	Mn(II)	6.48	ml/g	6.482	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1071	79	Mn(II)	7.57	ml/g	7.568	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1072	79	Mn(II)	7.87	ml/g	7.873	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1073	79	Mn(II)	8.68	ml/g	8.681	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1074	79	Mn(II)	8.68	ml/g	8.681	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1075	79	Mn(II)	10.44	ml/g	10.439	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1076	79	Mn(II)	11.77	ml/g	11.770	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1077	79	Mn(II)	12.25	ml/g	12.254	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1078	79	Mn(II)	15.60	ml/g	15.605	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60
1079	79	Mn(II)	22.87	ml/g	22.873	natural bentonite (from Oklahoma Geol. Survey)	probably MnCl2 in DI?		BS	30	60

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1056	6.39	AA	22			A				
1057	8.19	AA	22			A				
1058	5.82	AA	22			A				
1059	2.57	AA	22			A				
1060	6.82	AA	22			A				
1061	5.94	AA	22			A				
1062	3.52	AA	22			A				
1063		AA	20	1E-9M		A				
1064	4.9	AA	20	8.33E-03	7.98E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1065	4.9	AA	20	4.17E-03	3.94E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1066	4.9	AA	20	1.04E-03	9.67E-04	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1067	4.9	AA	20	2.08E-03	1.93E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1068	6.2	AA	20	8.33E-03	7.73E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1069	6.2	AA	20	4.17E-03	3.82E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1070	7.6	AA	20	8.33E-03	7.52E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1071	6.2	AA	20	2.08E-03	1.85E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1072	7.6	AA	20	4.17E-03	3.68E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1073	6.2	AA	20	1.04E-03	9.10E-04	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1074	8.8	AA	20	8.33E-03	7.28E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1075	8.8	AA	20	4.17E-03	3.55E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1076	7.6	AA	20	2.08E-03	1.74E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1077	7.6	AA	20	1.04E-03	8.65E-04	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1078	8.8	AA	20	2.08E-03	1.65E-03	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2
1079	8.8	AA	20	1.04E-03	7.54E-04	A	94.6			Rd calculated by Grant Env. from data of P79, Table 2

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1080	112	Mn(II)	15630	ml/g	15630.000	Na sat. beidellite (Upton, WY)	0.1N MnCl2		BS	0.035	73
1081	49	Np	0.15	m3/kg	150.000	bentonite					
1082	49	Np	0.6	m3/kg	600.000	bentonite					
1083	49	Np	1	m3/kg	1000.000	bentonite					
1084	49	Np	1	m3/kg	1000.000	bentonite					
1085	49	Np	1	m3/kg	1000.000	bentonite					
1086	49	Np	0.03	m3/kg	30.000	bentonite and sand mix					
1087	63	Np	0.01	m3/kg	10.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1088	63	Np	0.01	m3/kg	10.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1089	63	Np	0.0126	m3/kg	12.600	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
1090	63	Np	0.0158	m3/kg	15.800	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1091	63	Np	0.0158	m3/kg	15.800	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1092	63	Np	0.02	m3/kg	20.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
1093	63	Np	0.01	m3/kg	100.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1094	63	Np	0.01	m3/kg	100.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1095	63	Np	0.0126	m3/kg	126.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
1096	63	Np	0.0158	m3/kg	158.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1097	63	Np	0.0158	m3/kg	158.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1098	63	Np	0.02	m3/kg	200.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
1099	120	Np	130	l/kg	130.000	bentonite	DI		BS	1	50
1100	120	Np	130	l/kg	130.000	bentonite	DI		BS	1	100
1101	120	Np	150	l/kg	150.000	bentonite	DI		BS	2	100
1102	120	Np	170	l/kg	170.000	bentonite	DI		BS	2	50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
1080		AA	20	.05M		A				Rd calculated by Grant Env. using P112 data
1081										PAGIS (1988) database value from p49
1082										KBS(1983) database value from p49
1083										McKinley and Hadermann (1985) NAGRA database value from p49
1084										Shaw et al. (1989) SKI database value from p49
1085										Peltonen et al. (1985) TVO database value from p49
1086										Wuschke et al. (1985) AECL database value from p49
1087	8.2?	AA	25	1E-8M		A				
1088	8.2?	AA	25	1E-8M		A				
1089	8.2?	AA	25	1E-8M		A				
1090	8.2?	AA	65	1E-8M		A				
1091	8.2?	AA	65	1E-8M		A				
1092	8.2?	AA	25	1E-8M		A				
1093	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1094	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1095	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1096	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1097	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1098	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1099	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1100	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1101	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1102	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1103	120	Np	300	l/kg	300.000	bentonite	DI		BS	2	200
1104	120	Np	320	l/kg	320.000	bentonite	DI		BS	1	200
1105	120	Np	430	l/kg	430.000	bentonite	DI		BS	10	200
1106	120	Np	450	l/kg	450.000	bentonite	DI		BS	10	50
1107	120	Np	870	l/kg	870.000	bentonite	DI		BS	10	100
1108	150	Np	68	cc/g	68.000	sat. compacted bentonite	DI?	0.8	D		
1109	150	Np	88	cc/g	88.000	sat. compacted bentonite	DI?	1	D		
1110	150	Np	95	cc/g	95.000	sat. compacted bentonite	DI?	1.2	D		
1111	150	Np	130	cc/g	130.000	sat. compacted bentonite	DI?	0.6	D		
1112	150	Np	150	cc/g	150.000	sat. compacted bentonite	DI?	1.6	D		
1113	150	Np	160	cc/g	160.000	sat. compacted bentonite	DI?	1.8	D		
1114	150	Np	170	cc/g	170.000	sat. compacted bentonite	DI?	1.4	D		
1115	150	Np	250	cc/g	250.000	sat. compacted bentonite	DI?	2	D		
1116	150	Np	380	cc/g	380.000	sat. compacted bentonite	DI?	0.2	D		
1117	171	Np	78	ml/g	78.000	natural montmorillonite	DI buffered to pH8.5		BS		
1118	72	Np	0.12	m3/kg	120.000	Wyoming Na bentonite MX-80	Swedish synthetic granitic ground water	2	BS? D?	69	
1119	28	Np(V)	16.3	ml/g	16.294	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1120	28	Np(V)	18.1	ml/g	18.066	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1121	28	Np(V)	18.8	ml/g	18.800	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10	100
1122	28	Np(V)	19.0	ml/g	18.953	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1123	28	Np(V)	19.3	ml/g	19.262	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1124	28	Np(V)	20.8	ml/g	20.800	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	20	100
1125	28	Np(V)	21.3	ml/g	21.325	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1126	28	Np(V)	21.4	ml/g	21.434	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1127	28	Np(V)	23.7	ml/g	23.700	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	30	100
1128	28	Np(V)	24.8	ml/g	24.787	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1103	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1104	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1105	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1106	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1107	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1108		AA?	20?			A				Rd as function of compaction density
1109		AA?	20?			A				Rd as function of compaction density
1110		AA?	20?			A				Rd as function of compaction density
1111		AA?	20?			A				Rd as function of compaction density
1112		AA?	20?			A				Rd as function of compaction density
1113		AA?	20?			A				Rd as function of compaction density
1114		AA?	20?			A				Rd as function of compaction density
1115		AA?	20?			A				Rd as function of compaction density
1116		AA?	20?			A				Rd as function of compaction density
1117	8.5	AA	20			A				
1118		AA	20	5E-6 moles		A				
1119	7.58	AA	20	6E-7M		A				
1120	7.72	AA	20	6E-7M		A				
1121	7	AA	20	6E-7M		A				
1122	7.49	AA	20	6E-7M		A				
1123	6.10	AA	20	6E-7M		A				
1124	7	AA	20	6E-7M		A				
1125	4.78	AA	20	6E-7M		A				
1126	5.19	AA	20	6E-7M		A				
1127	7	AA	20	6E-7M		A				
1128	5.08	AA	20	6E-7M		A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1129	28	Np(V)	30.2	ml/g	30.179	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1130	28	Np(V)	30.4	ml/g	30.400	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10	100
1131	28	Np(V)	30.6	ml/g	30.646	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1132	28	Np(V)	31.2	ml/g	31.218	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1133	28	Np(V)	31.3	ml/g	31.258	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1134	28	Np(V)	32.9	ml/g	32.902	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1135	28	Np(V)	33.4	ml/g	33.430	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1136	28	Np(V)	35.5	ml/g	35.500	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	20	100
1137	28	Np(V)	39.9	ml/g	39.874	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1138	28	Np(V)	40.3	ml/g	40.268	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1139	28	Np(V)	41.1	ml/g	41.091	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1140	28	Np(V)	41.1	ml/g	41.132	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1141	28	Np(V)	60.4	ml/g	60.363	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1142	28	Np(V)	64.8	ml/g	64.821	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1143	28	Np(V)	84.6	ml/g	84.626	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1144	28	Np(V)	109.6	ml/g	109.636	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1145	28	Np(V)	146.5	ml/g	146.469	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1146	28	Np(V)	151.0	ml/g	151.039	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1147	28	Np(V)	161.4	ml/g	161.436	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1148	28	Np(V)	173.0	ml/g	172.984	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1149	28	Np(V)	180.5	ml/g	180.497	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1129	4.37	AA	20	6E-7M		A				
1130	7	AA	20	6E-7M		A				
1131	7.36	AA	20	6E-7M		A				
1132	7.71	AA	20	6E-7M		A				
1133	7.14	AA	20	6E-7M		A				
1134	7.40	AA	20	6E-7M		A				
1135	7.55	AA	20	6E-7M		A				
1136	7	AA	20	6E-7M		A				
1137	4.55	AA	20	6E-7M		A				
1138	3.99	AA	20	6E-7M		A				
1139	4.47	AA	20	6E-7M		A				
1140	4.33	AA	20	6E-7M		A				
1141	3.67	AA	20	6E-7M		A				
1142	3.50	AA	20	6E-7M		A				
1143	3.40	AA	20	6E-7M		A				
1144	3.14	AA	20	6E-7M		A				
1145	2.85	AA	20	6E-7M		A				
1146	2.83	AA	20	6E-7M		A				
1147	2.74	AA	20	6E-7M		A				
1148	2.85	AA	20	6E-7M		A				
1149	2.42	AA	20	6E-7M		A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1150	28	Np(V)	192.3	ml/g	192.257	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1151	28	Np(V)	209.2	ml/g	209.196	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1152	28	Np(V)	248.9	ml/g	248.898	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1153	28	Np(V)	255.1	ml/g	255.072	Na sat. Kunipia F smectite (montmorillonite)	.01M NaClO4		BS	10?	100
1154	52	Np(V)	0.2	ml/g	0.170	Bentonite			BS?		
1155	52	Np(V)	0.6	ml/g	0.620	Bentonite			BS?		
1156	52	Np(V)	1.3	ml/g	1.260	Bentonite			BS?		
1157	52	Np(V)	1.4	ml/g	1.370	Bentonite			BS?		
1158	52	Np(V)	3.8	ml/g	3.840	Bentonite			BS?		
1159	52	Np(V)	4.0	ml/g	3.960	Bentonite			BS?		
1160	52	Np(V)	4.1	ml/g	4.140	Bentonite			BS?		
1161	52	Np(V)	6.4	ml/g	6.390	Bentonite			BS?		
1162	52	Np(V)	9.7	ml/g	9.720	Bentonite			BS?		
1163	52	Np(V)	11.2	ml/g	11.180	Bentonite			BS?		
1164	52	Np(V)	12.4	ml/g	12.390	Bentonite			BS?		
1165	52	Np(V)	12.9	ml/g	12.850	Bentonite			BS?		
1166	52	Np(V)	13.7	ml/g	13.690	Bentonite			BS?		
1167	52	Np(V)	17.6	ml/g	17.570	Bentonite			BS?		
1168	52	Np(V)	18.4	ml/g	18.400	Bentonite			BS?		
1169	52	Np(V)	21.1	ml/g	21.070	Bentonite			BS?		
1170	52	Np(V)	25.9	ml/g	25.890	Bentonite			BS?		
1171	52	Np(V)	27.0	ml/g	27.000	Bentonite			BS?		
1172	52	Np(V)	28.4	ml/g	28.350	Bentonite			BS?		
1173	52	Np(V)	31.3	ml/g	31.260	Bentonite			BS?		
1174	52	Np(V)	33.2	ml/g	33.200	Bentonite			BS?		
1175	52	Np(V)	34.7	ml/g	34.660	Bentonite			BS?		
1176	52	Np(V)	35.0	ml/g	34.970	Bentonite			BS?		
1177	52	Np(V)	36.0	ml/g	36.000	Bentonite			BS?		
1178	52	Np(V)	36.6	ml/g	36.590	Bentonite			BS?		
1179	52	Np(V)	37.6	ml/g	37.550	Bentonite			BS?		
1180	52	Np(V)	38.7	ml/g	38.690	Bentonite			BS?		
1181	52	Np(V)	39.3	ml/g	39.310	Bentonite			BS?		
1182	52	Np(V)	40.2	ml/g	40.150	Bentonite			BS?		
1183	52	Np(V)	40.3	ml/g	40.330	Bentonite			BS?		
1184	52	Np(V)	40.6	ml/g	40.620	Bentonite			BS?		
1185	52	Np(V)	41.3	ml/g	41.280	Bentonite			BS?		
1186	52	Np(V)	46.3	ml/g	46.280	Bentonite			BS?		
1187	52	Np(V)	46.7	ml/g	46.670	Bentonite			BS?		

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1150	2.51	AA	20	6E-7M		A				
1151	2.50	AA	20	6E-7M		A				
1152	2.19	AA	20	6E-7M		A				
1153	2.34	AA	20	6E-7M		A				
1154	2.67	AA	70			A				P52 presents data from Ohe et al. (1993)
1155	2.78	AA	70			A				P52 presents data from Ohe et al. (1993)
1156	2.95	AA	40			A				P52 presents data from Ohe et al. (1993)
1157	6.05	AA	40			A				P52 presents data from Ohe et al. (1993)
1158	4.74	AA	40			A				P52 presents data from Ohe et al. (1993)
1159	3.31	AA	70			A				P52 presents data from Ohe et al. (1993)
1160	3.17	AA	70			A				P52 presents data from Ohe et al. (1993)
1161	4.24	AA	20			A				P52 presents data from Sakamoto (1990)
1162	7.05	AA	26			A				P52 presents data from Ohe et al. (1993)
1163	7.62	AA	20			A				P52 presents data from Sakamoto (1990)
1164	7.35	AA	20			A				P52 presents data from Sakamoto (1990)
1165	7.04	AA	26			A				P52 presents data from Ohe et al. (1993)
1166	5.22	AA	20			A				P52 presents data from Sakamoto (1990)
1167	9.53	AA	20			A				P52 presents data from Sakamoto (1990)
1168	8.2	AA	26			A				P52 presents data from Ohe et al. (1993)
1169	7.99	AA	40			A				P52 presents data from Ohe et al. (1993)
1170	8.23	AA	26			A				P52 presents data from Ohe et al. (1993)
1171	2.28	AA	20			A				P52 presents data from Sakamoto (1990)
1172	7.05	AA	20			A				P52 presents data from Sakamoto (1990)
1173	9.82	AA	20			A				P52 presents data from Sakamoto (1990)
1174	3.31	AA	20			A				P52 presents data from Sakamoto (1990)
1175	6.55	AA	40			A				P52 presents data from Ohe et al. (1993)
1176	3.52	AA	20			A				P52 presents data from Sakamoto (1990)
1177	2.26	AA	20			A				P52 presents data from Sakamoto (1990)
1178	9.5	AA	20			A				P52 presents data from Sakamoto (1990)
1179	10.26	AA	20			A				P52 presents data from Sakamoto (1990)
1180	8.51	AA	26			A				P52 presents data from Ohe et al. (1993)
1181	9.43	AA	20			A				P52 presents data from Sakamoto (1990)
1182	9.81	AA	20			A				P52 presents data from Sakamoto (1990)
1183	10.63	AA	20			A				P52 presents data from Sakamoto (1990)
1184	8.62	AA	20			A				P52 presents data from Sakamoto (1990)
1185	9.54	AA	20			A				P52 presents data from Sakamoto (1990)
1186	10.62	AA	20			A				P52 presents data from Sakamoto (1990)
1187	10.19	AA	20			A				P52 presents data from Sakamoto (1990)

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1188	52	Np(V)	46.7	ml/g	46.740	Bentonite			BS?		
1189	52	Np(V)	49.9	ml/g	49.880	Bentonite			BS?		
1190	52	Np(V)	56.4	ml/g	56.410	Bentonite			BS?		
1191	52	Np(V)	58.6	ml/g	58.600	Bentonite			BS?		
1192	52	Np(V)	61.2	ml/g	61.180	Bentonite			BS?		
1193	52	Np(V)	64.7	ml/g	64.710	Bentonite			BS?		
1194	52	Np(V)	69.6	ml/g	69.620	Bentonite			BS?		
1195	52	Np(V)	81.0	ml/g	81.030	Bentonite			BS?		
1196	52	Np(V)	89.1	ml/g	89.060	Bentonite			BS?		
1197	52	Np(V)	93.8	ml/g	93.760	Bentonite			BS?		
1198	52	Np(V)	105.0	ml/g	105.020	Bentonite			BS?		
1199	52	Np(V)	107.1	ml/g	107.130	Bentonite			BS?		
1200	52	Np(V)	109.9	ml/g	109.870	Bentonite			BS?		
1201	52	Np(V)	152.2	ml/g	152.230	Bentonite			BS?		
1202	52	Np(V)	162.2	ml/g	162.240	Bentonite			BS?		
1203	52	Np(V)	168.6	ml/g	168.560	Bentonite			BS?		
1204	52	Np(V)	173.1	ml/g	173.140	Bentonite			BS?		
1205	52	Np(V)	221.7	ml/g	221.670	Bentonite			BS?		
1206	52	Np(V)	249.1	ml/g	249.110	Bentonite			BS?		
1207	52	Np(V)	273.1	ml/g	273.070	Bentonite			BS?		
1208	52	Np(V)	279.5	ml/g	279.500	Bentonite			BS?		
1209	52	Np(V)	328.8	ml/g	328.800	Bentonite			BS?		
1210	52	Np(V)	331.3	ml/g	331.290	Bentonite			BS?		
1211	52	Np(V)	352.6	ml/g	352.630	Bentonite			BS?		
1212	52	Np(V)	377.7	ml/g	377.680	Bentonite			BS?		
1213	52	Np(V)	704.6	ml/g	704.640	Bentonite			BS?		
1214	52	Np(V)	4945	ml/g	4944.650	Bentonite			BS?		
1215	52	Np(V)	6409	ml/g	6408.950	Bentonite			BS?		
1216	52	Np(V)	23.1	ml/g	23.120	Montmorillonite			BS?		
1217	52	Np(V)	23.2	ml/g	23.160	Montmorillonite			BS?		
1218	52	Np(V)	64.1	ml/g	64.080	Montmorillonite			BS?		
1219	52	Np(V)	79.7	ml/g	79.720	Montmorillonite			BS?		
1220	52	Np(V)	85.1	ml/g	85.050	Montmorillonite			BS?		
1221	52	Np(V)	96.1	ml/g	96.100	Montmorillonite			BS?		
1222	52	Np(V)	97.6	ml/g	97.620	Montmorillonite			BS?		
1223	52	Np(V)	106.6	ml/g	106.630	Montmorillonite			BS?		
1224	52	Np(V)	151.4	ml/g	151.370	Montmorillonite			BS?		
1225	52	Np(V)	2092	ml/g	2092.420	Montmorillonite			BS?		
1226	52	Np(V)	2190	ml/g	2190.480	Montmorillonite			BS?		
1227	52	Np(V)	2.73	ml/g	2.730	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1188	9.2	AA	20			A				P52 presents data from Sakamoto (1990)
1189	8.51	AA	40			A				P52 presents data from Ohe et al. (1993)
1190	10.42	AA	20			A				P52 presents data from Sakamoto (1990)
1191	6.54	AA	40			A				P52 presents data from Ohe et al. (1993)
1192	10.63	AA	20			A				P52 presents data from Sakamoto (1990)
1193	8.75	AA	20			A				P52 presents data from Torstenfelt et al. (1988)
1194	10.63	AA	20			A				P52 presents data from Sakamoto (1990)
1195	10.87	AA	20			A				P52 presents data from Sakamoto (1990)
1196	11.01	AA	20			A				P52 presents data from Sakamoto (1990)
1197	8.75	AA	20			A				P52 presents data from Torstenfelt et al. (1988)
1198	11.2	AA	20			A				P52 presents data from Sakamoto (1990)
1199	8.76	AA	20			A				P52 presents data from Torstenfelt et al. (1988)
1200	11.27	AA	20			A				P52 presents data from Sakamoto (1990)
1201	12.01	AA	20			A				P52 presents data from Sakamoto (1990)
1202	11.9	AA	20			A				P52 presents data from Sakamoto (1990)
1203	8.02	AA	70			A				P52 presents data from Ohe et al. (1993)
1204	8.25	AA	70			A				P52 presents data from Ohe et al. (1993)
1205	10.25	AA	20			A				P52 presents data from Torstenfelt et al. (1988)
1206	10.25	AA	20			A				P52 presents data from Torstenfelt et al. (1988)
1207	10.23	AA	20			A				P52 presents data from Torstenfelt et al. (1988)
1208	10.83	AA	26			A				P52 presents data from Ohe et al. (1993)
1209	10.42	AA	40			A				P52 presents data from Ohe et al. (1993)
1210	9.23	AA	70			A				P52 presents data from Ohe et al. (1993)
1211	10.93	AA	26			A				P52 presents data from Ohe et al. (1993)
1212	9.46	AA	70			A				P52 presents data from Ohe et al. (1993)
1213	9.61	AA	40			A				P52 presents data from Ohe et al. (1993)
1214	11.52	AA	70			A				P52 presents data from Ohe et al. (1993)
1215	11.84	AA	70			A				P52 presents data from Ohe et al. (1993)
1216	8.72	AA	20			A				P52 presents data from Triay et al. (1993)
1217	8.54	AA	20			A				P52 presents data from Triay et al. (1993)
1218	8.04	AA	20			A				P52 presents data from Beall and Allard (1981)
1219	7.46	AA	20			A				P52 presents data from Allard et al. (1984)
1220	6.80	AA	20			A				P52 presents data from Allard et al. (1984)
1221	8.37	AA	20			A				P52 presents data from Allard et al. (1984)
1222	6.35	AA	20			A				P52 presents data from Allard et al. (1984)
1223	5.00	AA	20			A				P52 presents data from Beall and Allard (1981)
1224	8.78	AA	20			A				P52 presents data from Allard et al. (1984)
1225	9.13	AA	20			A				P52 presents data from Allard et al. (1984)
1226	9.55	AA	20			A				P52 presents data from Allard et al. (1984)
1227	4.03	AA	20	9.25E-7M		D		97		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1228	52	Np(V)	4.13	ml/g	4.130	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1229	52	Np(V)	4.22	ml/g	4.220	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1230	52	Np(V)	5.9	ml/g	5.900	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1231	52	Np(V)	6.07	ml/g	6.070	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1232	52	Np(V)	6.17	ml/g	6.170	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1233	52	Np(V)	8.1	ml/g	8.080	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1234	52	Np(V)	8.7	ml/g	8.680	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1235	52	Np(V)	10.0	ml/g	10.040	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1236	52	Np(V)	10.5	ml/g	10.540	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1237	52	Np(V)	11.2	ml/g	11.240	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1238	52	Np(V)	12.5	ml/g	12.460	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1239	52	Np(V)	14.3	ml/g	14.290	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1240	52	Np(V)	16.1	ml/g	16.050	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1241	52	Np(V)	19.2	ml/g	19.160	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1242	52	Np(V)	22.5	ml/g	22.510	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1243	52	Np(V)	32.2	ml/g	32.150	Na sat. Cheto montmorillonite Saz-1	Capped vials (trace CO2), 0.1M NaNO3		BS	14	252
1244	52	Np(V)	32.5	ml/g	32.500	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1245	52	Np(V)	34.9	ml/g	34.870	Na sat. Cheto montmorillonite Saz-1	Capped vials (trace CO2), 0.1M NaNO3		BS	14	252
1246	52	Np(V)	35.1	ml/g	35.050	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1247	52	Np(V)	38.5	ml/g	38.520	Na sat. Cheto montmorillonite Saz-1	Capped vials (trace CO2), 0.1M NaNO3		BS	14	252
1248	52	Np(V)	39.0	ml/g	38.950	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
1228	3.39	AA	20	9.25E-7M		D		97		
1229	3.3	AA	20	9.25E-7M		D		97		
1230	2.97	AA	20	9.25E-7M		D		97		
1231	3.41	AA	20	9.25E-7M		D		97		
1232	2.71	AA	20	9.25E-7M		D		97		
1233	5.48	AA	20	9.25E-7M		D		97		
1234	5.35	AA	20	9.25E-7M		D		97		
1235	5.47	AA	20	9.46E-7M		A		97		
1236	5.62	AA	20	9.25E-7M		D		97		
1237	5.52	AA	20	9.46E-7M		A		97		
1238	5.83	AA	20	9.46E-7M		A		97		
1239	5.94	AA	20	9.46E-7M		A		97		
1240	6.25	AA	20	9.46E-7M		A		97		
1241	4.19	AA	20	9.25E-7M		D		97		
1242	6.62	AA	20	9.46E-7M		A		97		
1243	7.28	AA	20	8.79E-7M		A		97		
1244	7.15	AA	20	9.46E-7M		A		97		
1245	7.31	AA	20	8.79E-7M		A		97		
1246	6.92	AA	20	9.25E-7M		D		97		
1247	7.4	AA	20	8.79E-7M		A		97		
1248	7.31	AA	20	9.25E-7M		A		97		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1249	52	Np(V)	39.5	ml/g	39.470	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1250	52	Np(V)	39.9	ml/g	39.900	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1251	52	Np(V)	43.2	ml/g	43.190	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1252	52	Np(V)	43.9	ml/g	43.910	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1253	52	Np(V)	46.5	ml/g	46.490	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1254	52	Np(V)	49.2	ml/g	49.230	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1255	52	Np(V)	52.8	ml/g	52.820	Na sat. Cheto montmorillonite Saz-1	Capped vials (trace CO2), 0.1M NaNO3		BS	14	252
1256	52	Np(V)	53.3	ml/g	53.290	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1257	52	Np(V)	53.6	ml/g	53.600	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1258	52	Np(V)	54.0	ml/g	53.990	Na sat. Cheto montmorillonite Saz-1	Capped vials (trace CO2), 0.1M NaNO3		BS	14	252
1259	52	Np(V)	57.3	ml/g	57.250	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1260	52	Np(V)	58.3	ml/g	58.340	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1261	52	Np(V)	64.7	ml/g	64.690	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1262	52	Np(V)	72.8	ml/g	72.810	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1263	52	Np(V)	74.4	ml/g	74.430	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1264	52	Np(V)	77.3	ml/g	77.300	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1265	52	Np(V)	79.3	ml/g	79.330	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1266	52	Np(V)	79.9	ml/g	79.940	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1267	52	Np(V)	81.3	ml/g	81.330	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1268	52	Np(V)	82.5	ml/g	82.520	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1269	52	Np(V)	84.4	ml/g	84.400	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1249	9.54	AA	20	9.25E-7M		D		97		
1250	9.24	AA	20	9.25E-7M		D		97		
1251	7.55	AA	20	9.46E-7M		A		97		
1252	7.34	AA	20	9.25E-7M		A		97		
1253	7.44	AA	20	9.25E-7M		A		97		
1254	7.53	AA	20	9.25E-7M		A		97		
1255	7.68	AA	20	8.79E-7M		A		97		
1256	7.35	AA	20	9.25E-7M		D		97		
1257	9.4	AA	20	9.25E-7M		A		97		
1258	7.52	AA	20	8.79E-7M		A		97		
1259	8.95	AA	20	9.25E-7M		D		97		
1260	7.63	AA	20	9.25E-7M		A		97		
1261	7.68	AA	20	9.25E-7M		A		97		
1262	7.88	AA	20	9.46E-7M		A		97		
1263	7.75	AA	20	9.25E-7M		A		97		
1264	8.68	AA	20	9.25E-7M		D		97		
1265	8.72	AA	20	9.25E-7M		A		97		
1266	9.01	AA	20	9.25E-7M		A		97		
1267	7.86	AA	20	9.25E-7M		A		97		
1268	7.7	AA	20	9.25E-7M		D		97		
1269	8.04	AA	20	9.25E-7M		A		97		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1270	52	Np(V)	87.9	ml/g	87.930	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1271	52	Np(V)	88.2	ml/g	88.210	Na sat. Cheto montmorillonite Saz-1	Capped vials (trace CO2), 0.1M NaNO3		BS	14	252
1272	52	Np(V)	90.2	ml/g	90.210	Na sat. Cheto montmorillonite Saz-1	Open vials, forward exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	250
1273	52	Np(V)	92.9	ml/g	92.930	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1274	52	Np(V)	102	ml/g	102.440	Na sat. Cheto montmorillonite Saz-1	Open vials, reverse exper., CO2 at 1E-3.5 atm., 0.1M NaNO3		BS	14	236
1275	52	Np(V)	119	ml/g	118.520	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1276	52	Np(V)	136	ml/g	135.880	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1277	52	Np(V)	150	ml/g	150.110	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1278	52	Np(V)	153	ml/g	152.640	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1279	52	Np(V)	183	ml/g	182.900	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1280	52	Np(V)	202	ml/g	201.720	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1281	52	Np(V)	211	ml/g	211.290	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1282	52	Np(V)	215	ml/g	214.500	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1283	52	Np(V)	220	ml/g	220.420	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1284	52	Np(V)	260	ml/g	259.860	Na sat. Cheto montmorillonite Saz-1	Capped vials (trace CO2), 0.1M NaNO3		BS	14	252
1285	52	Np(V)	278	ml/g	277.800	Na sat. Cheto montmorillonite Saz-1	glove box, CO2 free but 21% O2, 0.1M NaNO3		BS	14	238
1286	52	Np(V)	408	ml/g	407.700	Na sat. Cheto montmorillonite Saz-1	Capped vials (trace CO2), 0.1M NaNO3		BS	14	252
1287	52	Np(V)	859	ml/g	859.270	Na sat. Cheto montmorillonite Saz-1	Capped vials (trace CO2), 0.1M NaNO3		BS	14	252
1288	52	Np(V)	19.2	ml/g	19.180	Na-smectite			BS?		
1289	52	Np(V)	22.0	ml/g	22.020	Na-smectite			BS?		
1290	52	Np(V)	22.9	ml/g	22.870	Na-smectite			BS?		
1291	52	Np(V)	25.9	ml/g	25.940	Na-smectite			BS?		
1292	52	Np(V)	29.7	ml/g	29.710	Na-smectite			BS?		
1293	52	Np(V)	30.9	ml/g	30.910	Na-smectite			BS?		

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1270	8.46	AA	20	9.25E-7M		A		97		
1271	7.91	AA	20	8.79E-7M		A		97		
1272	8.24	AA	20	9.25E-7M		A		97		
1273	8.46	AA	20	9.25E-7M		D		97		
1274	8.14	AA	20	9.25E-7M		D		97		
1275	8.27	AA	20	9.46E-7M		A		97		
1276	8.45	AA	20	9.46E-7M		A		97		
1277	8.5	AA	20	9.46E-7M		A		97		
1278	8.6	AA	20	9.46E-7M		A		97		
1279	8.75	AA	20	9.46E-7M		A		97		
1280	8.97	AA	20	9.46E-7M		A		97		
1281	9.21	AA	20	9.46E-7M		A		97		
1282	9.51	AA	20	9.46E-7M		A		97		
1283	9.07	AA	20	9.46E-7M		A		97		
1284	9.57	AA	20	8.79E-7M		A		97		
1285	9.94	AA	20	9.46E-7M		A		97		
1286	10.01	AA	20	8.79E-7M		A		97		
1287	10.55	AA	20	8.79E-7M		A		97		
1288	6.12	AA	20			A				P52 presents data from Kozai (1994)
1289	5.21	AA	20			A				P52 presents data from Kozai (1994)
1290	4.74	AA	20			A				P52 presents data from Kozai (1994)
1291	5.09	AA	20			A				P52 presents data from Kozai (1994)
1292	4.41	AA	20			A				P52 presents data from Kozai (1994)
1293	7.16	AA	20			A				P52 presents data from Kozai (1994)

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1294	52	Np(V)	31.4	ml/g	31.370	Na-smectite			BS?		
1295	52	Np(V)	34.9	ml/g	34.930	Na-smectite			BS?		
1296	52	Np(V)	41.1	ml/g	41.090	Na-smectite			BS?		
1297	52	Np(V)	41.8	ml/g	41.820	Na-smectite			BS?		
1298	52	Np(V)	42.7	ml/g	42.740	Na-smectite			BS?		
1299	52	Np(V)	61.9	ml/g	61.860	Na-smectite			BS?		
1300	52	Np(V)	65.1	ml/g	65.110	Na-smectite			BS?		
1301	52	Np(V)	88.8	ml/g	88.830	Na-smectite			BS?		
1302	52	Np(V)	111.5	ml/g	111.470	Na-smectite			BS?		
1303	52	Np(V)	176.0	ml/g	176.040	Na-smectite			BS?		
1304	52	Np(V)	194.0	ml/g	193.970	Na-smectite			BS?		
1305	52	Np(V)	195.3	ml/g	195.310	Na-smectite			BS?		
1306	52	Np(V)	208.6	ml/g	208.570	Na-smectite			BS?		
1307	52	Np(V)	244.1	ml/g	244.100	Na-smectite			BS?		
1308	52	Np(V)	247.9	ml/g	247.910	Na-smectite			BS?		
1309	68	Np(V)	0.04898	m3/kg	48.980	Wyoming bentonite MX-80	synthetic ground water, TDS of 306 mg/l		BS	6	100
1310	68	Np(V)	0.115	m3/kg	115.000	Wyoming bentonite MX-80	synthetic ground water, TDS of 306 mg/l		BS	6	100
1311	109	Np(V)	2.8	ml/g	2.800	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1312	109	Np(V)	4.24	ml/g	4.240	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1313	109	Np(V)	4.34	ml/g	4.340	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1314	109	Np(V)	6.09	ml/g	6.090	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1315	109	Np(V)	6.24	ml/g	6.240	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1316	109	Np(V)	7.93	ml/g	7.930	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1317	109	Np(V)	8.53	ml/g	8.530	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1318	109	Np(V)	9.81	ml/g	9.810	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1319	109	Np(V)	10.26	ml/g	10.260	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1320	109	Np(V)	10.85	ml/g	10.850	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1321	109	Np(V)	12.09	ml/g	12.090	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
1294	7.35	AA	20			A				P52 presents data from Kozai (1994)
1295	7.46	AA	20			A				P52 presents data from Kozai (1994)
1296	4.51	AA	20			A				P52 presents data from Kozai (1994)
1297	4.41	AA	20			A				P52 presents data from Kozai (1994)
1298	3.89	AA	20			A				P52 presents data from Kozai (1994)
1299	3.59	AA	20			A				P52 presents data from Kozai (1994)
1300	3.47	AA	20			A				P52 presents data from Kozai (1994)
1301	3.24	AA	20			A				P52 presents data from Kozai (1994)
1302	3.03	AA	20			A				P52 presents data from Kozai (1994)
1303	2.76	AA	20			A				P52 presents data from Kozai (1994)
1304	2.65	AA	20			A				P52 presents data from Kozai (1994)
1305	2.37	AA	20			A				P52 presents data from Kozai (1994)
1306	2.47	AA	20			A				P52 presents data from Kozai (1994)
1307	2.15	AA	20			A				P52 presents data from Kozai (1994)
1308	2.28	AA	20			A				P52 presents data from Kozai (1994)
1309	8.5	N2 atmosphere	25	1.9E-7M		A	75 to 80			
1310	8.5	N2 atmosphere	25	1.9E-9M		A	75 to 80			
1311	4.04	aerobic (uncapped)	20	6.00E-07		A		97		
1312	3.41	aerobic (uncapped)	20	6.00E-07		A		97		
1313	3.33	aerobic (uncapped)	20	6.00E-07		A		97		
1314	3	aerobic (uncapped)	20	6.00E-07		A		97		
1315	3.43	aerobic (uncapped)	20	6.00E-07		A		97		
1316	5.45	aerobic (uncapped)	20	6.00E-07		A		97		
1317	5.32	aerobic (uncapped)	20	6.00E-07		A		97		
1318	5.43	aerobic but no CO2	20	6.00E-07		A		97		
1319	5.61	aerobic (uncapped)	20	6.00E-07		A		97		
1320	5.5	aerobic but no CO2	20	6.00E-07		A		97		
1321	5.81	aerobic but no CO2	20	6.00E-07		A		97		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1322	109	Np(V)	14.14	ml/g	14.140	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1323	109	Np(V)	15.64	ml/g	15.640	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1324	109	Np(V)	18.88	ml/g	18.880	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1325	109	Np(V)	19.46	ml/g	19.460	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1326	109	Np(V)	21.41	ml/g	21.410	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1327	109	Np(V)	21.85	ml/g	21.850	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1328	109	Np(V)	22.25	ml/g	22.250	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1329	109	Np(V)	25.6	ml/g	25.600	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1330	109	Np(V)	29.43	ml/g	29.430	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1331	109	Np(V)	29.58	ml/g	29.580	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1332	109	Np(V)	30.86	ml/g	30.860	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1333	109	Np(V)	31.08	ml/g	31.080	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1334	109	Np(V)	32.27	ml/g	32.270	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1335	109	Np(V)	32.64	ml/g	32.640	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1336	109	Np(V)	32.95	ml/g	32.950	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1337	109	Np(V)	33.91	ml/g	33.910	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1338	109	Np(V)	36.81	ml/g	36.810	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1339	109	Np(V)	37.26	ml/g	37.260	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1340	109	Np(V)	37.48	ml/g	37.480	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1341	109	Np(V)	37.53	ml/g	37.530	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1342	109	Np(V)	38.23	ml/g	38.230	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1322	5.92	aerobic but no CO2	20	6.00E-07		A		97		
1323	6.21	aerobic but no CO2	20	6.00E-07		A		97		
1324	6.07	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1325	4.19	aerobic (uncapped)	20	6.00E-07		A		97		
1326	5.19	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1327	6.58	aerobic but no CO2	20	6.00E-07		A		97		
1328	4.74	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1329	5.09	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1330	6.44	AA (capped vials)	20	6.00E-07		A		97		
1331	7.22	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1332	4.41	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1333	7.07	aerobic but no CO2	20	6.00E-07		A		97		
1334	7.22	AA (capped vials)	20	6.00E-07		A		97		
1335	7.34	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1336	7.53	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1337	6.87	aerobic (uncapped)	20	6.00E-07		A		97		
1338	9.15	aerobic (uncapped)	20	6.00E-07		A		97		
1339	7.34	AA (capped vials)	20	6.00E-07		A		97		
1340	9.49	aerobic (uncapped)	20	6.00E-07		A		97		
1341	6.74	aerobic (uncapped)	20	6.00E-07		D		97		
1342	4.5	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1343	109	Np(V)	39.84	ml/g	39.840	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1344	109	Np(V)	40.32	ml/g	40.320	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1345	109	Np(V)	41.47	ml/g	41.470	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1346	109	Np(V)	41.71	ml/g	41.710	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1347	109	Np(V)	42.48	ml/g	42.480	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1348	109	Np(V)	44.79	ml/g	44.790	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1349	109	Np(V)	45.73	ml/g	45.730	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1350	109	Np(V)	48.15	ml/g	48.150	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1351	109	Np(V)	48.95	ml/g	48.950	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1352	109	Np(V)	49.55	ml/g	49.550	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1353	109	Np(V)	50.16	ml/g	50.160	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1354	109	Np(V)	50.29	ml/g	50.290	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1355	109	Np(V)	52.3	ml/g	52.300	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1356	109	Np(V)	54.16	ml/g	54.160	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1357	109	Np(V)	62.3	ml/g	62.300	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1358	109	Np(V)	62.81	ml/g	62.810	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1359	109	Np(V)	66.03	ml/g	66.030	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1360	109	Np(V)	67.6	ml/g	67.600	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1361	109	Np(V)	70.15	ml/g	70.150	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1362	109	Np(V)	72.94	ml/g	72.940	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1363	109	Np(V)	73.08	ml/g	73.080	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1343	7.3	aerobic (uncapped)	20	6.00E-07		D		97		
1344	4.39	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1345	3.89	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1346	4.49	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1347	7.49	aerobic but no CO2	20	6.00E-07		A		97		
1348	7.37	aerobic (uncapped)	20	6.00E-07		D		97		
1349	7.24	aerobic (uncapped)	20	6.00E-07		D		97		
1350	7.45	aerobic (uncapped)	20	6.00E-07		D		97		
1351	7.26	aerobic (uncapped)	20	6.00E-07		A		97		
1352	7.65	AA (capped vials)	20	6.00E-07		A		97		
1353	9.36	aerobic (uncapped)	20	6.00E-07		D		97		
1354	7.34	aerobic (uncapped)	20	6.00E-07		D		97		
1355	8.91	aerobic (uncapped)	20	6.00E-07		A		97		
1356	7.56	aerobic (uncapped)	20	6.00E-07		D		97		
1357	7.65	aerobic (uncapped)	20	6.00E-07		D		97		
1358	3.61	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1359	3.5	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1360	8.6	aerobic (uncapped)	20	6.00E-07		A		97		
1361	7.82	aerobic but no CO2	20	6.00E-07		A		97		
1362	8.94	aerobic (uncapped)	20	6.00E-07		D		97		
1363	8.63	aerobic (uncapped)	20	6.00E-07		D		97		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1364	109	Np(V)	76.35	ml/g	76.350	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1365	109	Np(V)	76.48	ml/g	76.480	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1366	109	Np(V)	78.95	ml/g	78.950	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1367	109	Np(V)	81.78	ml/g	81.780	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1368	109	Np(V)	82.46	ml/g	82.460	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1369	109	Np(V)	83.61	ml/g	83.610	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1370	109	Np(V)	84.73	ml/g	84.730	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1371	109	Np(V)	88.01	ml/g	88.010	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1372	109	Np(V)	92.3	ml/g	92.300	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1373	109	Np(V)	108.53	ml/g	108.530	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1374	109	Np(V)	112.2	ml/g	112.200	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1375	109	Np(V)	128.84	ml/g	128.840	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1376	109	Np(V)	140.43	ml/g	140.430	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1377	109	Np(V)	143.46	ml/g	143.460	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1378	109	Np(V)	171.26	ml/g	171.260	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1379	109	Np(V)	193.63	ml/g	193.630	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1380	109	Np(V)	194.3	ml/g	194.300	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1381	109	Np(V)	200.95	ml/g	200.950	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1382	109	Np(V)	206.91	ml/g	206.910	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1383	109	Np(V)	238.62	ml/g	238.620	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1384	109	Np(V)	256.67	ml/g	256.670	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1364	7.66	aerobic (uncapped)	20	6.00E-07		A		97		
1365	7.78	aerobic (uncapped)	20	6.00E-07		D		97		
1366	7.97	aerobic (uncapped)	20	6.00E-07		D		97		
1367	8.39	aerobic (uncapped)	20	6.00E-07		D		97		
1368	7.85	AA (capped vials)	20	6.00E-07		A		97		
1369	8.14	aerobic (uncapped)	20	6.00E-07		D		97		
1370	8.39	aerobic (uncapped)	20	6.00E-07		A		97		
1371	3.3	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1372	8.06	aerobic (uncapped)	20	6.00E-07		A		97		
1373	3.09	AA?	20	6.00E-07		A		97		Data from Kozai (1994) as reported by P109
1374	8.19	aerobic but no CO2	20	6.00E-07		A		97		
1375	8.38	aerobic but no CO2	20	6.00E-07		A		97		
1376	8.53	aerobic but no CO2	20	6.00E-07		A		97		
1377	8.45	aerobic but no CO2	20	6.00E-07		A		97		
1378	8.65	aerobic but no CO2	20	6.00E-07		A		97		
1379	8.88	aerobic but no CO2	20	6.00E-07		A		97		
1380	9.12	aerobic but no CO2	20	6.00E-07		A		97		
1381	9.43	aerobic but no CO2	20	6.00E-07		A		97		
1382	9.01	aerobic but no CO2	20	6.00E-07		A		97		
1383	9.49	AA (capped vials)	20	6.00E-07		A		97		
1384	9.85	aerobic but no CO2	20	6.00E-07		A		97		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1385	109	Np(V)	381.9	ml/g	381.900	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	>14	250
1386	122	Np(V)	36.9	ml/g	36.900	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1387	122	Np(V)	53.5	ml/g	53.500	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1388	122	Np(V)	75	ml/g	75.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1389	122	Np(V)	157	ml/g	157.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1390	161	Np(V)	16.5	ml/g	16.500	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	3	30
1391	161	Np(V)	17.7	ml/g	17.700	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	29	30
1392	161	Np(V)	21.4	ml/g	21.400	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	10	30
1393	161	Np(V)	6	ml/g	6.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	3	30
1394	161	Np(V)	9.1	ml/g	9.100	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	29	30
1395	161	Np(V)	11.7	ml/g	11.700	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	10	30
1396	161	Np(V)	45.9	ml/g	45.900	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	29	30
1397	161	Np(V)	60	ml/g	60.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	3	30
1398	161	Np(V)	60.1	ml/g	60.100	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	10	30
1399	161	Np(V)	80.4	ml/g	80.400	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	29	30
1400	161	Np(V)	112	ml/g	112.000	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	10	30
1401	161	Np(V)	163	ml/g	163.000	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	3	30
1402	36	Pb(II)	9.5	mg/l	9.538	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1403	36	Pb(II)	10.1	mg/l	10.112	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1404	36	Pb(II)	12.1	mg/l	12.103	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1405	36	Pb(II)	14.8	mg/l	14.811	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1406	36	Pb(II)	15.4	mg/l	15.416	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1407	36	Pb(II)	16.6	mg/l	16.555	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1408	36	Pb(II)	16.7	mg/l	16.676	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1409	36	Pb(II)	17.0	mg/l	16.966	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1410	36	Pb(II)	17.0	mg/l	16.966	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1411	36	Pb(II)	18.2	mg/l	18.175	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1385	9.89	AA (capped vials)	20	6.00E-07		A		97		
1386	8	AA	23	6.47E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1387	8	AA	60	6.47E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1388	8	AA	23	6.7E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1389	10	AA	23	6.7E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1390	7.8	AA	20				87.4	722.2		
1391	7.8	AA	20				87.4	722.2		
1392	7.8	AA	20				87.4	722.2		
1393	9.2	AA	20				87.4	722.2		
1394	9.2	AA	20				87.4	722.2		
1395	9.2	AA	20				87.4	722.2		
1396	8.6	AA	20				87.4	722.2		
1397	8.6	AA	20				87.4	722.2		
1398	8.6	AA	20				87.4	722.2		
1399	8.1	AA	20				87.4	722.2		
1400	8.1	AA	20				87.4	722.2		
1401	8.1	AA	20				87.4	722.2		
1402	2.29	AA	25	1.86E-03	1.57E-03	A				Rd calculated by Grant Env. using data from P36, Table 1
1403	2.61	AA	25	1.86E-03	1.55E-03	A				Rd calculated by Grant Env. using data from P36, Table 1
1404	2.7	AA	25	4.64E-04	3.76E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1405	3.51	AA	25	5.57E-04	4.33E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1406	3.52	AA	25	5.57E-04	4.30E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1407	3.44	AA	25	7.43E-04	5.63E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1408	3.49	AA	25	4.64E-04	3.51E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1409	3.8	AA	25	5.57E-04	4.20E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1410	4.03	AA	25	1.86E-03	1.40E-03	A				Rd calculated by Grant Env. using data from P36, Table 1
1411	3.46	AA	25	9.28E-04	6.88E-04	A				Rd calculated by Grant Env. using data from P36, Table 1

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1412	36	Pb(II)	18.6	mg/l	18.588	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1413	36	Pb(II)	19.4	mg/l	19.429	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1414	36	Pb(II)	22.3	mg/l	22.252	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1415	36	Pb(II)	22.8	mg/l	22.766	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1416	36	Pb(II)	23.5	mg/l	23.472	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1417	36	Pb(II)	23.8	mg/l	23.750	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1418	36	Pb(II)	27.6	mg/l	27.602	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1419	36	Pb(II)	28.3	mg/l	28.313	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1420	36	Pb(II)	29.0	mg/l	28.968	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1421	36	Pb(II)	29.7	mg/l	29.679	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1422	36	Pb(II)	31.1	mg/l	31.122	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1423	36	Pb(II)	32.4	mg/l	32.401	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1424	36	Pb(II)	32.5	mg/l	32.491	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1425	36	Pb(II)	32.5	mg/l	32.507	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1426	36	Pb(II)	34.9	mg/l	34.861	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1427	36	Pb(II)	35.4	mg/l	35.420	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1428	36	Pb(II)	37.9	mg/l	37.932	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1429	36	Pb(II)	44.4	mg/l	44.386	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1430	36	Pb(II)	48.0	mg/l	48.000	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1431	36	Pb(II)	48.3	mg/l	48.323	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1432	36	Pb(II)	50.0	mg/l	50.034	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1412	3.96	AA	25	5.57E-04	4.10E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1413	4.05	AA	25	5.57E-04	4.05E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1414	4.3	AA	25	5.57E-04	3.90E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1415	3.91	AA	25	3.71E-04	2.58E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1416	3.81	AA	25	1.86E-04	1.28E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1417	3.85	AA	25	1.86E-04	1.27E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1418	4.56	AA	25	7.43E-04	4.85E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1419	4.07	AA	25	1.86E-04	1.20E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1420	4.35	AA	25	3.71E-04	2.38E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1421	3.56	AA	25	4.64E-05	3.61E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1422	4.65	AA	25	9.28E-04	5.81E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1423	3.85	AA	25	9.28E-05	7.08E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1424	3.86	AA	25	9.28E-05	7.07E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1425	4.45	AA	25	2.78E-04	1.71E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1426	3.84	AA	25	9.28E-05	6.95E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1427	4.67	AA	25	4.64E-04	2.76E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1428	4.76	AA	25	4.64E-04	2.68E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1429	4.99	AA	25	7.43E-04	4.01E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1430	5.07	AA	25	2.78E-04	1.45E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1431	4.1	AA	25	4.64E-05	3.17E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1432	4.9	AA	25	2.78E-04	1.42E-04	A				Rd calculated by Grant Env. using data from P36, Table 1

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1433	36	Pb(II)	50.5	mg/l	50.451	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1434	36	Pb(II)	55.5	mg/l	55.538	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1435	36	Pb(II)	59.1	mg/l	59.111	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1436	36	Pb(II)	61.6	mg/l	61.629	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1437	36	Pb(II)	76.0	mg/l	76.000	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1438	36	Pb(II)	84.6	mg/l	84.617	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1439	36	Pb(II)	86.9	mg/l	86.875	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1440	36	Pb(II)	101.8	mg/l	101.846	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1441	36	Pb(II)	116.1	mg/l	116.071	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1442	36	Pb(II)	123.7	mg/l	123.690	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1443	36	Pb(II)	127.5	mg/l	127.531	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1444	36	Pb(II)	132.3	mg/l	132.327	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1445	36	Pb(II)	152.1	mg/l	152.092	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1446	36	Pb(II)	153.5	mg/l	153.493	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1447	36	Pb(II)	157.4	mg/l	157.386	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1448	36	Pb(II)	169.0	mg/l	168.950	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1449	36	Pb(II)	169.1	mg/l	169.126	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1450	36	Pb(II)	174.5	mg/l	174.513	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1451	36	Pb(II)	222.9	mg/l	222.876	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1452	36	Pb(II)	255.4	mg/l	255.396	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	104
1453	36	Pb(II)	258.6	mg/l	258.571	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1433	5.14	AA	25	4.64E-04	2.36E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1434	5.1	AA	25	3.71E-04	1.80E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1435	4.86	AA	25	1.86E-04	8.69E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1436	5.11	AA	25	2.78E-04	1.27E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1437	5.28	AA	25	7.43E-04	3.02E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1438	5.46	AA	25	4.64E-04	1.77E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1439	5.21	AA	25	1.86E-04	6.95E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1440	5.41	AA	25	2.78E-04	9.41E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1441	5.42	AA	25	7.43E-04	2.30E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1442	5.22	AA	25	9.28E-05	4.24E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1443	5.41	AA	25	1.86E-03	5.38E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1444	5.43	AA	25	7.43E-04	2.09E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1445	5.8	AA	25	3.71E-04	9.46E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1446	5.71	AA	25	2.78E-04	7.05E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1447	5.42	AA	25	9.28E-05	3.69E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1448	5.69	AA	25	1.86E-04	4.37E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1449	5.21	AA	25	4.64E-05	1.77E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1450	5.56	AA	25	9.28E-05	3.47E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1451	5.45	AA	25	4.64E-05	1.48E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1452	5.56	AA	25	4.64E-05	1.34E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1453	5.82	AA	25	9.28E-04	1.55E-04	A				Rd calculated by Grant Env. using data from P36, Table 1

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equill-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1454	36	Pb(II)	406.8	mg/l	406.766	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1455	36	Pb(II)	764.3	mg/l	764.286	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1456	36	Pb(II)	857.1	mg/l	857.091	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1457	36	Pb(II)	1292.1	mg/l	1292.070	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1458	36	Pb(II)	1397.2	mg/l	1397.246	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1459	36	Pb(II)	1550.6	mg/l	1550.641	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1460	36	Pb(II)	1940.0	mg/l	1940.040	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1461	36	Pb(II)	2194.9	mg/l	2194.944	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1462	36	Pb(II)	2486.0	mg/l	2486.041	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1463	36	Pb(II)	2505.6	mg/l	2505.627	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1464	36	Pb(II)	7640.4	mg/l	7640.385	Ca sat. DuPage Montmorillonite	municipal landfill leachate, DuPage Co., Illinois		B	1	52
1465	48	Pb(II)	305	ml/g	305.273	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500
1466	48	Pb(II)	800	ml/g	800.324	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500
1467	48	Pb(II)	3224	ml/g	3224.475	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500
1468	48	Pb(II)	3960	ml/g	3959.881	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500
1469	48	Pb(II)	4292	ml/g	4291.956	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1454	6.23	AA	25	3.71E-04	4.21E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1455	6.58	AA	25	3.71E-04	2.36E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1456	5.8	AA	25	1.86E-03	1.06E-04	A				Rd calculated by Grant Env. using data from P36, Table 1
1457	6.36	AA	25	9.28E-04	3.59E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1458	6.49	AA	25	9.28E-04	3.33E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1459	6.49	AA	25	9.28E-04	3.01E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1460	6.56	AA	25	9.28E-04	2.42E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1461	6.94	AA	25	3.71E-04	8.59E-06	A				Rd calculated by Grant Env. using data from P36, Table 1
1462	6.2	AA	25	1.86E-03	3.80E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1463	6.64	AA	25	9.28E-04	1.89E-05	A				Rd calculated by Grant Env. using data from P36, Table 1
1464	7.46	AA	25	3.71E-04	2.51E-06	A				Rd calculated by Grant Env. using data from P36, Table 1
1465	4.9	AA	20		1.16E-03	A				Rd calculated by Grant Env. from data of P48 Figure 3b
1466	4.9	AA	20		3.74E-04	A				Rd calculated by Grant Env. from data of P48 Figure 3b
1467	4.9	AA	20		6.69E-05	A				Rd calculated by Grant Env. from data of P48 Figure 3b
1468	4.9	AA	20		2.75E-05	A				Rd calculated by Grant Env. from data of P48 Figure 3b
1469	4.9	AA	20		1.11E-05	A				Rd calculated by Grant Env. from data of P48 Figure 3b

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1470	48	Pb(II)	5608	ml/g	5607.561	Wyoming bentonite MX-80 (75% Na-rich montmorillonite with lessor quartz, feldspar)	artificial leachate representing a waste site at Koelliken, Switzerland. Ionic str. Is 0.31M, pH6.9		BS	3	500
1471	60	Pb(II)	8.5	ml/g	8.528	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	500
1472	60	Pb(II)	8.8	ml/g	8.829	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	1000
1473	60	Pb(II)	9.5	ml/g	9.505	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	500
1474	60	Pb(II)	9.7	ml/g	9.722	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1475	60	Pb(II)	10.0	ml/g	9.958	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1476	60	Pb(II)	10.3	ml/g	10.313	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	100
1477	60	Pb(II)	10.5	ml/g	10.518	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	100
1478	60	Pb(II)	10.6	ml/g	10.598	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1479	60	Pb(II)	10.8	ml/g	10.840	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1480	60	Pb(II)	11.0	ml/g	10.973	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	100
1481	60	Pb(II)	11.4	ml/g	11.393	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	500
1482	60	Pb(II)	11.4	ml/g	11.434	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	500
1483	60	Pb(II)	11.5	ml/g	11.518	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1484	60	Pb(II)	12.0	ml/g	12.038	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	1000
1485	60	Pb(II)	12.5	ml/g	12.475	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	1000
1486	60	Pb(II)	12.8	ml/g	12.769	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1487	60	Pb(II)	13.6	ml/g	13.563	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	100
1488	60	Pb(II)	23.1	ml/g	23.140	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	1000
1489	60	Pb(II)	25.8	ml/g	25.793	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	1000

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1470	4.9	AA	20		4.10E-06	A				Rd calculated by Grant Env. from data of P48 Figure 3b
1471	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1472	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1473	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1474	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1475	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1476	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1477	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1478	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1479	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1480	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1481	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1482	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1483	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1484	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1485	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1486	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1487	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1488	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1489	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1490	60	Pb(II)	25.8	ml/g	25.799	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1491	60	Pb(II)	30.0	ml/g	30.042	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	100
1492	60	Pb(II)	34.8	ml/g	34.788	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1493	60	Pb(II)	35.2	ml/g	35.187	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1494	60	Pb(II)	38.4	ml/g	38.420	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1495	60	Pb(II)	39.5	ml/g	39.498	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1496	60	Pb(II)	47.5	ml/g	47.519	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1497	60	Pb(II)	52.4	ml/g	52.380	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1498	60	Pb(II)	67.2	ml/g	67.170	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1499	60	Pb(II)	82.6	ml/g	82.641	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1500	60	Pb(II)	85.8	ml/g	85.835	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1501	60	Pb(II)	87.5	ml/g	87.524	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1502	60	Pb(II)	89.2	ml/g	89.158	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1503	60	Pb(II)	109.2	ml/g	109.221	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1504	60	Pb(II)	109.9	ml/g	109.950	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1505	60	Pb(II)	113.0	ml/g	112.964	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1506	60	Pb(II)	118.7	ml/g	118.674	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	500
1507	60	Pb(II)	120.7	ml/g	120.706	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1508	60	Pb(II)	121.2	ml/g	121.154	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1509	60	Pb(II)	129.3	ml/g	129.333	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1510	60	Pb(II)	135.8	ml/g	135.770	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1490	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1491	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1492	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1493	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1494	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1495	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1496	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1497	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1498	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1499	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1500	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1501	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1502	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1503	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1504	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1505	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1506	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1507	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1508	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1509	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1510	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1511	60	Pb(II)	136.1	ml/g	136.116	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1512	60	Pb(II)	138.2	ml/g	138.235	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1513	60	Pb(II)	152.2	ml/g	152.169	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	500
1514	60	Pb(II)	165.2	ml/g	165.225	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1515	60	Pb(II)	187.1	ml/g	187.057	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1516	60	Pb(II)	192.1	ml/g	192.148	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	500
1517	60	Pb(II)	195.3	ml/g	195.300	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1518	60	Pb(II)	204.7	ml/g	204.708	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1519	60	Pb(II)	210.6	ml/g	210.566	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1520	60	Pb(II)	215.8	ml/g	215.818	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1521	60	Pb(II)	227.3	ml/g	227.273	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	500
1522	60	Pb(II)	234.8	ml/g	234.757	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1523	60	Pb(II)	250.1	ml/g	250.066	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1524	60	Pb(II)	260.5	ml/g	260.518	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1525	60	Pb(II)	263.0	ml/g	262.969	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	500
1526	60	Pb(II)	302.1	ml/g	302.067	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1527	60	Pb(II)	303.4	ml/g	303.379	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1528	60	Pb(II)	342.0	ml/g	342.047	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1529	60	Pb(II)	359.7	ml/g	359.685	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1530	60	Pb(II)	360.2	ml/g	360.187	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	500
1531	60	Pb(II)	402.7	ml/g	402.720	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1511	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1512	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1513	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1514	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1515	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1516	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1517	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1518	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1519	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1520	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1521	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1522	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1523	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1524	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1525	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1526	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1527	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1528	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1529	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1530	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1531	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1532	60	Pb(II)	411.8	ml/g	411.787	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1533	60	Pb(II)	424.4	ml/g	424.437	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1534	60	Pb(II)	440.8	ml/g	440.787	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1535	60	Pb(II)	576.9	ml/g	576.895	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	500
1536	60	Pb(II)	664.3	ml/g	664.271	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	100
1537	60	Pb(II)	850.5	ml/g	850.477	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1538	60	Pb(II)	963.0	ml/g	963.035	Ca sat. montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	1000
1539	60	Pb(II)	1124.5	ml/g	1124.498	Ca sat. montmorillonite (Panther Creek southern bentonite)	0.1M Ca(ClO4)2		BS	>1	50
1540	60	Pb(II)	1376.4	ml/g	1376.368	Ca sat: montmorillonite (Panther Creek southern bentonite)	Pb(NO3)2 solution		BS	>1	500
1541	96	Pb(II)	1260	ml/g	1260.000	Na montmorillonite	0.1M NaClO4		BS	1	
1542	96	Pb(II)	2510	ml/g	2510.000	Na montmorillonite	0.1M NaClO4		BS	1	
1543	96	Pb(II)	3980	ml/g	3980.000	Na montmorillonite	0.2M NaClO4		BS	1	
1544	96	Pb(II)	5010	ml/g	5010.000	Na montmorillonite	0.1M NaClO4		BS	1	
1545	96	Pb(II)	6310	ml/g	6310.000	Na montmorillonite	0.1M NaClO4		BS	1	
1546	96	Pb(II)	7940	ml/g	7940.000	Na montmorillonite	0.1M NaClO4		BS	1	
1547	96	Pb(II)	12600	ml/g	12600.000	Na montmorillonite	0.05M NaClO4		BS	1	
1548	96	Pb(II)	15800	ml/g	15800.000	Na montmorillonite	0.2M NaClO4		BS	1	
1549	96	Pb(II)	20000	ml/g	20000.000	Na montmorillonite	0.01M NaClO4		BS	1	
1550	96	Pb(II)	20000	ml/g	20000.000	Na montmorillonite	0.1M NaClO4		BS	1	
1551	96	Pb(II)	31600	ml/g	31600.000	Na montmorillonite	0.01M NaClO4		BS	1	
1552	96	Pb(II)	39800	ml/g	39800.000	Na montmorillonite	0.02M NaClO4		BS	1	
1553	96	Pb(II)	39800	ml/g	39800.000	Na montmorillonite	0.05M NaClO4		BS	1	
1554	96	Pb(II)	50100	ml/g	50100.000	Na montmorillonite	0.2M NaClO4		BS	1	
1555	96	Pb(II)	63100	ml/g	63100.000	Na montmorillonite	0.01M NaClO4		BS	1	
1556	96	Pb(II)	63100	ml/g	63100.000	Na montmorillonite	0.02M NaClO4		BS	1	
1557	96	Pb(II)	79400	ml/g	79400.000	Na montmorillonite	0.02M NaClO4		BS	1	
1558	96	Pb(II)	158000	ml/g	158000.000	Na montmorillonite	0.1M NaClO4		BS	1	
1559	96	Pb(II)	251000	ml/g	251000.000	Na montmorillonite	0.05M NaClO4		BS	1	
1560	121	Pb(II)	12000	ml/g	12000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30
1561	121	Pb(II)	17000	ml/g	17000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1532	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1533	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1534	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1535	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1536	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1537	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1538	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1539	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1540	5	AA	25			A				Rd calculated by Grant Env. from data in P60 Figure 1
1541	5.8	AA	20	1E-8M		D				3E-8M Bi concentration (as a competing cation)
1542	5.8	AA	20	1E-8M		D				6E-10M Bi concentration (as a competing cation)
1543	5	AA	20			A				
1544	5.8	AA	20	1E-9M		D				3E-8M Bi concentration (as a competing cation)
1545	5	AA	20			A				
1546	5.8	AA	20	1E-9M		D				6E-10M Bi concentration (as a competing cation)
1547	5	AA	20			A				
1548	6	AA	20			A				
1549	5	AA	20			A				
1550	6	AA	20			A				
1551	7	AA	20			A				
1552	5	AA	20			A				
1553	6	AA	20			A				
1554	7	AA	20			A				
1555	6	AA	20			A				
1556	6	AA	20			A				
1557	7	AA	20			A				
1558	7	AA	20			A				
1559	7	AA	20			A				
1560		AA	20		1.59E-09	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1561		AA	20		1.16E-09	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1562	121	Pb(II)	17000	ml/g	17000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	7	30
1563	121	Pb(II)	18000	ml/g	18000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30
1564	121	Pb(II)	19000	ml/g	19000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30
1565	121	Pb(II)	22000	ml/g	22000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30
1566	121	Pb(II)	26000	ml/g	26000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	7	30
1567	121	Pb(II)	27000	ml/g	27000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30
1568	121	Pb(II)	28000	ml/g	28000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30
1569	121	Pb(II)	30000	ml/g	30000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30
1570	121	Pb(II)	30000	ml/g	30000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	7	30
1571	121	Pb(II)	30000	ml/g	30000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	7	30
1572	121	Pb(II)	35000	ml/g	35000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	7	30
1573	121	Pb(II)	36000	ml/g	36000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30
1574	121	Pb(II)	37000	ml/g	37000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	30	30
1575	121	Pb(II)	40000	ml/g	40000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30
1576	121	Pb(II)	40000	ml/g	40000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	7	30
1577	121	Pb(II)	45000	ml/g	45000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	30	30
1578	121	Pb(II)	47000	ml/g	47000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30
1579	121	Pb(II)	48000	ml/g	48000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	7	30
1580	121	Pb(II)	54000	ml/g	54000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	30	30
1581	121	Pb(II)	60000	ml/g	60000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	30	30
1582	121	Pb(II)	68000	ml/g	68000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	10	30

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1562		AA	20		4.83E-10	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1563		AA	20		1.11E-09	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1564		AA	20		4.34E-10	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1565		AA	20		3.67E-10	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1566		AA	20		8.20E-10	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1567		AA	20		5.31E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1568		AA	20		9.65E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1569		AA	20		2.80E-10	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1570		AA	20		3.19E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1571		AA	20		7.72E-10	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1572		AA	20		2.27E-10	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1573		AA	20		7.72E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1574		AA	20		1.30E-10	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1575		AA	20		7.24E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1576		AA	20		2.61E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1577		AA	20		2.27E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1578		AA	20		3.19E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1579		AA	20		4.83E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1580		AA	20		1.45E-10	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1581		AA	20		5.31E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1582		AA	20		2.03E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1583	121	Pb(II)	76000	ml/g	76000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	7	30
1584	121	Pb(II)	130000	ml/g	130000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	30	30
1585	121	Pb(II)	160000	ml/g	160000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	30	30
1586	121	Pb(II)	180000	ml/g	180000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	30	30
1587	121	Pb(II)	370000	ml/g	370000.000	38% smectite in soil fines	Hanford ground water, well 6-S3-25		BS	30	30
1588	46	Pu	3500	ml/g	3500.000	montmorillonite Swy-1	4.84 mg/l fulvic acid, synthetic groundwater D, pH7.6		BS	28	40
1589	46	Pu	9800	ml/g	9800.000	montmorillonite Swy-1	1.47 mg/l fulvic acid, synthetic groundwater C, pH7.8		BS	28	40
1590	46	Pu	30000	ml/g	30000.000	montmorillonite Swy-1	0.46 mg/l fulvic acid, synthetic groundwater B, pH7.8		BS	28	40
1591	46	Pu	>61000	ml/g	>61000	montmorillonite Swy-1	No fulvic acid, synthetic groundwater A, pH7.7		BS	28	40
1592	49	Pu	1	m3/kg	1000.000	bentonite					
1593	49	Pu	1.5	m3/kg	1500.000	bentonite					
1594	49	Pu	4	m3/kg	4000.000	bentonite					
1595	49	Pu	5	m3/kg	5000.000	bentonite					
1596	49	Pu	16.8	m3/kg	16800.000	bentonite					
1597	49	Pu	0.15	m3/kg	150.000	bentonite and sand mix					
1598	63	Pu	0.063	m3/kg	63.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1599	63	Pu	0.0794	m3/kg	79.400	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1600	63	Pu	0.158	m3/kg	158.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1601	63	Pu	0.158	m3/kg	158.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
1602	63	Pu	0.158	m3/kg	158.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1603	63	Pu	0.063	m3/kg	630.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1604	63	Pu	0.0794	m3/kg	794.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1583		AA	20		3.28E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1584		AA	20		9.65E-12	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1585		AA	20		1.06E-10	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1586		AA	20		2.08E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1587		AA	20		6.76E-11	A				Sorbent is soil fines from a burial trench at the Hanford Site, WA
1588	7.6?	AA	20	1.1E-9M		A		31.82		
1589	7.8?	AA	20	1.2E-9M		A		31.82		
1590	7.8?	AA	20	1.2E-9M		A		31.82		
1591	7.7?	AA	20	1.1E-9M		A		31.82		
1592										Peltonen et al. (1985) TVO database value from p49
1593										PAGIS (1988) database value from p49
1594										Shaw et al. (1989) SKI database value from p49
1595										McKinley and Hadermann (1985) NAGRA database value from p49
1596										KBS(1983) database value from p49
1597										Wuschke et al. (1985) AECL database value from p49
1598	8.2?	AA	25	1E-8M		A				
1599	8.2?	AA	25	1E-8M		A				
1600	8.2?	AA	65	1E-8M		A				
1601	8.2?	AA	25	1E-8M		A				
1602	8.2?	AA	65	1E-8M		A				
1603	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1604	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1605	63	Pu	0.158	m3/kg	1580.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1606	63	Pu	0.158	m3/kg	1580.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
1607	63	Pu	0.158	m3/kg	1580.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1608	68	Pu	3.47	m3/kg	3470.000	Wyoming bentonite MX-80	synthetic ground water, TDS of 306 mg/l		BS	6	100
1609	68	Pu	3.55	m3/kg	3550.000	Wyoming bentonite MX-80	synthetic ground water, TDS of 306 mg/l		BS	6	100
1610	72	Pu	3.5	m3/kg	3500.000	Wyoming Na bentonite MX-80	Swedish synthetic granitic ground water	2	BS? D?	316	
1611	120	Pu	6000	l/kg	6000.000	bentonite	DI		BS	10	100
1612	120	Pu	13000	l/kg	13000.000	bentonite	DI		BS	1	50
1613	120	Pu	15000	l/kg	15000.000	bentonite	DI		BS	2	100
1614	120	Pu	16000	l/kg	16000.000	bentonite	DI		BS	1	100
1615	120	Pu	33000	l/kg	33000.000	bentonite	DI		BS	1	200
1616	122	Pu	2572	ml/g	2572.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1617	122	Pu	3328	ml/g	3328.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1618	154	Pu	1688	ml/g	1688.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l			3	
1619	154	Pu	2122	ml/g	2122.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l			10	
1620	154	Pu	5268	ml/g	5268.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l			30	
1621	154	Pu	673.3	ml/g	673.300	Na sat. montmorillonite	NaCl at 30 meq/l			3	
1622	154	Pu	918	ml/g	918.000	Na sat. montmorillonite	NaCl at 5130 meq/l			30	
1623	154	Pu	1537	ml/g	1537.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l			3	
1624	154	Pu	1589	ml/g	1589.000	Na sat. montmorillonite	NaCl at 5130 meq/l			3	
1625	154	Pu	2236	ml/g	2236.000	Na sat. montmorillonite	NaCl at 30 meq/l			10	
1626	154	Pu	4040	ml/g	4040.000	Na sat. montmorillonite	NaCl at 5130 meq/l			10	
1627	154	Pu	6760	ml/g	6760.000	Na sat. montmorillonite	NaCl at 30 meq/l			30	
1628	154	Pu	7508	ml/g	7508.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l			30	
1629	154	Pu	8028	ml/g	8028.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l			10	
1630	162	Pu	630	ml/g	630.000	montmorillonite	"pH7 water"		B		250
1631	172	Pu	251	ml/g	251.189	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
1605	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1606	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1607	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1608	8.5	N2 atmosphere	25	0.6E-9M		A	75 to 80			
1609	8.5	N2 atmosphere	25	0.6E-7M		A	75 to 80			
1610		AA	20	2.5E-8 moles		A				
1611	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1612	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1613	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1614	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1615	9.5	aerobic	20			A				pH assumed to be same as for uranium data. The Rd is an average value.
1616	8	AA	23	1.62E-11M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1617	8	AA	60	1.62E-11M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1618	7.5		20			A				
1619	7.73	348	20			A				
1620	7.61	369	20			A				
1621	8.75		20			A				
1622	7.75	288	20			A				
1623	9.08		20			A				
1624	8.02		20			A				
1625	8.8	328	20			A				
1626	7.8	277	20			A				
1627	8.52	383	20			A				
1628	9.31	295	20			A				
1629	9.2	330	20			A				
1630	9.2									
1631	2.7	AA	20	6.40E-08	3.80E-08	A				the Fe and Mn oxides may be responsible for much of the sorption

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1632	172	Pu	355	ml/g	354.813	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
1633	172	Pu	1905	ml/g	1905.461	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
1634	172	Pu	2754	ml/g	2754.229	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
1635	172	Pu	3631	ml/g	3630.781	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
1636	192	Pu	157	ml/g	157.000	montmorillonite	.005M Ca, pH6.5		BS?		
1637	136	Pu(IV)	490	ml/g	490.000	10% bentonite, 90% sand (silica & calcite)	Brine A, 1.8M Na		BS	21	40
1638	136	Pu(IV)	540	ml/g	540.000	10% bentonite, 90% sand (silica & calcite)	Brine A, 1.8M Na		BS	21	40
1639	136	Pu(IV)	3300	ml/g	3300.000	10% bentonite, 90% sand (silica & calcite)	Brine B, 5.0M Na		BS	21	40
1640	136	Pu(IV)	3800	ml/g	3800.000	10% bentonite, 90% sand (silica & calcite)	Brine B, 5.0M Na		BS	21	40
1641	136	Pu(IV)	400	ml/g	400.000	10% hectorite, 90% sand (silica & calcite)	Brine A, 1.8M Na		BS	21	40
1642	136	Pu(IV)	470	ml/g	470.000	10% hectorite, 90% sand (silica & calcite)	Brine A, 1.8M Na		BS	21	40
1643	136	Pu(IV)	860	ml/g	860.000	10% hectorite, 90% sand (silica & calcite)	Brine B, 5.0M Na		BS	21	40
1644	136	Pu(IV)	1300	ml/g	1300.000	10% hectorite, 90% sand (silica & calcite)	Brine B, 5.0M Na		BS	21	40
1645	136	Pu(IV)	2300	ml/g	2300.000	commercial bentonite	Brine A, 1.8M Na		BS	21	40
1646	136	Pu(IV)	3400	ml/g	3400.000	commercial bentonite	Brine A, 1.8M Na		BS	21	40
1647	136	Pu(IV)	20000	ml/g	20000.000	commercial bentonite	Brine B, 5.0M Na		BS	21	40
1648	136	Pu(IV)	40000	ml/g	40000.000	commercial bentonite	Brine B, 5.0M Na		BS	21	40
1649	162	Pu(IV)	21000	ml/g	21000.000	Ca sat. montmorillonite	.005M in Ca+2		B		
1650	192	Pu(IV)	21000	ml/g	21000.000	montmorillonite	.005M Ca, pH6.5		BS?		
1651	159	Pu(VI)	440	none	440.000	Na Acetate & H2O2 treated montmorillonite	0.005M CaCl2, pH8		B	0.1	34
1652	159	Pu(VI)	1450	none	1450.000	Na Acetate & H2O2 treated montmorillonite	0.005M CaCl2, pH7		B	4	34
1653	162	Pu(VI)	250	ml/g	250.000	Ca sat. montmorillonite	.005M in Ca+2		B		
1654	192	Pu(VI)	250	ml/g	250.000	montmorillonite	.005M Ca, pH6.5		BS?		
1655	156	Pu(VI?)	5657	ml/g	5657.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	3	30
1656	156	Pu(VI?)	>836	ml/g	>836	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	30	30
1657	156	Pu(VI?)	>9550	ml/g	>9550	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	10	30
1658	156	Pu(VI?)	440	ml/g	440.000	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	30	30
1659	156	Pu(VI?)	601	ml/g	601.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	3	30

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1632	2.7	AA	20	6.40E-08	2.82E-08	A				the Fe and Mn oxides may be responsible for much of the sorption
1633	6.9	AA	20	6.40E-08	3.80E-10	A				the Fe and Mn oxides may be responsible for much of the sorption
1634	6.9	AA	20	6.40E-08	2.95E-10	A				the Fe and Mn oxides may be responsible for much of the sorption
1635	6.9	AA	20	6.40E-08	2.19E-10	A				the Fe and Mn oxides may be responsible for much of the sorption
1636		AA?	20?			A?				data from Evans (1956) as reported in p192.
1637	6.7	AA	22 to 24	3E-8M		A				
1638	6.7	AA	22 to 24	3E-8M		A				
1639	7.1	AA	22 to 24	3E-8M		A				
1640	7.2	AA	22 to 24	3E-8M		A				
1641	6.8	AA	22 to 24	3E-8M		A				
1642	6.8	AA	22 to 24	3E-8M		A				
1643	7.4	AA	22 to 24	3E-8M		A				
1644	7.5	AA	22 to 24	3E-8M		A				
1645	6.7	AA	22 to 24	3E-8M		A	75			85 to 90% montmorillonite
1646	6.7	AA	22 to 24	3E-8M		A	75			85 to 90% montmorillonite
1647	7.1	AA	22 to 24	3E-8M		A	75			85 to 90% montmorillonite
1648	7.1	AA	22 to 24	3E-8M		A	75			85 to 90% montmorillonite
1649	6.5									
1650	6.5	AA?	20?			A?				data from Gast et al. (1977) as reported in p192.
1651	7	AA	20	7.3E-9M		A	87.4	767		Rd calculated by Grant Env. using P159 data
1652	7	AA	20	7.3E-9M		A	87.4	767		Rd calculated by Grant Env. using P159 data
1653	6.5									
1654	6.5	AA?	20?			A?				data from Gast et al. (1977) as reported in p192.
1655	8.1	anoxic	20			A				
1656	8.1	anoxic	20			A				
1657	7.7	anoxic	20			A				
1658	8.1	anoxic	20			A				
1659	9.1	anoxic	20			A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1660	156	Pu(VI?)	694	ml/g	694.000	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	3	30
1661	156	Pu(VI?)	845	ml/g	845.000	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	10	30
1662	156	Pu(VI?)	4650	ml/g	4650.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	30	30
1663	156	Pu(VI?)	11500	ml/g	11500.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	10	30
1664	156	Pu(VI?)	20000	ml/g	20000.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	3	30
1665	156	Pu(VI?)	>2460	ml/g	>2460	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	10	30
1666	156	Pu(VI?)	>575	ml/g	>575	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	30	30
1667	46	Sr(II)	5.5	ml/g	5.500	montmorillonite Swy-1	1.47 mg/l fulvic acid, synthetic groundwater C, pH7.8		BS	28	40
1668	46	Sr(II)	6.2	ml/g	6.200	montmorillonite Swy-1	No fulvic acid, synthetic groundwater A, pH7.7		BS	28	40
1669	46	Sr(II)	7	ml/g	7.000	montmorillonite Swy-1	4.84 mg/l fulvic acid, synthetic groundwater D, pH7.6		BS	28	40
1670	46	Sr(II)	7.6	ml/g	7.600	montmorillonite Swy-1	0.46 mg/l fulvic acid, synthetic groundwater B, pH7.8		BS	28	40
1671	49	Sr(II)	0.005	m3/kg	5.000	bentonite					
1672	49	Sr(II)	0.06	m3/kg	60.000	bentonite					
1673	49	Sr(II)	0.2	m3/kg	200.000	bentonite					
1674	49	Sr(II)	3	m3/kg	3000.000	bentonite					
1675	49	Sr(II)	0.05	m3/kg	50.000	bentonite and sand mix					
1676	63	Sr(II)	0.02	m3/kg	20.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
1677	63	Sr(II)	0.032	m3/kg	32.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1678	63	Sr(II)	0.032	m3/kg	32.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
1679	63	Sr(II)	0.032	m3/kg	32.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1680	63	Sr(II)	0.032	m3/kg	32.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1681	63	Sr(II)	0.032	m3/kg	32.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
1682	63	Sr(II)	0.032	m3/kg	32.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1683	63	Sr(II)	0.04	m3/kg	40.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1684	63	Sr(II)	0.05	m3/kg	50.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1660	8.3	anoxic	20			A				
1661	8.2	anoxic	20			A				
1662	11.2	anoxic	20			A				
1663	9.2	anoxic	20			A				
1664	8.7	anoxic	20			A				
1665	8.8	anoxic	20			A				
1666	8.7	anoxic	20			A				
1667	7.8?	AA	20	4.2E-6M		A		31.82		
1668	7.7?	AA	20	4.5E-6M		A		31.82		
1669	7.6?	AA	20	4.1E-6M		A		31.82		
1670	7.8?	AA	20	3.9E-6M		A		31.82		
1671										Shaw et al. (1989) SKI database value from p49
1672										KBS(1983) database value from p49
1673										McKinley and Hadermann (1985) NAGRA database value from p49
1674										Peltonen et al. (1985) TVO database value from p49
1675										Wuschke et al. (1985) AECL database value from p49
1676	8.2?	AA	25	1E-5M		A				
1677	8.2?	AA	25	1E-8M		A				
1678	8.2?	AA	25	1E-8M		A				
1679	8.2?	AA	25	1E-8M		A				
1680	8.2?	AA	25	1E-5M		A				
1681	8.2?	AA	25	1E-8M		A				
1682	8.2?	AA	65	1E-8M		A				
1683	8.2?	AA	65	1E-5M		A				
1684	8.2?	AA	25	1E-5M		A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time In Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1685	63	Sr(II)	0.05	m3/kg	50.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1686	63	Sr(II)	0.063	m3/kg	63.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1687	63	Sr(II)	0.02	m3/kg	200.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
1688	63	Sr(II)	0.032	m3/kg	320.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1689	63	Sr(II)	0.032	m3/kg	320.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
1690	63	Sr(II)	0.032	m3/kg	320.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1691	63	Sr(II)	0.032	m3/kg	320.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1692	63	Sr(II)	0.032	m3/kg	320.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
1693	63	Sr(II)	0.032	m3/kg	320.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1694	63	Sr(II)	0.04	m3/kg	400.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1695	63	Sr(II)	0.05	m3/kg	500.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1696	63	Sr(II)	0.05	m3/kg	500.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1697	63	Sr(II)	0.063	m3/kg	630.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1698	73	Sr(II)	230	l/kg	230.000	15% natural Ca bentonite (Younil, Korea), 85% crushed granite	synthetic ground water, pH7.0		BS	60	
1699	73	Sr(II)	235	l/kg	235.000	15% natural Ca bentonite (Younil, Korea), 85% crushed granite	synthetic ground water, pH7.0		BS	60	
1700	73	Sr(II)	242	l/kg	242.000	15% natural Ca bentonite (Younil, Korea), 85% crushed granite	synthetic ground water, pH7.0		BS	60	
1701	73	Sr(II)	354	l/kg	354.000	25% natural Ca bentonite (Younil, Korea), 75% crushed granite	synthetic ground water, pH7.0		BS	60	
1702	73	Sr(II)	359	l/kg	359.000	25% natural Ca bentonite (Younil, Korea), 75% crushed granite	synthetic ground water, pH7.0		BS	60	

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1685	8.2?	AA	65	1E-8M		A				
1686	8.2?	AA	65	1E-5M		A				
1687	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1688	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1689	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1690	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1691	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1692	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1693	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1694	8.2?	AA	65	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1695	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1696	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1697	8.2?	AA	65	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1698	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1699	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1700	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1701	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1702	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1703	73	Sr(II)	379	l/kg	379.000	25% natural Ca bentonite (Younil, Korea), 75% crushed granite	synthetic ground water, pH7.0		BS	60	
1704	73	Sr(II)	394	l/kg	394.000	25% natural Ca bentonite (Younil, Korea), 75% crushed granite	synthetic ground water, pH7.0		BS	60	
1705	73	Sr(II)	26.6	l/kg	26.600	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	1
1706	73	Sr(II)	62.4	l/kg	62.400	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	2
1707	73	Sr(II)	66.6	l/kg	66.600	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	2
1708	73	Sr(II)	88.4	l/kg	88.400	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	2.75
1709	73	Sr(II)	90.6	l/kg	90.600	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	2.75
1710	73	Sr(II)	93.9	l/kg	93.900	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	3
1711	73	Sr(II)	94	l/kg	94.000	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	2.9
1712	73	Sr(II)	97.3	l/kg	97.300	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	3
1713	73	Sr(II)	130	l/kg	130.000	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	4
1714	73	Sr(II)	133	l/kg	133.000	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	4
1715	73	Sr(II)	174	l/kg	174.000	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	5
1716	73	Sr(II)	178	l/kg	178.000	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	5

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1703	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1704	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1705	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1706	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1707	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1708	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1709	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1710	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1711	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1712	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1713	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1714	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1715	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1716	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1717	73	Sr(II)	431	l/kg	431.000	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	
1718	73	Sr(II)	441	l/kg	441.000	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	
1719	73	Sr(II)	450	l/kg	450.000	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	
1720	73	Sr(II)	456	l/kg	456.000	30% natural Ca bentonite (Younil, Korea), 70% crushed granite	synthetic ground water, pH7.0		BS	60	
1721	73	Sr(II)	513	l/kg	513.000	40% natural Ca bentonite (Younil, Korea), 60% crushed granite	synthetic ground water, pH7.0		BS	60	
1722	73	Sr(II)	521	l/kg	521.000	40% natural Ca bentonite (Younil, Korea), 60% crushed granite	synthetic ground water, pH7.0		BS	60	
1723	73	Sr(II)	530	l/kg	530.000	40% natural Ca bentonite (Younil, Korea), 60% crushed granite	synthetic ground water, pH7.0		BS	60	
1724	73	Sr(II)	536	l/kg	536.000	40% natural Ca bentonite (Younil, Korea), 60% crushed granite	synthetic ground water, pH7.0		BS	60	
1725	73	Sr(II)	544	l/kg	544.000	50% natural Ca bentonite (Younil, Korea), 50% crushed granite	synthetic ground water, pH7.0		BS	60	
1726	73	Sr(II)	549	l/kg	549.000	50% natural Ca bentonite (Younil, Korea), 50% crushed granite	synthetic ground water, pH7.0		BS	60	
1727	73	Sr(II)	554	l/kg	554.000	50% natural Ca bentonite (Younil, Korea), 50% crushed granite	synthetic ground water, pH7.0		BS	60	
1728	73	Sr(II)	565	l/kg	565.000	50% natural Ca bentonite (Younil, Korea), 50% crushed granite	synthetic ground water, pH7.0		BS	60	
1729	73	Sr(II)	570	l/kg	570.000	50% natural Ca bentonite (Younil, Korea), 50% crushed granite	synthetic ground water, pH7.0		BS	60	
1730	73	Sr(II)	575	l/kg	575.000	50% natural Ca bentonite (Younil, Korea), 50% crushed granite	synthetic ground water, pH7.0		BS	60	

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1717	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1718	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1719	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1720	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1721	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1722	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1723	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1724	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1725	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1726	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1727	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1728	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1729	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites
1730	7?	AA	20			A				the bentonite was 87% montmorillonite with minor feldspar, quartz and zeolites

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1731	106	Sr(II)	2.9	m3/kg	2900.000	Compacted Wyoming Na bentonite MX-80	synthetic ground water	2	BD	50	
1732	108	Sr(II)	54.9	l/kg	54.900	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0416	BS	<7	
1733	108	Sr(II)	63.1	l/kg	63.100	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0219	BS	<7	
1734	108	Sr(II)	63.9	l/kg	63.900	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0208	BS	<7	
1735	108	Sr(II)	64.8	l/kg	64.800	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0196	BS	<7	
1736	108	Sr(II)	65.4	l/kg	65.400	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0158	BS	<7	
1737	108	Sr(II)	70.3	l/kg	70.300	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0111	BS	<7	
1738	108	Sr(II)	71.1	l/kg	71.100	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0104	BS	<7	
1739	108	Sr(II)	73.7	l/kg	73.700	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0081	BS	<7	
1740	108	Sr(II)	83.7	l/kg	83.700	Unconfined, Na sat. Avonlea bentonite (80% smectite, 10% illite, 5% quartz)	synthetic ground water, ionic strength .22 moles/l	0.0052	BS	<7	
1741	116	Sr(II)	8.5	cc/g	8.500	Wyoming Na-bentonite	NASK saline ground water pH7.7 ionic str. .218	1.8 dry	D		
1742	116	Sr(II)	11	cc/g	11.000	Wyoming Na-bentonite	NASK saline ground water pH7.7 ionic str. .218	1.8 dry	D		
1743	122	Sr(II)	214	ml/g	214.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1744	122	Sr(II)	215	ml/g	215.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1745	122	Sr(II)	223	ml/g	223.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1746	122	Sr(II)	226	ml/g	226.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1731		AA	20	1E-9M		A				
1732	9	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
1733	9	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
1734	9	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
1735	9	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
1736	9	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
1737	9	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
1738	9	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
1739	9	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
1740	9	AA	20			A	60 cmol/kg	4.80E+05		the extremely low sorbent "density" may represent g clay suspended in ml solution?
1741		AA	20	1E-6M		A				
1742		AA	20	1E-4M		A				
1743	10	AA	23	1E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1744	10	AA	23	1E-6M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1745	10	AA	23	1E-4M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1746	10	AA	60	1E-10M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1747	122	Sr(II)	239	ml/g	239.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1748	122	Sr(II)	249	ml/g	249.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1749	122	Sr(II)	266	ml/g	266.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1750	122	Sr(II)	273	ml/g	273.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1751	122	Sr(II)	274	ml/g	274.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1752	122	Sr(II)	275	ml/g	275.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1753	122	Sr(II)	304	ml/g	304.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1754	122	Sr(II)	305	ml/g	305.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1755	122	Sr(II)	339	ml/g	339.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1756	122	Sr(II)	343	ml/g	343.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1757	122	Sr(II)	357	ml/g	357.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1758	122	Sr(II)	372	ml/g	372.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1759	122	Sr(II)	380	ml/g	380.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1760	122	Sr(II)	451	ml/g	451.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1761	122	Sr(II)	470	ml/g	470.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1762	122	Sr(II)	599	ml/g	599.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1763	122	Sr(II)	942	ml/g	942.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1764	122	Sr(II)	1078	ml/g	1078.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1765	136	Sr(II)	0	ml/g	0.000	commercial bentonite	Brine A, 1.8M Na		BS	7	40
1766	136	Sr(II)	0	ml/g	0.000	commercial bentonite	Brine A, 1.8M Na		BS	7	40
1767	136	Sr(II)	0	ml/g	0.000	commercial bentonite	Brine B, 5.0M Na		BS	7	40
1768	136	Sr(II)	0	ml/g	0.000	commercial bentonite	Brine B, 5.0M Na		BS	7	40
1769	136	Sr(II)	0	ml/g	0.000	commercial hectorite	Brine A, 1.8M Na		BS	7	40
1770	136	Sr(II)	0	ml/g	0.000	commercial hectorite	Brine B, 5.0M Na		BS	7	40

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
1747	10	AA	60	1E-12M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1748	10	AA	23	1E-10M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1749	8	AA	23	1E-4M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1750	10	AA	60	1E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1751	8	AA	23	5.54E-12M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1752	10	AA	60	1E-6M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1753	10	AA	60	1E-4M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1754	8	AA	23	1E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1755	8	AA	60	5.54E-12M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1756	10	AA	23	1E-12M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1757	8	AA	23	1E-6M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1758	8	AA	23	1E-12M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1759	8	AA	60	1E-10M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1760	8	AA	23	1E-10M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1761	8	AA	60	1E-4M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1762	8	AA	60	1E-6M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1763	8	AA	60	1E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1764	8	AA	60	1E-12M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1765	6.5	AA	22 to 24	6E-5M		A	75			85 to 90% montmorillonite
1766	6.5	AA	22 to 24	6E-5M		A	75			85 to 90% montmorillonite
1767	7.1	AA	22 to 24	2E-4M		A	75			85 to 90% montmorillonite
1768	7.1	AA	22 to 24	2E-4M		A	75			85 to 90% montmorillonite
1769	6.4	AA	22 to 24	6E-5M		A	104			50% hectorite, rest calcite & dolomite
1770	7.9	AA	22 to 24	2E-4M		A	104			50% hectorite, rest calcite & dolomite

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1771	136	Sr(II)	0	ml/g	0.000	commercial hectorite	Brine B, 5.0M Na		BS	7	40
1772	136	Sr(II)	1	ml/g	1.000	commercial hectorite	Brine A, 1.8M Na		BS	7	40
1773	150	Sr(II)	1.6	cc/g	1.600	sat. compacted bentonite	DI?	2	D		
1774	150	Sr(II)	1.9	cc/g	1.900	sat. compacted bentonite	DI?	1.9	D		
1775	150	Sr(II)	4.5	cc/g	4.500	sat. compacted bentonite	DI?	1.7	D		
1776	150	Sr(II)	6.2	cc/g	6.200	sat. compacted bentonite	DI?	1.5	D		
1777	150	Sr(II)	13	cc/g	13.000	sat. compacted bentonite	DI?	1.2	D		
1778	150	Sr(II)	23	cc/g	23.000	sat. compacted bentonite	DI?	1	D		
1779	150	Sr(II)	27	cc/g	27.000	sat. compacted bentonite	DI?	0.6	D		
1780	150	Sr(II)	28	cc/g	28.000	sat. compacted bentonite	DI?	0.7	D		
1781	150	Sr(II)	47	cc/g	47.000	sat. compacted bentonite	DI?	0.4	D		
1782	150	Sr(II)	89	cc/g	89.000	sat. compacted bentonite	DI?	0.2	D		
1783	151	Sr(II)	0.3	cc/g	0.300	Na montmorillonite	4M NaCl + .01M NaOAc		BS	1.8	
1784	151	Sr(II)	0.4	cc/g	0.400	Na montmorillonite	2M NaCl + .1M NaOAc		BS	6.9	
1785	151	Sr(II)	0.6	cc/g	0.600	Na montmorillonite	2M NaCl + .01M NaOAc		BS	1.9	
1786	151	Sr(II)	0.6	cc/g	0.600	Na montmorillonite	2.0M Na ion +0.1M acetate		A		
1787	151	Sr(II)	1.3	cc/g	1.300	Na montmorillonite	2M NaCl + .01M NaOAc		BS	1.8	
1788	151	Sr(II)	1.5	cc/g	1.500	Na montmorillonite	1.0M Na ion +0.01M acetate		A		
1789	151	Sr(II)	1.6	cc/g	1.600	Na montmorillonite	1M NaCl + .1M NaOAc		BS	6.9	
1790	151	Sr(II)	1.6	cc/g	1.600	Na montmorillonite	1.0M Na ion		A		
1791	151	Sr(II)	2	cc/g	2.000	Na montmorillonite	0.7M Na ion		A		
1792	151	Sr(II)	2.2	cc/g	2.200	Na montmorillonite	1M NaCl + .01M NaOAc		BS	1.9	
1793	151	Sr(II)	3	cc/g	3.000	Na montmorillonite	0.7M Na ion		A		
1794	151	Sr(II)	3	cc/g	3.000	Na montmorillonite	0.7M Na ion		A		
1795	151	Sr(II)	3.2	cc/g	3.200	Na montmorillonite	0.7M Na ion		A		
1796	151	Sr(II)	3.4	cc/g	3.400	Na montmorillonite	1M NaCl + .01M NaOAc		BS	1.8	
1797	151	Sr(II)	3.5	cc/g	3.500	Na montmorillonite	0.7M Na ion		A		
1798	151	Sr(II)	5	cc/g	5.000	Na montmorillonite	0.5M NaCl + .1M NaOAc		BS	6.9	
1799	151	Sr(II)	5.9	cc/g	5.900	Na montmorillonite	0.4M Na ion +0.1M acetate		A		
1800	151	Sr(II)	6	cc/g	6.000	Na montmorillonite	0.5M Na ion +0.01M acetate		A		
1801	151	Sr(II)	6.6	cc/g	6.600	Na montmorillonite	0.5M NaCl + .01M NaOAc		BS	1.9	
1802	151	Sr(II)	7.2	cc/g	7.200	Na montmorillonite	0.5M Na ion		A		
1803	151	Sr(II)	8	cc/g	8.000	Na montmorillonite	0.5M Na ion +0.1M acetate		A		
1804	151	Sr(II)	8.9	cc/g	8.900	Na montmorillonite	0.25M NaCl + .1M NaOAc		BS	6.9	
1805	151	Sr(II)	11	cc/g	11.000	Na montmorillonite	0.5M NaCl + .01M NaOAc		BS	1.8	
1806	151	Sr(II)	12	cc/g	12.000	Na montmorillonite	0.3M Na ion +0.01M acetate		A		
1807	151	Sr(II)	12	cc/g	12.000	Na montmorillonite	0.3M Na ion +0.1M acetate		A		
1808	151	Sr(II)	14	cc/g	14.000	Na montmorillonite	0.3M Na ion		A		
1809	151	Sr(II)	18	cc/g	18.000	Na montmorillonite	0.25M NaCl + .01M NaOAc		BS	1.9	
1810	151	Sr(II)	21	cc/g	21.000	Na montmorillonite	0.1M NaCl + .1M NaOAc		BS	6.9	
1811	151	Sr(II)	27	cc/g	27.000	Na montmorillonite	0.25M NaCl + .01M NaOAc		BS	1.8	
1812	151	Sr(II)	54	cc/g	54.000	Na montmorillonite	0.1M NaCl + .01M NaOAc		BS	1.8	

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1771	7.9	AA	22 to 24	2E-4M		A	104			50% hectorite, rest calcite & dolomite
1772	6.4	AA	22 to 24	6E-5M		A	104			50% hectorite, rest calcite & dolomite
1773		AA?	20?			A				Rd as function of compaction density
1774		AA?	20?			A				Rd as function of compaction density
1775		AA?	20?			A				Rd as function of compaction density
1776		AA?	20?			A				Rd as function of compaction density
1777		AA?	20?			A				Rd as function of compaction density
1778		AA?	20?			A				Rd as function of compaction density
1779		AA?	20?			A				Rd as function of compaction density
1780		AA?	20?			A				Rd as function of compaction density
1781		AA?	20?			A				Rd as function of compaction density
1782		AA?	20?			A				Rd as function of compaction density
1783	5	AA	20	1.25E-4M		A				No prewashes
1784	5	AA	20	5E-4M		A				No prewashes
1785	5	AA	20	1.25E-4M		A				2 prewashes
1786	4.7	AA	20	1E-4M		A				
1787	5	AA	20	1.25E-4M		A				No prewashes
1788	4.7	AA	20	1E-4M		A				
1789	5	AA	20	5E-4M		A				No prewashes
1790	6.8	AA	20	1E-4M		A				
1791	4.3	AA	20	1E-4M		A				
1792	5	AA	20	1.25E-4M		A				2 prewashes
1793	5.6	AA	20	1E-4M		A				
1794	6.3	AA	20	1E-4M		A				
1795	6.1	AA	20	1E-4M		A				
1796	5	AA	20	1.25E-4M		A				No prewashes
1797	4.6	AA	20	1E-4M		A				
1798	5	AA	20	5E-4M		A				No prewashes
1799	4.7	AA	20	1E-4M		A				
1800	4.7	AA	20	1E-4M		A				
1801	5	AA	20	1.25E-4M		A				2 prewashes
1802	6.8	AA	20	1E-4M		A				
1803	4.7	AA	20	1E-4M		A				
1804	5	AA	20	5E-4M		A				No prewashes
1805	5	AA	20	1.25E-4M		A				No prewashes
1806	4.7	AA	20	1E-4M		A				
1807	4.7	AA	20	1E-4M		A				
1808	6.8	AA	20	1E-4M		A				
1809	5	AA	20	1.25E-4M		A				2 prewashes
1810	5	AA	20	5E-4M		A				No prewashes
1811	5	AA	20	1.25E-4M		A				No prewashes
1812	5	AA	20	1.25E-4M		A				No prewashes

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1813	151	Sr(II)	81	cc/g	81.000	Na montmorillonite	0.1M NaCl + .01M NaOAc		BS	1.9	
1814	151	Sr(II)	240	cc/g	240.000	Na montmorillonite	.05M NaCl + .01M NaOAc		BS	1.9	
1815	151	Sr(II)	275	cc/g	275.000	Na montmorillonite	.05M NaCl + .01M NaOAc		BS	1.8	
1816	151	Sr(II)	596	cc/g	596.000	Na montmorillonite	.025M NaCl + .01M NaOAc		BS	1.9	
1817	151	Sr(II)	1120	cc/g	1120.000	Na montmorillonite	.025M NaCl + .01M NaOAc		BS	1.8	
1818	151	Sr(II)	1440	cc/g	1440.000	Na montmorillonite	.01M NaCl + .01M NaOAc		BS	1.9	
1819	151	Sr(II)	1590	cc/g	1590.000	Na montmorillonite	.01M NaCl + .01M NaOAc		BS	1.8	
1820	151	Sr(II)	2020	cc/g	2020.000	Na montmorillonite	.01M NaOAc		BS	1.9	
1821	151	Sr(II)	4360	cc/g	4360.000	Na montmorillonite	.01M NaOAc		BS	1.8	
1822	155	Sr(II)	1.75	l/kg	80.000	Na sat. montmorillonite	1.1M Na+, acetate buffered at pH5		B	5?	40
1823	155	Sr(II)	4.65	l/kg	80.000	Na sat. montmorillonite	0.6M Na+, acetate buffered at pH5		B	5?	40
1824	155	Sr(II)	23.3	l/kg	80.000	Na sat. montmorillonite	0.2M Na+, acetate buffered at pH5		B	5?	40
1825	155	Sr(II)	80	l/kg	80.000	Na sat. montmorillonite	0.1M Na+, acetate buffered at pH5		B	5?	40
1826	157	Sr(II)	0.7	ml/g	0.700	H2O2 treated montmorillonite	5.0M NaCl		BS	10	30
1827	157	Sr(II)	1	ml/g	1.000	H2O2 treated montmorillonite	5.0M NaCl		BS	30	30
1828	157	Sr(II)	11.2	ml/g	11.200	H2O2 treated montmorillonite	0.5M NaCl		BS	30	30
1829	157	Sr(II)	14.6	ml/g	14.600	H2O2 treated montmorillonite	0.5M NaCl		BS	10	30
1830	157	Sr(II)	222	ml/g	222.000	H2O2 treated montmorillonite	0.05M NaCl		BS	10	30
1831	157	Sr(II)	267	ml/g	267.000	H2O2 treated montmorillonite	0.05M NaCl		BS	30	30
1832	157	Sr(II)	0.9	ml/g	0.900	untreated montmorillonite	5.0M NaCl		BS	10	30
1833	157	Sr(II)	1.9	ml/g	1.900	untreated montmorillonite	5.0M NaCl		BS	30	30
1834	157	Sr(II)	11.3	ml/g	11.300	untreated montmorillonite	0.5M NaCl		BS	30	30
1835	157	Sr(II)	12.3	ml/g	12.300	untreated montmorillonite	0.5M NaCl		BS	10	30
1836	157	Sr(II)	225	ml/g	225.000	untreated montmorillonite	0.05M NaCl		BS	10	30
1837	157	Sr(II)	360	ml/g	360.000	untreated montmorillonite	0.05M NaCl		BS	30	30
1838	158	Sr(II)	32	ml/g	32.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	3	30
1839	158	Sr(II)	32	ml/g	32.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	10	30
1840	158	Sr(II)	38	ml/g	38.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	30	30
1841	158	Sr(II)	45	ml/g	45.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	30	30
1842	158	Sr(II)	0.5	ml/g	0.500	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	3	30
1843	158	Sr(II)	1.7	ml/g	1.700	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	10	30
1844	158	Sr(II)	2.9	ml/g	2.900	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	30	30
1845	158	Sr(II)	3.9	ml/g	3.900	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	30	30
1846	158	Sr(II)	456	ml/g	456.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	30	30
1847	158	Sr(II)	499	ml/g	499.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	10	30
1848	158	Sr(II)	753	ml/g	753.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	30	30
1849	158	Sr(II)	753	ml/g	753.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	30	30
1850	158	Sr(II)	886	ml/g	886.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	10	30

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
1813	5	AA	20	1.25E-4M		A				2 prewashes
1814	5	AA	20	1.25E-4M		A				2 prewashes
1815	5	AA	20	1.25E-4M		A				No prewashes
1816	5	AA	20	1.25E-4M		A				2 prewashes
1817	5	AA	20	1.25E-4M		A				No prewashes
1818	5	AA	20	1.25E-4M		A				2 prewashes
1819	5	AA	20	1.25E-4M		A				No prewashes
1820	5	AA	20	1.25E-4M		A				2 prewashes
1821	5	AA	20	1.25E-4M		A				No prewashes
1822	5	AA	20			A				
1823	5	AA	20			A				
1824	5	AA	20			A				
1825	5	AA	20			A				
1826	6.9	anoxic	20				87.4	722.2		
1827	7.3	anoxic	20				87.4	722.2		
1828	7.7	anoxic	20				87.4	722.2		
1829	7.4	anoxic	20				87.4	722.2		
1830	7.4	anoxic	20				87.4	722.2		
1831	7.7	anoxic	20				87.4	722.2		
1832	7	anoxic	20				87.4	722.2		
1833	6.9	anoxic	20				87.4	722.2		
1834	7.8	anoxic	20				87.4	722.2		
1835	7.4	anoxic	20				87.4	722.2		
1836	7.4	anoxic	20				87.4	722.2		
1837	7.6	anoxic	20				87.4	722.2		
1838	8	anoxic	20				87.4	722.2		
1839	7.8	anoxic	20				87.4	722.2		
1840	7.7	anoxic	20				87.4	722.2		
1841	8.1	anoxic	20				87.4	722.2		
1842	8.4	anoxic	20				87.4	722.2		
1843	8.3	anoxic	20				87.4	722.2		
1844	7.9	anoxic	20				87.4	722.2		
1845	8.5	anoxic	20				87.4	722.2		
1846	8.4	anoxic	20				87.4	722.2		
1847	8.9	anoxic	20				87.4	722.2		
1848	8.6	anoxic	20				87.4	722.2		
1849	9.6	anoxic	20				87.4	722.2		
1850	9.5	anoxic	20				87.4	722.2		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1851	158	Sr(II)	899	ml/g	899.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	30	30
1852	158	Sr(II)	1000	ml/g	1000.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	3	30
1853	158	Sr(II)	1300	ml/g	1300.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	3	30
1854	161	Sr(II)	27.7	ml/g	27.700	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	29	30
1855	161	Sr(II)	28.2	ml/g	28.200	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	10	30
1856	161	Sr(II)	28.7	ml/g	28.700	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	3	30
1857	161	Sr(II)	0.9	ml/g	0.900	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	10	30
1858	161	Sr(II)	1.4	ml/g	1.400	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	29	30
1859	161	Sr(II)	2.7	ml/g	2.700	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	3	30
1860	161	Sr(II)	1074	ml/g	1074.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	29	30
1861	161	Sr(II)	1155	ml/g	1155.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	10	30
1862	161	Sr(II)	1237	ml/g	1237.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	10	30
1863	161	Sr(II)	1353	ml/g	1353.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	29	30
1864	161	Sr(II)	1500	ml/g	1500.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	3	30
1865	161	Sr(II)	1800	ml/g	1800.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	3	30
1866	166	Sr(II)	904	ml/g	904.000	natural bentonite	NV Test Site Well RNM-2S		BS	11.6	10
1867	166	Sr(II)	1110	ml/g	1110.000	natural bentonite	NV Test Site Well RNM-2S		BS	27.6	10
1868	166	Sr(II)	1130	ml/g	1130.000	natural bentonite	NV Test Site Well RNM-2S		BS	11.6	20
1869	166	Sr(II)	1140	ml/g	1140.000	natural bentonite	NV Test Site Well RNM-2S		BS	41.8	20
1870	166	Sr(II)	1380	ml/g	1380.000	natural bentonite	NV Test Site Well RNM-2S		BS	2.8	10
1871	166	Sr(II)	2040	ml/g	2040.000	natural bentonite	NV Test Site Well RNM-2S		BS	27.6	20
1872	166	Sr(II)	2310	ml/g	2310.000	natural bentonite	NV Test Site Well RNM-2S		BS	141.1	20
1873	166	Sr(II)	2370	ml/g	2370.000	natural bentonite	NV Test Site Well RNM-2S		BS	39	20
1874	166	Sr(II)	2490	ml/g	2490.000	natural bentonite	NV Test Site Well RNM-2S		BS	41.8	10
1875	166	Sr(II)	2510	ml/g	2510.000	natural bentonite	NV Test Site Well RNM-2S		BS	39	10
1876	166	Sr(II)	2640	ml/g	2640.000	natural bentonite	NV Test Site Well RNM-2S		BS	2.8	20
1877	166	Sr(II)	2680	ml/g	2680.000	natural bentonite	NV Test Site Well RNM-2S		BS	144.6	10
1878	166	Sr(II)	2690	ml/g	2690.000	natural bentonite	NV Test Site Well RNM-2S		BS	144.6	20
1879	166	Sr(II)	2900	ml/g	2900.000	natural bentonite	NV Test Site Well RNM-2S		BS	141.1	10
1880	168	Sr(II)	0.003	m3/kg	3.000	compacted Na bentonite	1M NaCl		BS		10
1881	168	Sr(II)	0.009	m3/kg	9.000	compacted Na bentonite	.5M NaCl		BS		10
1882	168	Sr(II)	0.087	m3/kg	87.000	compacted Na bentonite	.1M NaCl		BS		10
1883	168	Sr(II)	1.49	m3/kg	1490.000	compacted Na bentonite	.001M NaCl		BS		10
1884	168	Sr(II)	1.54	m3/kg	1540.000	compacted Na bentonite	.01M NaCl		BS		10
1885	168	Sr(II)	0.007	m3/kg	7.000	Na sat. compacted bentonite	0.6M NaCl	1.74	BS	28	10
1886	168	Sr(II)	0.042	m3/kg	42.000	Na sat. compacted bentonite	ground water, total salt 10g/l, +EDTA at 0.5g/l		BS	28	10
1887	168	Sr(II)	0.042	m3/kg	42.000	Na sat. compacted bentonite	ground water, total salt 10g/l, +EDTA at 0.5g/l		BS	28	10
1888	168	Sr(II)	0.05	m3/kg	50.000	Na sat. compacted bentonite	ground water, total salt 10g/l		BS	28	10
1889	168	Sr(II)	0.05	m3/kg	50.000	Na sat. compacted bentonite	ground water, total salt 10g/l		BS	28	10
1890	168	Sr(II)	1.5	m3/kg	1500.000	Na sat. compacted bentonite	0.001M NaCl	1.74	BS	28	10

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1851	9.1	anoxic	20				87.4	722.2		
1852	9.3	anoxic	20				87.4	722.2		
1853	9	anoxic	20				87.4	722.2		
1854	7.8	AA	20				87.4	722.2		
1855	7.8	AA	20				87.4	722.2		
1856	7.8	AA	20				87.4	722.2		
1857	8.1	AA	20				87.4	722.2		
1858	8.1	AA	20				87.4	722.2		
1859	8.1	AA	20				87.4	722.2		
1860	8.6	AA	20				87.4	722.2		
1861	8.6	AA	20				87.4	722.2		
1862	9.2	AA	20				87.4	722.2		
1863	9.2	AA	20				87.4	722.2		
1864	8.6	AA	20				87.4	722.2		
1865	9.2	AA	20				87.4	722.2		
1866	9	AA	20			A	56 to 72	33.8		
1867	9	AA	20			A	56 to 72	33.8		
1868	9	AA	20			A	56 to 72	33.8		
1869	9	AA	20			A	56 to 72	33.8		
1870	9	AA	20			A	56 to 72	33.8		
1871	9	AA	20			A	56 to 72	33.8		
1872	9	AA	20			D	56 to 72	33.8		
1873	9	AA	20			D	56 to 72	33.8		
1874	9	AA	20			A	56 to 72	33.8		
1875	9	AA	20			D	56 to 72	33.8		
1876	9	AA	20			A	56 to 72	33.8		
1877	9	AA	20			D	56 to 72	33.8		
1878	9	AA	20			D	56 to 72	33.8		
1879	9	AA	20			D	56 to 72	33.8		
1880		AA	20			A				
1881		AA	20			A				
1882		AA	20			A				
1883		AA	20			A				
1884		AA	20			A				
1885		AA	20			A				
1886		AA	20			A				
1887		AA	20			A				
1888		AA	20			A				
1889		AA	20			A				
1890		AA	20			A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1891	190	Sr(II)	0.42	cd/g	420.000	Ca sat. montmorillonite	sorbate's chloride in DI with Aldrich humic acid at 0.2g/l		BS	0.083	200
1892	190	Sr(II)	0.54	cd/g	540.000	Ca sat. montmorillonite	sorbate's chloride in DI with Aldrich humic acid at 0.09g/l		BS	0.083	200
1893	190	Sr(II)	0.75	cd/g	750.000	Ca sat. montmorillonite	sorbate's chloride in DI with Aldrich humic acid at 0.04g/l		BS	0.083	200
1894	190	Sr(II)	0.78	cd/g	780.000	Ca sat. montmorillonite	sorbate's chloride in DI with Aldrich humic acid at 0.02g/l		BS	0.083	200
1895	190	Sr(II)	1.24	cd/g	1240.000	Ca sat. montmorillonite	sorbate's chloride in DI with Aldrich humic acid at 0.0g/l		BS	0.083	200
1896	46	Tc	-0.9	ml/g	-0.900	montmorillonite Swy-1	No fulvic acid, synthetic groundwater A, pH7.7		BS	28	40
1897	46	Tc	-0.4	ml/g	-0.400	montmorillonite Swy-1	5.02 mg/l fulvic acid, synthetic groundwater D, pH7.6		BS	28	40
1898	46	Tc	-0.3	ml/g	-0.300	montmorillonite Swy-1	1.52 mg/l fulvic acid, synthetic groundwater C, pH7.8		BS	28	40
1899	46	Tc	0	ml/g	0.000	montmorillonite Swy-1	0.5 mg/l fulvic acid, synthetic groundwater B, pH7.8		BS	28	40
1900	49	Tc	0.002	m3/kg	2.000	bentonite					
1901	49	Tc	0.02	m3/kg	20.000	bentonite					
1902	49	Tc	0.05	m3/kg	50.000	bentonite					
1903	49	Tc	0.25	m3/kg	250.000	bentonite					
1904	49	Tc	9.00E-05	m3/kg	0.090	bentonite and sand mix					
1905	63	Tc	0.00032	m3/kg	0.320	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1906	63	Tc	0.00063	m3/kg	0.630	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1907	63	Tc	<0.001	m3/kg	<1	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1908	63	Tc	<0.001	m3/kg	<1	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1909	63	Tc	0.00032	m3/kg	3.200	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1910	63	Tc	0.00063	m3/kg	6.300	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
1911	63	Tc	<0.001	m3/kg	<10	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1912	63	Tc	<0.001	m3/kg	<10	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1891	7.0-7.3	aerobic	20	1E-4M		A				
1892	7.0-7.3	aerobic	20	1E-4M		A				
1893	7.0-7.3	aerobic	20	1E-4M		A				
1894	7.0-7.3	aerobic	20	1E-4M		A				
1895	7.0-7.3	aerobic	20	1E-4M		A				
1896	7.7?	AA	20	2.1E-6M		A		31.82		
1897	7.6?	AA	20	2.0E-6M		A		31.82		
1898	7.8?	AA	20	2.1E-6M		A		31.82		
1899	7.8?	AA	20	2.1E-6M		A		31.82		
1900										KBS(1983) database value from p49
1901										PAGIS (1988) database value from p49
1902										Shaw et al. (1989) SKI database value from p49
1903										McKinley and Hadermann (1985) NAGRA database value from p49
1904										Wuschke et al. (1985) AECL database value from p49
1905	8.2?	AA	25	1E-8M		A				
1906	8.2?	AA	25	1E-8M		A				
1907	8.2?	AA	65	1E-8M		A				
1908	8.2?	AA	65	1E-8M		A				
1909	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1910	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1911	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
1912	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time In Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1913	106	Tc	0	m3/kg	0.000	Compacted Wyoming Na bentonite MX-80	synthetic ground water	2	BD	69	
1914	106	Tc	0.05	m3/kg	50.000	Compacted Wyoming Na bentonite MX-80	synthetic ground water	2	BD	70	
1915	106	Tc	0.05	m3/kg	50.000	Compacted Wyoming Na bentonite MX-80	synthetic ground water	2	BD	218	
1916	150	Tc	0.95	cc/g	0.950	sat. compacted bentonite	DI?	2	D		
1917	150	Tc	1.05	cc/g	1.050	sat. compacted bentonite	DI?	1.8	D		
1918	150	Tc	1.1	cc/g	1.100	sat. compacted bentonite	DI?	1.6	D		
1919	150	Tc	1.3	cc/g	1.300	sat. compacted bentonite	DI?	1.4	D		
1920	150	Tc	1.35	cc/g	1.350	sat. compacted bentonite	DI?	1.2	D		
1921	150	Tc	1.4	cc/g	1.400	sat. compacted bentonite	DI?	1	D		
1922	150	Tc	1.6	cc/g	1.600	sat. compacted bentonite	DI?	0.8	D		
1923	150	Tc	1.7	cc/g	1.700	sat. compacted bentonite	DI?	0.6	D		
1924	150	Tc	2.2	cc/g	2.200	sat. compacted bentonite	DI?	0.4	D		
1925	150	Tc	2.9	cc/g	2.900	sat. compacted bentonite	DI?	0.2	D		
1926	186	Tc(IV)	590	cc/g	590.000	bentonite	DI		BS	120	100
1927	186	Tc(IV)	620	cc/g	620.000	bentonite	DI		BS	120	100
1928	186	Tc(IV)	640	cc/g	640.000	bentonite	DI		BS	120	100
1929	186	Tc(IV)	640	cc/g	640.000	bentonite	DI		BS	120	100
1930	186	Tc(IV)	9100	cc/g	9100.000	bentonite	seawater		BS	120	100
1931	186	Tc(IV)	9800	cc/g	9800.000	bentonite	seawater		BS	120	100
1932	186	Tc(IV)	10000	cc/g	10000.000	bentonite	seawater		BS	120	100
1933	186	Tc(IV)	10000	cc/g	10000.000	bentonite	seawater		BS	120	100
1934	122	Tc(VII)	0	ml/g	0.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1935	122	Tc(VII)	0	ml/g	0.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1936	122	Tc(VII)	0	ml/g	0.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
1937	122	Tc(VII)	0	ml/g	0.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
1938	136	Tc(VII)	0	ml/g	0.000	commercial bentonite	Brine A, 1.8M Na		BS	7	40
1939	136	Tc(VII)	0	ml/g	0.000	commercial bentonite	Brine A, 1.8M Na		BS	7	40
1940	136	Tc(VII)	0	ml/g	0.000	commercial bentonite	Brine B, 5.0M Na		BS	7	40
1941	136	Tc(VII)	0	ml/g	0.000	commercial bentonite	Brine B, 5.0M Na		BS	7	40
1942	136	Tc(VII)	1	ml/g	1.000	commercial hectorite	Brine B, 5.0M Na		BS	7	40
1943	136	Tc(VII)	1	ml/g	1.000	commercial hectorite	Brine B, 5.0M Na		BS	7	40
1944	157	Tc(VII)	-2.7	ml/g	-2.700	H2O2 treated montmorillonite	0.5M NaCl		BS	10	30
1945	157	Tc(VII)	-0.4	ml/g	-0.400	H2O2 treated montmorillonite	5.0M NaCl		BS	10	30
1946	157	Tc(VII)	-0.2	ml/g	-0.200	H2O2 treated montmorillonite	5.0M NaCl		BS	30	30
1947	157	Tc(VII)	2.3	ml/g	2.300	H2O2 treated montmorillonite	0.05M NaCl		BS	10	30

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
1913		AA	20	1E-9M		A				
1914		AA	20	1E-9M		A				
1915		AA	20	1E-9M		A				
1916		AA?	20?			A				Rd as function of compaction density
1917		AA?	20?			A				Rd as function of compaction density
1918		AA?	20?			A				Rd as function of compaction density
1919		AA?	20?			A				Rd as function of compaction density
1920		AA?	20?			A				Rd as function of compaction density
1921		AA?	20?			A				Rd as function of compaction density
1922		AA?	20?			A				Rd as function of compaction density
1923		AA?	20?			A				Rd as function of compaction density
1924		AA?	20?			A				Rd as function of compaction density
1925		AA?	20?			A				Rd as function of compaction density
1926	10.1	N2 atm. -460	21			A				
1927	10.2	N2 atm. -460	21			A				
1928	10.2	N2 atm. -460	21			A				
1929	10.1	N2 atm. -460	21			A				
1930	8.2	N2 atm. -430	21			A				bentonite from the PNC Programme
1931	8.2	N2 atm. -430	21			A				bentonite from the PNC Programme
1932	8.2	N2 atm. -430	21			A				
1933	8.2	N2 atm. -430	21			A				
1934	8	AA	23	6.55E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1935	8	AA	60	6.55E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1936	8	AA	23	6.55E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1937	10	AA	23	6.55E-8M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
1938	6.6	AA	22 to 24	5E-5M		A	75			85 to 90% montmorillonite
1939	6.6	AA	22 to 24	5E-5M		A	75			85 to 90% montmorillonite
1940	7.5	AA	22 to 24	6E-5M		A	75			85 to 90% montmorillonite
1941	7.5	AA	22 to 24	6E-5M		A	75			85 to 90% montmorillonite
1942	7.5	AA	22 to 24	6E-5M		A	104			50% hectorite, rest calcite & dolomite
1943	7.5	AA	22 to 24	6E-5M		A	104			50% hectorite, rest calcite & dolomite
1944	7.4	anoxic	20				87.4	722.2		
1945	6.9	anoxic	20				87.4	722.2		
1946	7.3	anoxic	20				87.4	722.2		
1947	7.4	anoxic	20				87.4	722.2		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1948	157	Tc(VII)	4.3	ml/g	4.300	H2O2 treated montmorillonite	0.5M NaCl		BS	30	30
1949	157	Tc(VII)	5.7	ml/g	5.700	H2O2 treated montmorillonite	0.05M NaCl		BS	30	30
1950	157	Tc(VII)	-0.2	ml/g	-0.200	untreated montmorillonite	0.5M NaCl		BS	10	30
1951	157	Tc(VII)	0	ml/g	0.000	untreated montmorillonite	5.0M NaCl		BS	10	30
1952	157	Tc(VII)	3.5	ml/g	3.500	untreated montmorillonite	5.0M NaCl		BS	30	30
1953	157	Tc(VII)	4.2	ml/g	4.200	untreated montmorillonite	0.05M NaCl		BS	30	30
1954	157	Tc(VII)	4.3	ml/g	4.300	untreated montmorillonite	0.05M NaCl		BS	10	30
1955	157	Tc(VII)	5.3	ml/g	5.300	untreated montmorillonite	0.5M NaCl		BS	30	30
1956	158	Tc(VII)	-3.9	ml/g	-3.900	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	3	30
1957	158	Tc(VII)	-1.2	ml/g	-1.200	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	10	30
1958	158	Tc(VII)	4.1	ml/g	4.100	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	30	30
1959	158	Tc(VII)	14	ml/g	14.000	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	30	30
1960	158	Tc(VII)	-2.3	ml/g	-2.300	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	10	30
1961	158	Tc(VII)	-1	ml/g	-1.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	30	30
1962	158	Tc(VII)	-0.1	ml/g	-0.100	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	10	30
1963	158	Tc(VII)	0	ml/g	0.000	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	30	30
1964	158	Tc(VII)	0	ml/g	0.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	3	30
1965	158	Tc(VII)	0	ml/g	0.000	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	30	30
1966	158	Tc(VII)	0.4	ml/g	0.400	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	10	30
1967	158	Tc(VII)	0.5	ml/g	0.500	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	30	30
1968	158	Tc(VII)	0.6	ml/g	0.600	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	3	30
1969	158	Tc(VII)	1.1	ml/g	1.100	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	30	30
1970	158	Tc(VII)	4.9	ml/g	4.900	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	3	30
1971	158	Tc(VII)	10	ml/g	10.000	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	30	30
1972	161	Tc(VII)	-0.6	ml/g	-0.600	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	29	30
1973	161	Tc(VII)	-0.5	ml/g	-0.500	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	3	30
1974	161	Tc(VII)	0.3	ml/g	0.300	Ca sat. montmorillonite	CaCl2 at 30 meq/l, pH7		BS	10	30
1975	161	Tc(VII)	-1.9	ml/g	-1.900	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	10	30
1976	161	Tc(VII)	-1.8	ml/g	-1.800	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	3	30
1977	161	Tc(VII)	-1.5	ml/g	-1.500	Na sat. montmorillonite	NaHCO3 at 30 meq/l		BS	29	30
1978	161	Tc(VII)	-0.7	ml/g	-0.700	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	3	30
1979	161	Tc(VII)	-0.7	ml/g	-0.700	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	10	30
1980	161	Tc(VII)	-0.6	ml/g	-0.600	Na sat. montmorillonite	NaCl at 30 meq/l, pH7		BS	29	30
1981	161	Tc(VII)	-0.3	ml/g	-0.300	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	10	30
1982	161	Tc(VII)	0.2	ml/g	0.200	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	29	30
1983	161	Tc(VII)	0.4	ml/g	0.400	Na sat. montmorillonite	NaCl at 5130 meq/l, pH7		BS	3	30
1984	186	Tc(VII)	48	cc/g	48.000	bentonite	DI		BS	120	100
1985	186	Tc(VII)	51	cc/g	51.000	bentonite	DI		BS	120	100
1986	186	Tc(VII)	55	cc/g	55.000	bentonite	DI		BS	120	100
1987	186	Tc(VII)	59	cc/g	59.000	bentonite	DI		BS	120	100
1988	186	Tc(VII)	210	cc/g	210.000	bentonite	seawater		BS	120	100
1989	186	Tc(VII)	220	cc/g	220.000	bentonite	seawater		BS	120	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
1948	7.7	anoxic	20				87.4	722.2		
1949	7.7	anoxic	20				87.4	722.2		
1950	7.4	anoxic	20				87.4	722.2		
1951	7	anoxic	20				87.4	722.2		
1952	6.9	anoxic	20				87.4	722.2		
1953	7.6	anoxic	20				87.4	722.2		
1954	7.4	anoxic	20				87.4	722.2		
1955	7.8	anoxic	20				87.4	722.2		
1956	8	anoxic	20				87.4	722.2		
1957	7.8	anoxic	20				87.4	722.2		
1958	7.7	anoxic	20				87.4	722.2		
1959	8.1	anoxic	20				87.4	722.2		
1960	8.9	anoxic	20				87.4	722.2		
1961	8.4	anoxic	20				87.4	722.2		
1962	8.3	anoxic	20				87.4	722.2		
1963	8.5	anoxic	20				87.4	722.2		
1964	9.3	anoxic	20				87.4	722.2		
1965	8.6	anoxic	20				87.4	722.2		
1966	9.5	anoxic	20				87.4	722.2		
1967	7.9	anoxic	20				87.4	722.2		
1968	8.4	anoxic	20				87.4	722.2		
1969	9.1	anoxic	20				87.4	722.2		
1970	9	anoxic	20				87.4	722.2		
1971	9.6	anoxic	20				87.4	722.2		
1972	7.8	AA	20				87.4	722.2		
1973	7.8	AA	20				87.4	722.2		
1974	7.8	AA	20				87.4	722.2		
1975	9.2	AA	20				87.4	722.2		
1976	9.2	AA	20				87.4	722.2		
1977	9.2	AA	20				87.4	722.2		
1978	8.6	AA	20				87.4	722.2		
1979	8.6	AA	20				87.4	722.2		
1980	8.6	AA	20				87.4	722.2		
1981	8.1	AA	20				87.4	722.2		
1982	8.1	AA	20				87.4	722.2		
1983	8.1	AA	20				87.4	722.2		
1984	10.1	N2 atm. +320	21			A				
1985	10.1	N2 atm. +320	21			A				
1986	10.2	N2 atm. +310	21			A				
1987	10.2	N2 atm. +310	21			A				
1988	8	N2 atm. +300	21			A				
1989	8.1	N2 atm. +310	21			A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
1990	186	Tc(VII)	230	cc/g	230.000	bentonite	seawater		BS	120	100
1991	186	Tc(VII)	240	cc/g	240.000	bentonite	seawater		BS	120	100
1992	49	Th(IV)	0.2	m3/kg	200.000	bentonite					
1993	49	Th(IV)	1	m3/kg	1000.000	bentonite					
1994	49	Th(IV)	1	m3/kg	1000.000	bentonite					
1995	49	Th(IV)	6	m3/kg	6000.000	bentonite					
1996	49	Th(IV)	23.5	m3/kg	23500.000	bentonite					
1997	49	Th(IV)	0.065	m3/kg	65.000	bentonite and sand mix					
1998	63	Th(IV)	0.04	m3/kg	40.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
1999	63	Th(IV)	0.05	m3/kg	50.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2000	63	Th(IV)	0.063	m3/kg	63.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2001	63	Th(IV)	0.063	m3/kg	63.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2002	63	Th(IV)	0.126	m3/kg	126.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
2003	63	Th(IV)	0.251	m3/kg	251.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2004	63	Th(IV)	0.316	m3/kg	316.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
2005	63	Th(IV)	0.316	m3/kg	316.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2006	63	Th(IV)	0.316	m3/kg	316.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2007	63	Th(IV)	0.316	m3/kg	316.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2008	63	Th(IV)	0.63	m3/kg	630.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
2009	63	Th(IV)	6.31	m3/kg	6310.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
2010	63	Th(IV)	0.04	m3/kg	400.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2011	63	Th(IV)	0.05	m3/kg	500.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2012	63	Th(IV)	0.063	m3/kg	630.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
1990	8	N2 atm. +300	21			A				
1991	8.1	N2 atm. +310	21			A				
1992										PAGIS (1988) database value from p49
1993										McKinley and Hadermann (1985) NAGRA database value from p49
1994										Shaw et al. (1989) SKI database value from p49
1995										Peltonen et al. (1985) TVO database value from p49
1996										KBS(1983) database value from p49
1997										Wuschke et al. (1985) AECL database value from p49
1998	8.2?	AA	25	1E-5M		A				
1999	8.2?	AA	25	1E-8M		A				
2000	8.2?	AA	65	1E-8M		A				
2001	8.2?	AA	65	1E-5M		A				
2002	8.2?	AA	25	1E-5M		A				
2003	8.2?	AA	25	1E-8M		A				
2004	8.2?	AA	25	1E-8M		A				
2005	8.2?	AA	25	1E-5M		A				
2006	8.2?	AA	65	1E-8M		A				
2007	8.2?	AA	65	1E-5M		A				
2008	8.2?	AA	25	1E-5M		A				
2009	8.2?	AA	25	1E-8M		A				
2010	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2011	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2012	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2013	63	Th(IV)	0.063	m3/kg	630.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2014	63	Th(IV)	0.126	m3/kg	1260.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
2015	63	Th(IV)	0.251	m3/kg	2510.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2016	63	Th(IV)	0.316	m3/kg	3160.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
2017	63	Th(IV)	0.316	m3/kg	3160.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2018	63	Th(IV)	0.316	m3/kg	3160.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2019	63	Th(IV)	0.316	m3/kg	3160.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2020	63	Th(IV)	0.63	m3/kg	6300.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
2021	63	Th(IV)	6.31	m3/kg	63100.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
2022	68	Th(IV)	>6.31	m3/kg	>6310	Wyoming bentonite MX-80	synthetic ground water, TDS of 306 mg/l		BS	6	100
2023	68	Th(IV)	>6.31	m3/kg	>6310	Wyoming bentonite MX-80	synthetic ground water, TDS of 306 mg/l		BS	6	100
2024	72	Th(IV)	>6	m3/kg	>600	Wyoming Na bentonite MX-80	Swedish synthetic granitic ground water	2	BS? D?	64	
2025	81	Th(IV)	2520	ml/g	2520.000	bentonite	0.01N H2SO4		BS	1	42
2026	81	Th(IV)	2650	ml/g	2650.000	bentonite	0.01N H2SO4		BS	14	42
2027	81	Th(IV)	3140	ml/g	3140.000	bentonite	0.01N H2SO4		BS	8	42
2028	81	Th(IV)	3320	ml/g	3320.000	bentonite	0.01N H2SO4		BS	30	42
2029	182	Th(IV)	0.168	ml/g	0.168	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2030	182	Th(IV)	0.185	ml/g	0.185	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2031	182	Th(IV)	0.2	ml/g	0.200	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2032	182	Th(IV)	0.216	ml/g	0.216	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2033	182	Th(IV)	0.221	ml/g	0.221	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2034	182	Th(IV)	0.236	ml/g	0.236	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2035	182	Th(IV)	0.241	ml/g	0.241	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2036	182	Th(IV)	0.257	ml/g	0.257	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2037	182	Th(IV)	0.259	ml/g	0.259	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2038	182	Th(IV)	0.262	ml/g	0.262	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2013	8.2?	AA	65	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2014	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2015	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2016	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2017	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2018	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2019	8.2?	AA	65	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2020	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2021	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2022	8.5	AA	25	3E-7M		A	75 to 80			
2023	8.5	AA	25	2.5E-9M		A	75 to 80			
2024		AA	20	1E-14 moles		A				
2025	2.76	AA	20	4.31E-06		A				Rd calculated by Grant Env. from data in P81, Table 2
2026	2.97	AA	20	4.31E-06		A				Rd calculated by Grant Env. from data in P81, Table 2
2027	2.93	AA	20	4.31E-06		A				Rd calculated by Grant Env. from data in P81, Table 2
2028	3.04	AA	20	4.31E-06		A				Rd calculated by Grant Env. from data in P81, Table 2
2029	3.62	AA	25	1.70E-2M		D	77			groundwater TDS about 65 PPM
2030	3.7	AA	25	1.51E-2M		D	77			groundwater TDS about 65 PPM
2031	3.75	AA	25	1.29E-2M		D	77			groundwater TDS about 65 PPM
2032	2.5	AA	25	1.72E-2M		A	77			groundwater TDS about 65 PPM
2033	3.8	AA	25	1.08E-2M		D	77			groundwater TDS about 65 PPM
2034	2.62	AA	25	1.51E-2M		A	77			groundwater TDS about 65 PPM
2035	3.86	AA	25	8.62E-3M		D	77			groundwater TDS about 65 PPM
2036	3.9	AA	25	6.90E-3M		D	77			groundwater TDS about 65 PPM
2037	2.85	AA	25	1.29E-2M		A	77			groundwater TDS about 65 PPM
2038	2.89	AA	25	1.08E-2M		A	77			groundwater TDS about 65 PPM

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2039	182	Th(IV)	0.323	ml/g	0.323	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2040	182	Th(IV)	0.323	ml/g	0.323	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2041	182	Th(IV)	0.347	ml/g	0.347	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2042	182	Th(IV)	0.406	ml/g	0.406	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2043	182	Th(IV)	0.474	ml/g	0.474	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2044	182	Th(IV)	0.651	ml/g	0.651	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2045	182	Th(IV)	0.829	ml/g	0.829	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2046	182	Th(IV)	1.586	ml/g	1.586	montmorillonite (Kula, Turkey)	synthetic groundwater	2.64	BS	1	10
2047	192	Th(IV)	400000	ml/g	400000.000	Ca sat. montmorillonite	.005M Ca, pH6.5		BS?		
2048	49	U	0.09	m3/kg	90.000	bentonite					
2049	49	U	0.09	m3/kg	90.000	bentonite					
2050	49	U	0.12	m3/kg	120.000	bentonite					
2051	49	U	0.2	m3/kg	200.000	bentonite					
2052	49	U	1	m3/kg	1000.000	bentonite					
2053	49	U	0.1	m3/kg	100.000	bentonite and sand mix					
2054	186	U(IV)	1.50E+05	cc/g	150000.000	bentonite	DI		BS	120	100
2055	186	U(IV)	1.50E+05	cc/g	150000.000	bentonite	seawater		BS	120	100
2056	186	U(IV)	1.60E+05	cc/g	160000.000	bentonite	seawater		BS	120	100
2057	186	U(IV)	1.70E+05	cc/g	170000.000	bentonite	seawater		BS	120	100
2058	186	U(IV)	1.80E+05	cc/g	180000.000	bentonite	seawater		BS	120	100
2059	186	U(IV)	5.20E+05	cc/g	520000.000	bentonite	DI		BS	120	100
2060	186	U(IV)	5.90E+05	cc/g	590000.000	bentonite	DI		BS	120	100
2061	186	U(IV)	6.70E+05	cc/g	670000.000	bentonite	DI		BS	120	100
2062	46	U(VI)	83	ml/g	83.000	montmorillonite Swy-1	4.84 mg/l fulvic acid, synthetic groundwater D, pH7.6		BS	28	40
2063	46	U(VI)	87	ml/g	87,000	montmorillonite Swy-1	1.47 mg/l fulvic acid, synthetic groundwater C, pH7.8		BS	28	40
2064	46	U(VI)	88	ml/g	88.000	montmorillonite Swy-1	0.46 mg/l fulvic acid, synthetic groundwater B, pH7.8		BS	28	40
2065	46	U(VI)	91	ml/g	91.000	montmorillonite Swy-1	No fulvic acid, synthetic groundwater A, pH7.7		BS	28	40
2066	50	U(VI)	17.9	cc/g	17.900	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, 240 ppm carbonate		BS	20	50
2067	50	U(VI)	27.2	cc/g	27.200	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, 240 ppm carbonate		BS	20	50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2039	2.92	AA	25	8.62E-3M		A	77			groundwater TDS about 65 PPM
2040	4.12	AA	25	4.31E-3M		D	77			groundwater TDS about 65 PPM
2041	2.97	AA	25	6.90E-3M		A	77			groundwater TDS about 65 PPM
2042	4.36	AA	25	2.59E-3M		D	77			groundwater TDS about 65 PPM
2043	3.03	AA	25	4.31E-3M		A	77			groundwater TDS about 65 PPM
2044	3.1	AA	25	2.59E-3M		A	77			groundwater TDS about 65 PPM
2045	4.48	AA	25	8.62E-4M		D	77			groundwater TDS about 65 PPM
2046	3.38	AA	25	8.62E-4M		A	77			groundwater TDS about 65 PPM
2047	6.5	AA?	20?			A?				data from Bondietti et al. (1976) as reported in p192.
2048										PAGIS (1988) database value from p49
2049										Peltonen et al. (1985) TVO database value from p49
2050										KBS(1983) database value from p49
2051										Shaw et al. (1989) SKI database value from p49
2052										McKinley and Hadermann (1985) NAGRA database value from p49
2053										Wuschke et al. (1985) AECL database value from p49
2054	10.2	N2 atm. -440	21			A				
2055	8	N2 atm. -400	21			A				bentonite from the PNC Programme
2056	8.1	N2 atm. -410	21			A				
2057	8.1	N2 atm. -410	21			A				
2058	8	N2 atm. -400	21			A				bentonite from the PNC Programme
2059	10.2	N2 atm. -440	21			A				
2060	10.2	N2 atm. -440	21			A				
2061	10.2	N2 atm. -440	21			A				
2062	7.6?	AA	20	1.8E-7M		A		31.82		
2063	7.8?	AA	20	1.8E-7M		A		31.82		
2064	7.8?	AA	20	1.8E-7M		A		31.82		
2065	7.7?	AA	20	1.8E-7M		A		31.82		
2066	10	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2067	10	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2068	50	U(VI)	728	cc/g	728.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, 120 ppm carbonate		BS	20	50
2069	50	U(VI)	802	cc/g	802.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, 120 ppm carbonate		BS	20	50
2070	50	U(VI)	1040	cc/g	1040.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2071	50	U(VI)	1090	cc/g	1090.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, 10 ppm carbonate		BS	20	50
2072	50	U(VI)	1110	cc/g	1110.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2073	50	U(VI)	1130	cc/g	1130.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2074	50	U(VI)	1180	cc/g	1180.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2075	50	U(VI)	1260	cc/g	1260.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2076	50	U(VI)	1360	cc/g	1360.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, 10 ppm carbonate		BS	20	50
2077	50	U(VI)	1380	cc/g	1380.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2078	50	U(VI)	1410	cc/g	1410.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2079	50	U(VI)	1420	cc/g	1420.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.1M NaCl, <10ppm carbonate		BS	20	50
2080	50	U(VI)	4730	cc/g	4730.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	1M NaCl, <10ppm carbonate		BS	20	50
2081	50	U(VI)	5040	cc/g	5040.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2068	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2069	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2070	9.17	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2071	10	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2072	10.31	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2073	10	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2074	3.2	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		p50 appears to incorrectly state the CEC as per 100mg
2075	9.17	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2076	10	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2077	10	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2078	10.68	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2079	10	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2080	10	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2081	4.23	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2082	50	U(VI)	5140	cc/g	5140.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2083	50	U(VI)	5530	cc/g	5530.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	1M NaCl, <10ppm carbonate		BS	20	50
2084	50	U(VI)	5840	cc/g	5840.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	1M NaCl, <10ppm carbonate		BS	20	50
2085	50	U(VI)	6560	cc/g	6560.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, 27 ppm carbonate		BS	20	50
2086	50	U(VI)	6680	cc/g	6680.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2087	50	U(VI)	9430	cc/g	9430.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2088	50	U(VI)	9660	cc/g	9660.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.1M NaCl, <10ppm carbonate		BS	20	50
2089	50	U(VI)	10480	cc/g	10480.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2090	50	U(VI)	12000	cc/g	12000.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, 27 ppm carbonate		BS	20	50
2091	50	U(VI)	12280	cc/g	12280.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2092	50	U(VI)	12300	cc/g	12300.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	1M NaCl, <10ppm carbonate		BS	20	50
2093	50	U(VI)	13890	cc/g	13890.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2094	50	U(VI)	15060	cc/g	15060.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2095	50	U(VI)	15750	cc/g	15750.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2082	4.29	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2083	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2084	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2085	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2086	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2087	5.1	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2088	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2089	5.14	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2090	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2091	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2092	10	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2093	6.79	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2094	7.31	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2095	6.81	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2096	50	U(VI)	16370	cc/g	16370.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2097	50	U(VI)	18360	cc/g	18360.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.1M NaCl, <10ppm carbonate		BS	20	50
2098	50	U(VI)	20530	cc/g	20530.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2099	50	U(VI)	20700	cc/g	20700.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, 7.2 ppm carbonate		BS	20	50
2100	50	U(VI)	23820	cc/g	23820.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, <10ppm carbonate		BS	20	50
2101	50	U(VI)	31600	cc/g	31600.000	purified 99.5% smectite, Tsukinuno Mine, Yamagata, Japan	.01M NaCl, 7.2 ppm carbonate		BS	20	50
2102	55	U(VI)	52.4	ml/g	52.365	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2103	55	U(VI)	59.0	ml/g	59.049	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2104	55	U(VI)	75.2	ml/g	75.240	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2105	55	U(VI)	93.6	ml/g	93.598	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2106	55	U(VI)	104.2	ml/g	104.151	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2107	55	U(VI)	125.5	ml/g	125.510	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2108	55	U(VI)	155.6	ml/g	155.576	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2109	55	U(VI)	191.9	ml/g	191.850	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2110	55	U(VI)	222.7	ml/g	222.667	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2111	55	U(VI)	244.1	ml/g	244.125	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2112	55	U(VI)	259.8	ml/g	259.800	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2113	55	U(VI)	317.0	ml/g	317.000	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2096	7.17	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2097	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2098	5.96	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2099	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2100	5.97	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2101	7	anoxic (N2 atm.)	20	1E-7M		A	110.2	20		
2102	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2103	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2104	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2105	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2106	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2107	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2108	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2109	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2110	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2111	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2112	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2113	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-lzed to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time In Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2114	55	U(VI)	361.5	ml/g	361.500	Bentonite (95% montmorillonite, Ginovci, Yugoslavia)	uranyl chloride solution at pH6		B stirred	7	417
2115	55	U(VI)	35.8	ml/g	35.812	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2116	55	U(VI)	40.0	ml/g	40.010	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2117	55	U(VI)	49.6	ml/g	49.595	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2118	55	U(VI)	54.2	ml/g	54.183	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2119	55	U(VI)	72.0	ml/g	72.031	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2120	55	U(VI)	81.9	ml/g	81.940	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2121	55	U(VI)	102.9	ml/g	102.917	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2122	55	U(VI)	141.0	ml/g	141.000	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2123	55	U(VI)	179.2	ml/g	179.200	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2124	55	U(VI)	180.9	ml/g	180.850	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2125	55	U(VI)	206.0	ml/g	206.000	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2126	55	U(VI)	362.0	ml/g	362.000	Ca sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2127	55	U(VI)	31.9	ml/g	31.913	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2128	55	U(VI)	36.2	ml/g	36.191	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2129	55	U(VI)	47.8	ml/g	47.823	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2130	55	U(VI)	80.0	ml/g	80.024	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2131	55	U(VI)	98.5	ml/g	98.500	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2132	55	U(VI)	107.6	ml/g	107.550	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2133	55	U(VI)	137.5	ml/g	137.521	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2134	55	U(VI)	172.5	ml/g	172.472	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2114	6	AA	20			A	91	750		Rd calculated by Grant Env. from data in P55
2115	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2116	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2117	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2118	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2119	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2120	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2121	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2122	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2123	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2124	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2125	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2126	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2127	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2128	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2129	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2130	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2131	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2132	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2133	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2134	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2135	55	U(VI)	238.4	ml/g	238.423	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2136	55	U(VI)	406.4	ml/g	406.429	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2137	55	U(VI)	727.7	ml/g	727.714	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2138	55	U(VI)	1175.0	ml/g	1175.000	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2139	55	U(VI)	1849.0	ml/g	1849.000	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2140	55	U(VI)	2597.0	ml/g	2597.000	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2141	55	U(VI)	3072.0	ml/g	3072.000	K sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2142	55	U(VI)	33.9	ml/g	33.903	Mg sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2143	55	U(VI)	41.6	ml/g	41.628	Mg sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2144	55	U(VI)	50.2	ml/g	50.219	Mg sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2145	55	U(VI)	62.4	ml/g	62.448	Mg sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2146	55	U(VI)	76.8	ml/g	76.805	Mg sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2147	55	U(VI)	93.0	ml/g	93.046	Mg sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2148	55	U(VI)	102.4	ml/g	102.446	Mg sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2149	55	U(VI)	130.8	ml/g	130.763	Mg sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2150	55	U(VI)	159.3	ml/g	159.250	Mg sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2151	55	U(VI)	217.7	ml/g	217.714	Mg sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2152	55	U(VI)	43.1	ml/g	43.137	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2153	55	U(VI)	66.8	ml/g	66.775	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2154	55	U(VI)	76.8	ml/g	76.765	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2155	55	U(VI)	99.2	ml/g	99.159	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
2135	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2136	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2137	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2138	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2139	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2140	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2141	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2142	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2143	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2144	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2145	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2146	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2147	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2148	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2149	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2150	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2151	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2152	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2153	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2154	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2155	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2156	55	U(VI)	158.9	ml/g	158.922	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2157	55	U(VI)	326.7	ml/g	326.700	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2158	55	U(VI)	451.4	ml/g	451.385	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2159	55	U(VI)	616.5	ml/g	616.500	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2160	55	U(VI)	931.5	ml/g	931.500	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2161	55	U(VI)	1184.5	ml/g	1184.500	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2162	55	U(VI)	1329.0	ml/g	1329.000	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2163	55	U(VI)	2863.0	ml/g	2863.000	Na sat. Branany Bentonite (80% montmorillonite)	uranyl chloride solution at pH6		B stirred	7	417
2164	57	U(VI)	37	ml/g	37.000	98% smectite treated to remove the Fe oxyhydroxides	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2165	57	U(VI)	64	ml/g	64.000	98% smectite treated to remove the Fe oxyhydroxides	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2166	57	U(VI)	95	ml/g	95.000	98% smectite treated to remove the Fe oxyhydroxides	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2167	57	U(VI)	99	ml/g	99.000	98% smectite treated to remove the Fe oxyhydroxides	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2168	57	U(VI)	12	ml/g	12.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
2169	57	U(VI)	22	ml/g	22.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
2170	57	U(VI)	27	ml/g	27.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2171	57	U(VI)	39	ml/g	39.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2172	57	U(VI)	42	ml/g	42.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
2173	57	U(VI)	48	ml/g	48.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2156	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2157	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2158	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2159	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2160	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2161	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2162	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2163	6	AA	20			A	79	668		Rd calculated by Grant Env. from data in P55
2164		AA	60	1.005E-4M		A	71.66	646		
2165		AA	60	1.049E-5M		A	71.66	646		
2166		AA	60	1.5E-6M		A	71.66	646		
2167		AA	60	5.03E-7M		A	71.66	646		
2168	7.7	AA, D.O. 8.25mg/l	23	1E-4M		A	71.66	646		
2169	7.7	AA, D.O. 8.25mg/l	23	1E-7M		A	71.66	646		
2170	7.7	AA, D.O. 8.25mg/l	23	1E-4M		A	71.66	646		
2171	7.7	AA, D.O. 8.25mg/l	23	1E-5M		A	71.66	646		
2172	7.7	AA, D.O. 8.25mg/l	23	1E-5M		A	71.66	646		
2173	7.7	AA, D.O. 8.25mg/l	23	1E-6M		A	71.66	646		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2174	57	U(VI)	76	ml/g	76.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2175	57	U(VI)	127	ml/g	127.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2176	57	U(VI)	363	ml/g	363.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2177	57	U(VI)	771	ml/g	771.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
2178	57	U(VI)	1007	ml/g	1007.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2179	57	U(VI)	1032	ml/g	1032.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2180	57	U(VI)	1042	ml/g	1042.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
2181	57	U(VI)	1168	ml/g	1168.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-2 synthetic basaltic ground water, pH10, ionic str. .01389M		BS	60	10
2182	57	U(VI)	1450	ml/g	1450.000	98% smectite with minor: Fe oxyhydroxides, calcite, quartz, opal, zeolites	GR-1 synthetic basaltic ground water, pH8, ionic str. .0021M		BS	60	10
2183	63	U(VI)	0.0025	m3/kg	2.500	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2184	63	U(VI)	0.0025	m3/kg	2.500	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2185	63	U(VI)	0.0032	m3/kg	3.200	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2186	63	U(VI)	0.0032	m3/kg	3.200	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
2187	63	U(VI)	0.004	m3/kg	4.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
2188	63	U(VI)	0.004	m3/kg	4.000	10% bentonite, 90% quartz	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2189	63	U(VI)	0.0079	m3/kg	7.900	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2174	7.7	AA, D.O. 8.25mg/l	23	1E-7M		A	71.66	646		
2175	7.7	AA, D.O. 8.25mg/l	23	1E-6M		A	71.66	646		
2176	8	AA, D.O. 5.3mg/l	60	1E-4M		A	71.66	646		
2177	8	AA, D.O. 5.3mg/l	60	1E-5M		A	71.66	646		
2178	8	AA, D.O. 5.3mg/l	60	1E-5M		A	71.66	646		
2179	8	AA, D.O. 5.3mg/l	60	1E-6M		A	71.66	646		
2180	8	AA, D.O. 5.3mg/l	60	1E-4M		A	71.66	646		
2181	8	AA, D.O. 5.3mg/l	60	1E-6M		A	71.66	646		
2182	8	AA, D.O. 5.3mg/l	60	1E-7M		A	71.66	646		
2183	8.2?	AA	25	1E-5M		A				
2184	8.2?	AA	65	1E-5M		A				
2185	8.2?	AA	25	1E-8M		A				
2186	8.2?	AA	25	1E-5M		A				
2187	8.2?	AA	25	1E-8M		A				
2188	8.2?	AA	65	1E-8M		A				
2189	8.2?	AA	25	1E-5M		A				

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2190	63	U(VI)	0.01	m3/kg	10.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2191	63	U(VI)	0.0126	m3/kg	12.600	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2192	63	U(VI)	0.016	m3/kg	16.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
2193	63	U(VI)	0.02	m3/kg	20.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
2194	63	U(VI)	0.02	m3/kg	20.000	10% bentonite, 90% quartz	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2195	63	U(VI)	0.0025	m3/kg	25.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2196	63	U(VI)	0.0025	m3/kg	25.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2197	63	U(VI)	0.0032	m3/kg	32.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2198	63	U(VI)	0.0032	m3/kg	32.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
2199	63	U(VI)	0.004	m3/kg	40.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	180	10 to 50
2200	63	U(VI)	0.004	m3/kg	40.000	100% bentonite	synthetic standard ground water Aq1105, pH8.2, TDS 1105 mg/l		BS	7	10 to 50
2201	63	U(VI)	0.0079	m3/kg	79.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2202	63	U(VI)	0.01	m3/kg	100.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2203	63	U(VI)	0.0126	m3/kg	126.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2204	63	U(VI)	0.016	m3/kg	160.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
2205	63	U(VI)	0.02	m3/kg	200.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	180	10 to 50
2206	63	U(VI)	0.02	m3/kg	200.000	100% bentonite	synthetic standard ground water Aq293, pH8.2, TDS 293 mg/l		BS	7	10 to 50
2207	64	U(VI)	0.90	ml/g	0.896	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2208	64	U(VI)	1.01	ml/g	1.009	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2209	64	U(VI)	1.08	ml/g	1.080	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2210	64	U(VI)	1.28	ml/g	1.280	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2190	8.2?	AA	25	1E-8M		A				
2191	8.2?	AA	65	1E-5M		A				
2192	8.2?	AA	25	1E-8M		A				
2193	8.2?	AA	25	1E-5M		A				
2194	8.2?	AA	65	1E-8M		A				
2195	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2196	8.2?	AA	65	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2197	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2198	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2199	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2200	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2201	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2202	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2203	8.2?	AA	65	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2204	8.2?	AA	25	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2205	8.2?	AA	25	1E-5M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2206	8.2?	AA	65	1E-8M		A				Calculation by Grant Env. to 100% bentonite, assuming no significant sorption on 90% quartz
2207		AA	25	1.00E-04		A	120	747		Rd calculated by Grant Env. using P64 data
2208		AA	25	1.04E-05		A	120	747		Rd calculated by Grant Env. using P64 data
2209		AA	5	1.05E-05		A	120	747		Rd calculated by Grant Env. using P64 data
2210		AA	5	1.01E-04		A	120	747		Rd calculated by Grant Env. using P64 data

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2211	64	U(VI)	1.45	ml/g	1.449	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2212	64	U(VI)	1.77	ml/g	1.767	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2213	64	U(VI)	1.85	ml/g	1.850	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2214	64	U(VI)	13.9	ml/g	13.900	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2215	64	U(VI)	63.4	ml/g	63.431	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2216	64	U(VI)	67.5	ml/g	67.526	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2217	64	U(VI)	80.5	ml/g	80.541	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2218	64	U(VI)	85.9	ml/g	85.851	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaHCO3		BR	30	10
2219	64	U(VI)	211	ml/g	211.076	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2220	64	U(VI)	250	ml/g	249.505	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2221	64	U(VI)	335	ml/g	334.691	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2222	64	U(VI)	364	ml/g	364.243	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2223	64	U(VI)	381	ml/g	381.167	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2224	64	U(VI)	422	ml/g	422.194	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2225	64	U(VI)	531	ml/g	531.030	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2226	64	U(VI)	534	ml/g	533.595	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2227	64	U(VI)	542	ml/g	542.004	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2228	64	U(VI)	623	ml/g	622.570	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2229	64	U(VI)	632	ml/g	632.129	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2230	64	U(VI)	638	ml/g	637.853	Na sat. montmorillonite Saz-1, Apache Co., AZ	0.01M NaCl		BR	30	10
2231	64	U(VI)	1.71	ml/g	1.714	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid In mmol/g Unless Noted	Notes
2211		AA	25	1.44E-06		A	120	747		Rd calculated by Grant Env. using P64 data
2212		AA	25	4.37E-07		A	120	747		Rd calculated by Grant Env. using P64 data
2213		AA	5	4.39E-07		A	120	747		Rd calculated by Grant Env. using P64 data
2214		AA	5	1.43E-06		A	120	747		Rd calculated by Grant Env. using P64 data
2215		AA	65	1.04E-05		A	120	747		Rd calculated by Grant Env. using P64 data
2216		AA	65	3.51E-07		A	120	747		Rd calculated by Grant Env. using P64 data
2217		AA	65	1.35E-06		A	120	747		Rd calculated by Grant Env. using P64 data
2218		AA	65	1.00E-04		A	120	747		Rd calculated by Grant Env. using P64 data
2219		AA	5	1.01E-04		A	120	747		Rd calculated by Grant Env. using P64 data
2220		AA	5	1.04E-05		A	120	747		Rd calculated by Grant Env. using P64 data
2221		AA	5	1.40E-06		A	120	747		Rd calculated by Grant Env. using P64 data
2222		AA	65	1.01E-04		A	120	747		Rd calculated by Grant Env. using P64 data
2223		AA	25	1.00E-04		A	120	747		Rd calculated by Grant Env. using P64 data
2224		AA	5	3.93E-07		A	120	747		Rd calculated by Grant Env. using P64 data
2225		AA	25	1.44E-06		A	120	747		Rd calculated by Grant Env. using P64 data
2226		AA	65	3.46E-07		A	120	747		Rd calculated by Grant Env. using P64 data
2227		AA	25	4.38E-07		A	120	747		Rd calculated by Grant Env. using P64 data
2228		AA	25	1.04E-05		A	120	747		Rd calculated by Grant Env. using P64 data
2229		AA	65	1.39E-06		A	120	747		Rd calculated by Grant Env. using P64 data
2230		AA	65	1.04E-05		A	120	747		Rd calculated by Grant Env. using P64 data
2231		AA	25	1.00E-04		A	95	861		Rd calculated by Grant Env. using P64 data

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2232	64	U(VI)	2.22	ml/g	2.215	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2233	64	U(VI)	2.25	ml/g	2.220	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2234	64	U(VI)	2.38	ml/g	2.382	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2235	64	U(VI)	2.88	ml/g	2.880	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2236	64	U(VI)	3.12	ml/g	3.119	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2237	64	U(VI)	3.95	ml/g	3.950	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2238	64	U(VI)	4.15	ml/g	4.145	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2239	64	U(VI)	5.32	ml/g	5.320	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2240	64	U(VI)	7.59	ml/g	7.586	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2241	64	U(VI)	29.3	ml/g	29.267	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2242	64	U(VI)	33.2	ml/g	33.208	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2243	64	U(VI)	81.0	ml/g	80.956	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2244	64	U(VI)	97.4	ml/g	97.383	Na sat. nontronite, API Clay std. 33A	0.01M NaHCO3		BR	30	10
2245	64	U(VI)	273	ml/g	272.692	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2246	64	U(VI)	300	ml/g	299.872	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2247	64	U(VI)	325	ml/g	324.884	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2248	64	U(VI)	337	ml/g	337.268	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2249	64	U(VI)	490	ml/g	490.364	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2250	64	U(VI)	518	ml/g	518.445	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2251	64	U(VI)	545	ml/g	545.431	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2252	64	U(VI)	548	ml/g	548.003	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2232		AA	25	1.04E-05		A	95	861		Rd calculated by Grant Env. using P64 data
2233		AA	5	1.01E-04		A	95	861		Rd calculated by Grant Env. using P64 data
2234		AA	65	1.00E-04		A	95	861		Rd calculated by Grant Env. using P64 data
2235		AA	5	1.05E-05		A	95	861		Rd calculated by Grant Env. using P64 data
2236		AA	25	1.44E-06		A	95	861		Rd calculated by Grant Env. using P64 data
2237		AA	5	1.43E-06		A	95	861		Rd calculated by Grant Env. using P64 data
2238		AA	25	4.37E-07		A	95	861		Rd calculated by Grant Env. using P64 data
2239		AA	5	4.39E-07		A	95	861		Rd calculated by Grant Env. using P64 data
2240		AA	65	1.04E-05		A	95	861		Rd calculated by Grant Env. using P64 data
2241		AA	25	1.00E-04		A	95	861		Rd calculated by Grant Env. using P64 data
2242		AA	65	1.35E-06		A	95	861		Rd calculated by Grant Env. using P64 data
2243		AA	25	1.04E-05		A	95	861		Rd calculated by Grant Env. using P64 data
2244		AA	65	3.51E-07		A	95	861		Rd calculated by Grant Env. using P64 data
2245		AA	5	1.04E-05		A	95	861		Rd calculated by Grant Env. using P64 data
2246		AA	25	4.38E-07		A	95	861		Rd calculated by Grant Env. using P64 data
2247		AA	25	1.44E-06		A	95	861		Rd calculated by Grant Env. using P64 data
2248		AA	5	1.01E-04		A	95	861		Rd calculated by Grant Env. using P64 data
2249		AA	5	3.93E-07		A	95	861		Rd calculated by Grant Env. using P64 data
2250		AA	65	3.46E-07		A	95	861		Rd calculated by Grant Env. using P64 data
2251		AA	65	1.01E-04		A	95	861		Rd calculated by Grant Env. using P64 data
2252		AA	65	1.04E-05		A	95	861		Rd calculated by Grant Env. using P64 data

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2253	64	U(VI)	564	ml/g	564.437	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2254	64	U(VI)	614	ml/g	614.289	Na sat. nontronite, API Clay std. 33A	0.01M NaCl		BR	30	10
2255	68	U(VI)	0.09332	m3/kg	93.320	Wyoming bentonite MX-80	synthetic ground water, TDS of 306 mg/l		BS	6	100
2256	72	U(VI)	0.093	m3/kg	93.000	Wyoming Na bentonite MX-80	Swedish synthetic granitic ground water	2	BS? D?	62	
2257	110	U(VI)	2.2	ml/g	2.210	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2258	110	U(VI)	3.8	ml/g	3.800	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2259	110	U(VI)	8.7	ml/g	8.690	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2260	110	U(VI)	29.7	ml/g	29.660	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2261	110	U(VI)	30.4	ml/g	30.390	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2262	110	U(VI)	33.9	ml/g	33.930	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2263	110	U(VI)	34.3	ml/g	34.290	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2264	110	U(VI)	38.5	ml/g	38.540	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2265	110	U(VI)	42.4	ml/g	42.350	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2266	110	U(VI)	43.7	ml/g	43.650	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2267	110	U(VI)	48.8	ml/g	48.810	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2268	110	U(VI)	55.2	ml/g	55.220	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2269	110	U(VI)	70.0	ml/g	70.020	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2270	110	U(VI)	71.6	ml/g	71.590	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2271	110	U(VI)	82.3	ml/g	82.310	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2272	110	U(VI)	92.1	ml/g	92.110	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2273	110	U(VI)	102.2	ml/g	102.170	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2253		AA	5	1.40E-06		A	95	861		Rd calculated by Grant Env. using P64 data
2254		AA	65	1.39E-06		A	95	861		Rd calculated by Grant Env. using P64 data
2255	8.5	AA	25	2.1E-7M		A	75 to 80			
2256		AA	20	3.16E-7 moles		A				
2257	8.85	AA	20	2.16E-6M or 2.45E-7M		A		97		
2258	8.94	AA	20	2.16E-6M or 2.45E-7M		A		97		
2259	8.72	AA	20	2.16E-6M or 2.45E-7M		A		97		
2260	8.43	AA	20	2.16E-6M or 2.45E-7M		A		97		
2261	1.90	AA	20	2.16E-6M or 2.45E-7M		A		97		
2262	1.68	AA	20	2.16E-6M or 2.45E-7M		A		97		
2263	1.88	AA	20	2.16E-6M or 2.45E-7M		A		97		
2264	8.72	AA	20	2.16E-6M or 2.45E-7M		A		97		
2265	8.92	AA	20	2.16E-6M or 2.45E-7M		A		97		
2266	2.18	AA	20	2.16E-6M or 2.45E-7M		A		97		
2267	2.46	AA	20	2.16E-6M or 2.45E-7M		A		97		
2268	1.95	AA	20	2.16E-6M or 2.45E-7M		A		97		
2269	3.01	AA	20	2.16E-6M or 2.45E-7M		A		97		
2270	2.76	AA	20	2.16E-6M or 2.45E-7M		A		97		
2271	2.91	AA	20	2.16E-6M or 2.45E-7M		A		97		
2272	2.18	AA	20	2.16E-6M or 2.45E-7M		A		97		
2273	3.21	AA	20	2.16E-6M or 2.45E-7M		A		97		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2274	110	U(VI)	110.8	ml/g	110.840	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2275	110	U(VI)	126.3	ml/g	126.270	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2276	110	U(VI)	127.5	ml/g	127.510	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2277	110	U(VI)	149.8	ml/g	149.840	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2278	110	U(VI)	209.4	ml/g	209.420	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2279	110	U(VI)	221.3	ml/g	221.320	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2280	110	U(VI)	228.8	ml/g	228.800	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2281	110	U(VI)	230.4	ml/g	230.360	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2282	110	U(VI)	290.7	ml/g	290.670	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2283	110	U(VI)	344.2	ml/g	344.180	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2284	110	U(VI)	443.8	ml/g	443.800	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2285	110	U(VI)	453.8	ml/g	453.750	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2286	110	U(VI)	482.2	ml/g	482.240	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2287	110	U(VI)	540.7	ml/g	540.740	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2288	110	U(VI)	587.1	ml/g	587.090	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2289	110	U(VI)	634.7	ml/g	634.720	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2290	110	U(VI)	655.1	ml/g	655.090	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2291	110	U(VI)	667.7	ml/g	667.650	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2292	110	U(VI)	921.1	ml/g	921.050	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2293	110	U(VI)	924.2	ml/g	924.150	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2294	110	U(VI)	951.2	ml/g	951.180	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2274	3.04	AA	20	2.16E-6M or 2.45E-7M		A		97		
2275	8.17	AA	20	2.16E-6M or 2.45E-7M		A		97		
2276	3.25	AA	20	2.16E-6M or 2.45E-7M		A		97		
2277	2.42	AA	20	2.16E-6M or 2.45E-7M		A		97		
2278	3.59	AA	20	2.16E-6M or 2.45E-7M		A		97		
2279	3.32	AA	20	2.16E-6M or 2.45E-7M		A		97		
2280	3.67	AA	20	2.16E-6M or 2.45E-7M		A		97		
2281	7.86	AA	20	2.16E-6M or 2.45E-7M		A		97		
2282	8.13	AA	20	2.16E-6M or 2.45E-7M		A		97		
2283	2.19	AA	20	2.16E-6M or 2.45E-7M		A		97		
2284	3.97	AA	20	2.16E-6M or 2.45E-7M		A		97		
2285	4.08	AA	20	2.16E-6M or 2.45E-7M		A		97		
2286	7.90	AA	20	2.16E-6M or 2.45E-7M		A		97		
2287	3.74	AA	20	2.16E-6M or 2.45E-7M		A		97		
2288	4.00	AA	20	2.16E-6M or 2.45E-7M		A		97		
2289	4.25	AA	20	2.16E-6M or 2.45E-7M		A		97		
2290	3.74	AA	20	2.16E-6M or 2.45E-7M		A		97		
2291	8.61	AA	20	2.16E-6M or 2.45E-7M		A		97		
2292	7.58	AA	20	2.16E-6M or 2.45E-7M		A		97		
2293	7.87	AA	20	2.16E-6M or 2.45E-7M		A		97		
2294	4.24	AA	20	2.16E-6M or 2.45E-7M		A		97		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2295	110	U(VI)	991.2	ml/g	991.230	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2296	110	U(VI)	1092.7	ml/g	1092.720	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2297	110	U(VI)	1139.0	ml/g	1138.980	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2298	110	U(VI)	1296.0	ml/g	1295.980	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2299	110	U(VI)	1320.3	ml/g	1320.280	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2300	110	U(VI)	1886.4	ml/g	1886.380	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2301	110	U(VI)	2742.5	ml/g	2742.530	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2302	110	U(VI)	3055.6	ml/g	3055.640	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2303	110	U(VI)	3256.9	ml/g	3256.870	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2304	110	U(VI)	3297.5	ml/g	3297.510	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2305	110	U(VI)	3466.5	ml/g	3466.520	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2306	110	U(VI)	3688.1	ml/g	3688.090	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2307	110	U(VI)	3812.3	ml/g	3812.260	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2308	110	U(VI)	3981.5	ml/g	3981.470	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2309	110	U(VI)	4318.8	ml/g	4318.840	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2310	110	U(VI)	4402.3	ml/g	4402.270	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2311	110	U(VI)	4786.9	ml/g	4786.900	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2312	110	U(VI)	5690.1	ml/g	5690.080	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2313	110	U(VI)	6560.0	ml/g	6560.020	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2314	110	U(VI)	6680.2	ml/g	6680.240	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2315	110	U(VI)	6962.7	ml/g	6962.690	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2295	3.48	AA	20	2.16E-6M or 2.45E-7M		A		97		
2296	7.57	AA	20	2.16E-6M or 2.45E-7M		A		97		
2297	4.31	AA	20	2.16E-6M or 2.45E-7M		A		97		
2298	4.30	AA	20	2.16E-6M or 2.45E-7M		A		97		
2299	8.06	AA	20	2.16E-6M or 2.45E-7M		A		97		
2300	4.65	AA	20	2.16E-6M or 2.45E-7M		A		97		
2301	7.43	AA	20	2.16E-6M or 2.45E-7M		A		97		
2302	7.76	AA	20	2.16E-6M or 2.45E-7M		A		97		
2303	7.50	AA	20	2.16E-6M or 2.45E-7M		A		97		
2304	4.61	AA	20	2.16E-6M or 2.45E-7M		A		97		
2305	4.61	AA	20	2.16E-6M or 2.45E-7M		A		97		
2306	4.91	AA	20	2.16E-6M or 2.45E-7M		A		97		
2307	7.41	AA	20	2.16E-6M or 2.45E-7M		A		97		
2308	7.20	AA	20	2.16E-6M or 2.45E-7M		A		97		
2309	7.02	AA	20	2.16E-6M or 2.45E-7M		A		97		
2310	7.59	AA	20	2.16E-6M or 2.45E-7M		A		97		
2311	6.90	AA	20	2.16E-6M or 2.45E-7M		A		97		
2312	4.90	AA	20	2.16E-6M or 2.45E-7M		A		97		
2313	7.10	AA	20	2.16E-6M or 2.45E-7M		A		97		
2314	7.58	AA	20	2.16E-6M or 2.45E-7M		A		97		
2315	6.84	AA	20	2.16E-6M or 2.45E-7M		A		97		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time In Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2316	110	U(VI)	7014.2	ml/g	7014.160	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2317	110	U(VI)	7586.6	ml/g	7586.620	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2318	110	U(VI)	7966.4	ml/g	7966.360	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2319	110	U(VI)	8228.6	ml/g	8228.620	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2320	110	U(VI)	9642.1	ml/g	9642.100	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2321	110	U(VI)	10088.0	ml/g	10088.040	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2322	110	U(VI)	10256.0	ml/g	10256.010	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2323	110	U(VI)	10653.4	ml/g	10653.430	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2324	110	U(VI)	10881.5	ml/g	10881.480	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2325	110	U(VI)	11253.8	ml/g	11253.780	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2326	110	U(VI)	11776.3	ml/g	11776.270	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2327	110	U(VI)	12013.1	ml/g	12013.060	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2328	110	U(VI)	12394.9	ml/g	12394.880	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2329	110	U(VI)	12938.4	ml/g	12938.420	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2330	110	U(VI)	13034.5	ml/g	13034.460	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2331	110	U(VI)	13493.7	ml/g	13493.650	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2332	110	U(VI)	13569.6	ml/g	13569.580	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2333	110	U(VI)	13737.7	ml/g	13737.700	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2334	110	U(VI)	14226.8	ml/g	14226.810	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2335	110	U(VI)	14364.7	ml/g	14364.690	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2336	110	U(VI)	14466.1	ml/g	14466.130	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2316	7.11	AA	20	2.16E-6M or 2.45E-7M		A		97		
2317	5.24	AA	20	2.16E-6M or 2.45E-7M		A		97		
2318	5.14	AA	20	2.16E-6M or 2.45E-7M		A		97		
2319	5.41	AA	20	2.16E-6M or 2.45E-7M		A		97		
2320	6.85	AA	20	2.16E-6M or 2.45E-7M		A		97		
2321	6.44	AA	20	2.16E-6M or 2.45E-7M		A		97		
2322	6.78	AA	20	2.16E-6M or 2.45E-7M		A		97		
2323	5.74	AA	20	2.16E-6M or 2.45E-7M		A		97		
2324	7.21	AA	20	2.16E-6M or 2.45E-7M		A		97		
2325	6.51	AA	20	2.16E-6M or 2.45E-7M		A		97		
2326	5.75	AA	20	2.16E-6M or 2.45E-7M		A		97		
2327	6.39	AA	20	2.16E-6M or 2.45E-7M		A		97		
2328	5.49	AA	20	2.16E-6M or 2.45E-7M		A		97		
2329	5.95	AA	20	2.16E-6M or 2.45E-7M		A		97		
2330	6.59	AA	20	2.16E-6M or 2.45E-7M		A		97		
2331	5.26	AA	20	2.16E-6M or 2.45E-7M		A		97		
2332	6.10	AA	20	2.16E-6M or 2.45E-7M		A		97		
2333	5.73	AA	20	2.16E-6M or 2.45E-7M		A		97		
2334	5.51	AA	20	2.16E-6M or 2.45E-7M		A		97		
2335	6.70	AA	20	2.16E-6M or 2.45E-7M		A		97		
2336	5.87	AA	20	2.16E-6M or 2.45E-7M		A		97		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2337	110	U(VI)	14772.9	ml/g	14772.890	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2338	110	U(VI)	15742.2	ml/g	15742.190	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2339	110	U(VI)	15923.6	ml/g	15923.590	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2340	110	U(VI)	18166.2	ml/g	18166.240	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2341	110	U(VI)	18487.9	ml/g	18487.870	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2342	110	U(VI)	18519.7	ml/g	18519.690	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2343	110	U(VI)	18627.3	ml/g	18627.280	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2344	110	U(VI)	18852.2	ml/g	18852.210	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2345	110	U(VI)	19320.9	ml/g	19320.920	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	3704
2346	110	U(VI)	19441.5	ml/g	19441.500	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2347	110	U(VI)	19535.1	ml/g	19535.130	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2348	110	U(VI)	22009.2	ml/g	22009.220	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2349	110	U(VI)	23448.5	ml/g	23448.460	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2350	110	U(VI)	23992.5	ml/g	23992.500	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2351	110	U(VI)	24970.7	ml/g	24970.710	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	35714
2352	110	U(VI)	25511.4	ml/g	25511.440	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2353	110	U(VI)	31166.2	ml/g	31166.220	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2354	110	U(VI)	34520.8	ml/g	34520.800	Na sat. montmorillonite (Saz-1, Apache Co., Arizona)	0.1M NaNO3		BS	10	313
2355	120	U(VI)	8	l/kg	8.000	bentonite	DI		BS	116	50
2356	120	U(VI)	30	l/kg	30.000	bentonite	DI		BS	116	100
2357	120	U(VI)	50	l/kg	50.000	bentonite	DI		BS	0.9	50
2358	120	U(VI)	60	l/kg	60.000	bentonite	DI		BS	9	50
2359	120	U(VI)	66	l/kg	66.000	bentonite	DI		BS	1.7	50
2360	120	U(VI)	100	l/kg	100.000	bentonite	DI		BS	0.9	100

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2337	6.60	AA	20	2.16E-6M or 2.45E-7M		A		97		
2338	5.24	AA	20	2.16E-6M or 2.45E-7M		A		97		
2339	6.95	AA	20	2.16E-6M or 2.45E-7M		A		97		
2340	6.08	AA	20	2.16E-6M or 2.45E-7M		A		97		
2341	7.24	AA	20	2.16E-6M or 2.45E-7M		A		97		
2342	6.66	AA	20	2.16E-6M or 2.45E-7M		A		97		
2343	5.72	AA	20	2.16E-6M or 2.45E-7M		A		97		
2344	6.40	AA	20	2.16E-6M or 2.45E-7M		A		97		
2345	6.00	AA	20	2.16E-6M or 2.45E-7M		A		97		
2346	6.18	AA	20	2.16E-6M or 2.45E-7M		A		97		
2347	6.95	AA	20	2.16E-6M or 2.45E-7M		A		97		
2348	6.44	AA	20	2.16E-6M or 2.45E-7M		A		97		
2349	5.79	AA	20	2.16E-6M or 2.45E-7M		A		97		
2350	6.33	AA	20	2.16E-6M or 2.45E-7M		A		97		
2351	6.18	AA	20	2.16E-6M or 2.45E-7M		A		97		
2352	6.59	AA	20	2.16E-6M or 2.45E-7M		A		97		
2353	6.58	AA	20	2.16E-6M or 2.45E-7M		A		97		
2354	6.05	AA	20	2.16E-6M or 2.45E-7M		A		97		
2355	9.5	aerobic	20			A				The Rd is an average value.
2356	9.5	aerobic	20			A				The Rd is an average value.
2357	9.5	aerobic	20			A				The Rd is an average value.
2358	9.5	aerobic	20			A				The Rd is an average value.
2359	9.5	aerobic	20			A				The Rd is an average value.
2360	9.5	aerobic	20			A				The Rd is an average value.

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2361	120	U(VI)	110	l/kg	110.000	bentonite	DI		BS	116	200
2362	120	U(VI)	120	l/kg	120.000	bentonite	DI		BS	1.7	100
2363	120	U(VI)	140	l/kg	140.000	bentonite	DI		BS	9	100
2364	120	U(VI)	290	l/kg	290.000	bentonite	DI		BS	0.9	200
2365	120	U(VI)	330	l/kg	330.000	bentonite	DI		BS	9	200
2366	120	U(VI)	370	l/kg	370.000	bentonite	DI		BS	1.7	200
2367	122	U(VI)	12	ml/g	12.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
2368	122	U(VI)	22	ml/g	22.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
2369	122	U(VI)	27	ml/g	27.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
2370	122	U(VI)	39	ml/g	39.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
2371	122	U(VI)	42	ml/g	42.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
2372	122	U(VI)	48	ml/g	48.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
2373	122	U(VI)	72	ml/g	72.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
2374	122	U(VI)	76	ml/g	76.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
2375	122	U(VI)	127	ml/g	127.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
2376	122	U(VI)	147	ml/g	147.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
2377	122	U(VI)	363	ml/g	363.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
2378	122	U(VI)	771	ml/g	771.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
2379	122	U(VI)	1007	ml/g	1007.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
2380	122	U(VI)	1032	ml/g	1032.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
2381	122	U(VI)	1042	ml/g	1042.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
2382	122	U(VI)	1168	ml/g	1168.000	smectites (nontronite)	GR-2 Syn. Ground Water, pH10		BS	50	10
2383	122	U(VI)	1450	ml/g	1450.000	smectites (nontronite)	GR-1 Syn. Ground Water, pH8		BS	50	10
2384	166	U(VI)	73.1	ml/g	73.100	natural bentonite	NV Test Site Well RNM-2S		BS	42.9	40
2385	166	U(VI)	77.8	ml/g	77.800	natural bentonite	NV Test Site Well RNM-2S		BS	27.9	40

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2361	9.5	aerobic	20			A				The Rd is an average value.
2362	9.5	aerobic	20			A				The Rd is an average value.
2363	9.5	aerobic	20			A				The Rd is an average value.
2364	9.5	aerobic	20			A				The Rd is an average value.
2365	9.5	aerobic	20			A				The Rd is an average value.
2366	9.5	aerobic	20			A				The Rd is an average value.
2367	10	AA	23	1E-4M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2368	10	AA	23	1E-7M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2369	8	AA	23	1E-4M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2370	8	AA	23	1E-5M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2371	10	AA	23	1E-5M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2372	10	AA	23	1E-6M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2373	10	AA	23	8.16E-9M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2374	8	AA	60	1E-7M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2375	8	AA	23	1E-6M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2376	8	AA	23	8.16E-9M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2377	8	AA	60	1E-4M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2378	10	AA	60	1E-5M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2379	8	AA	60	1E-5M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2380	8	AA	60	1E-6M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2381	10	AA	60	1E-4M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2382	10	AA	60	1E-6M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2383	8	AA	23	1E-7M		A	71.66	546		Sorbent is 98% smectite, identified as nontronite, with minor Fe oxides, calcite and silicates
2384	9	AA	20			A	56 to 72	33.8		
2385	9	AA	20			A	56 to 72	33.8		

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	Solution Medium	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time In Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2386	166	U(VI)	168	ml/g	168.000	natural bentonite	DI		BS	34.8	40
2387	166	U(VI)	214	ml/g	214.000	natural bentonite	DI		BS	42.9	40
2388	166	U(VI)	271	ml/g	271.000	natural bentonite	NV Test Site Well RNM-2S		BS	34.8	40
2389	166	U(VI)	334	ml/g	334.000	natural bentonite	DI		BS	27.9	40
2390	172	U(VI)	200	ml/g	199.526	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
2391	172	U(VI)	257	ml/g	257.040	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
2392	172	U(VI)	269	ml/g	269.153	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
2393	172	U(VI)	741310	ml/g	741310.241	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
2394	172	U(VI)	758578	ml/g	758577.575	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
2395	172	U(VI)	812831	ml/g	812830.516	Fe-rich smectite with <6% Fe-Mn oxides, and phillipsite	0.68M NaCl		BS	2 to 4	
2396	181	U(VI)	2.61	ml/g	2.610	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2397	181	U(VI)	4.15	ml/g	4.150	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2398	181	U(VI)	4.95	ml/g	4.950	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2399	181	U(VI)	6.03	ml/g	6.030	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2400	181	U(VI)	6.29	ml/g	6.290	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2401	181	U(VI)	6.34	ml/g	6.340	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2402	181	U(VI)	9.38	ml/g	9.380	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2403	181	U(VI)	9.5	ml/g	9.500	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2404	181	U(VI)	9.57	ml/g	9.570	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2405	181	U(VI)	9.59	ml/g	9.590	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2406	181	U(VI)	10.13	ml/g	10.130	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2407	181	U(VI)	10.82	ml/g	10.820	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2408	181	U(VI)	11.38	ml/g	11.380	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2409	181	U(VI)	11.66	ml/g	11.660	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2410	181	U(VI)	12.8	ml/g	12.800	Ca montmorillonite (Kula, Turkey)	synthetic groundwater	2.62	BS	0.417	2
2411	181	U(VI)	2.93	ml/g	2.930	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2412	181	U(VI)	2.96	ml/g	2.960	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2413	181	U(VI)	3.13	ml/g	3.130	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2414	181	U(VI)	3.63	ml/g	3.630	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2415	181	U(VI)	4.81	ml/g	4.810	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2

Compilation of Sorption Values

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2386	9	AA	20			D	56 to 72	33.8		
2387	9	AA	20			A	56 to 72	33.8		
2388	9	AA	20			D	56 to 72	33.8		
2389	9	AA	20			A	56 to 72	33.8		
2390	2.8	AA	20		1.10E-07	A				the Fe and Mn oxides may be responsible for much of the sorption
2391	2.8	AA	20		1.29E-07	A				the Fe and Mn oxides may be responsible for much of the sorption
2392	2.8	AA	20		2.45E-07	A				the Fe and Mn oxides may be responsible for much of the sorption
2393	7.1	AA	20	3.10E-08	3.72E-12	A				the Fe and Mn oxides may be responsible for much of the sorption
2394	7.1	AA	20	3.10E-08	1.23E-11	A				the Fe and Mn oxides may be responsible for much of the sorption
2395	7.1	AA	20	3.10E-08	6.61E-12	A				the Fe and Mn oxides may be responsible for much of the sorption
2396	7.3	AA	20		4.00E-03	A	83			groundwater TDS about 65 PPM
2397	7.3	AA	20		7.95E-03	A	83			groundwater TDS about 65 PPM
2398	7.3	AA	20		1.18E-02	A	83			groundwater TDS about 65 PPM
2399	7.3	AA	20		1.59E-02	A	83			groundwater TDS about 65 PPM
2400	7.3	AA	20		1.79E-02	A	83			groundwater TDS about 65 PPM
2401	7.3	AA	20		1.99E-02	A	83			groundwater TDS about 65 PPM
2402	7.3	AA	20		3.99E-03	D	83			groundwater TDS about 65 PPM
2403	7.3	AA	20		1.79E-02	D	83			groundwater TDS about 65 PPM
2404	7.3	AA	20		1.99E-02	D	83			groundwater TDS about 65 PPM
2405	7.3	AA	20		1.60E-02	D	83			groundwater TDS about 65 PPM
2406	7.3	AA	20		1.39E-02	D	83			groundwater TDS about 65 PPM
2407	7.3	AA	20		1.19E-02	D	83			groundwater TDS about 65 PPM
2408	7.3	AA	20		6.19E-03	D	83			groundwater TDS about 65 PPM
2409	7.3	AA	20		1.02E-02	D	83			groundwater TDS about 65 PPM
2410	7.3	AA	20		7.90E-03	D	83			groundwater TDS about 65 PPM
2411	7.3	AA	20		1.80E-02	A	77			groundwater TDS about 65 PPM
2412	7.3	AA	20		1.99E-02	A	77			groundwater TDS about 65 PPM
2413	7.3	AA	20		1.60E-02	A	77			groundwater TDS about 65 PPM
2414	7.3	AA	20		1.19E-02	A	77			groundwater TDS about 65 PPM
2415	7.3	AA	20		8.01E-03	A	77			groundwater TDS about 65 PPM

Compilation of Sorption Values

Data Row	Data Source Citation #	Sorbate (Analyte) and its valence state	Published (or Calculated) Rd Value	Units of Published Rd	Rd standard-ized to ml/g	Sorbent (Solid Medium)	*Solution Medium*	Sorbent Density g/cc (Unless Noted)	Rd Method	Equili-bration Time in Days	Solution Volume to Sorbent Mass Ratio (ml/g)
2416	181	U(VI)	4.82	ml/g	4.820	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2417	181	U(VI)	7.51	ml/g	7.510	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2418	181	U(VI)	8.57	ml/g	8.570	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2419	181	U(VI)	8.6	ml/g	8.600	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2420	181	U(VI)	8.61	ml/g	8.610	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2421	181	U(VI)	8.85	ml/g	8.850	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2422	181	U(VI)	10.3	ml/g	10.300	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2423	181	U(VI)	10.57	ml/g	10.570	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2424	181	U(VI)	12.27	ml/g	12.270	Ca montmorillonite (Turgutlu, Turkey)	synthetic groundwater	2.64	BS	0.417	2
2425	186	U(VI)	150	cc/g	150.000	bentonite	seawater		BS	120	100
2426	186	U(VI)	160	cc/g	160.000	bentonite	seawater		BS	120	100
2427	186	U(VI)	180	cc/g	180.000	bentonite	DI		BS	120	100
2428	186	U(VI)	190	cc/g	190.000	bentonite	seawater		BS	120	100
2429	186	U(VI)	190	cc/g	190.000	bentonite	DI		BS	120	100
2430	186	U(VI)	200	cc/g	200.000	bentonite	seawater		BS	120	100
2431	186	U(VI)	230	cc/g	230.000	bentonite	DI		BS	120	100
2432	186	U(VI)	240	cc/g	240.000	bentonite	DI		BS	120	100

Data Row	Final pH	REDOX Conditions (Numeric Entries are Eh in mv)	Tempera-ture (C)	Initial Sorbate Solution Concen-tration, Molar (Unless Noted)	Final Sorbate Solution Concen-tration, Molar (Unless Noted)	Rd for D= Desorption Experiment, A= Absorption Experiment	Sorbent Cation Exchange Capacity (CEC meq/ 100g)	Sorbent Surface Area (m.m/g)	Sorbed Concentratio n On the Solid in mmol/g Unless Noted	Notes
2416	7.3	AA	20		4.02E-03	A	77			groundwater TDS about 65 PPM
2417	7.3	AA	20		3.98E-03	D	77			groundwater TDS about 65 PPM
2418	7.3	AA	20		1.98E-02	D	77			groundwater TDS about 65 PPM
2419	7.3	AA	20		1.59E-02	D	77			groundwater TDS about 65 PPM
2420	7.3	AA	20		1.80E-02	D	77			groundwater TDS about 65 PPM
2421	7.3	AA	20		1.18E-02	D	77			groundwater TDS about 65 PPM
2422	7.3	AA	20		6.30E-03	D	77			groundwater TDS about 65 PPM
2423	7.3	AA	20		9.75E-03	D	77			groundwater TDS about 65 PPM
2424	7.3	AA	20		8.02E-03	D	77			groundwater TDS about 65 PPM
2425	8.2	N2 atm. +300	21			A				
2426	8.2	N2 atm. +310	21			A				
2427	10.2	N2 atm. +330	21			A				
2428	8.2	N2 atm. +310	21			A				
2429	10.2	N2 atm. +330	21			A				
2430	8.2	N2 atm. +300	21			A				
2431	10.2	N2 atm. +330	21			A				
2432	10.2	N2 atm. +330	21			A				

Appendix B

Appendix B

Sorption References

Sorption Data References

Citation P#	Authors	Year	Title	In Journal, Book, or Report	Vol.	No.	pp.	Publisher (Editors)
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027	Sazarashi, M. et al.	1994	Adsorption of I- Ions on Minerals for I-129 Waste Management	J. Nuc. Sci. Technol.	31	6	620-622	
028	Kozai, N.O. et al.	1993	Sorption Characteristics of Neptunium by Sodium-Smectite	J. Nuc. Sci. Technol.	30	11	1153-1159	
030	Konishi, M. et al.	1988	Sorption Behavior of Cesium, Strontium, and Americium Ions on Clay Materials	J. Nuc. Sci. Technol.	25	12	929-933	
036	Griffin, R.A. and Shimp, N.F.	1976	Effect of pH on Exchange-Adsorption or Precipitation of Lead from Landfill Leachates by Clay Minerals	Environ. Sci. & Technol.	10	13	1256-1261	
037	Atanassova, I. And Okazaki, M.	1997	Adsorption-Desorption Characteristics of High Levels of Copper in Soil Clay Fractions	Water Air Soil Pollution	98	3/4	213-228	
046	Ticknor, K.V., Vilks, P. and Vandergraf, T.T.	1996	The Effect of Fulvic Acid on the Sorption of Actinides and Fission Products on Granite and Selected Minerals	Applied Geochem.	11		555-565	
048	Matthes, W. et al.	1999	Sorption of Heavy-Metal Cations by Al and Zr-Hydroxy Intercalated and Pillared Bentonite	Clays and Clay Minerals	47	5	617-629	
049	McKinley, I.G. and Scholtis, A.	1993	A Comparison of Radionuclide Sorption Databases Used in Recent Performance Assessments	J. Contam. Hydrology	13		347-363	
050	Boult, K.A. et al.	1998	Towards an Understanding of the Sorption of U(VI) and Se(IV) on Sodium Bentonite	J. Contam. Hydrology	35	1/3	141-150	
051	Oscarson, D.W. et al.	1994	Sorption of Cesium on Compacted Bentonite	Clays and Clay Minerals	42	6	731-736	
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060	Griffin, R.A. and Au, A.K.	1977	Lead Adsorption by Montmorillonite Using a Competitive Langmuir Equation	Soil Sci. Soc. Am. J.	41		880-882	
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081	Landa, E.R. et al.	1995	Sorption and Coprecipitation of Trace Concentrations of Thorium with Various Minerals Under Conditions Simulating an Acid Uranium Mill Effluent Environment	Inorganica Chimica Acta	229	1/2	247-252	
083	Wanner, H. et al.	1996	A Thermodynamic Surface Model for Caesium Sorption on Bentonite	Fresenius J. Analytical Chem.	354	5/6	763-769	
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109	Bertetti, F.P. et al.	1998	Studies of Neptunium(V) Sorption on Quartz, Clinoptilolite, Montmorillonite, and Alpha-Alumina	Adsorption of Metals by Geomedia		chap.4	131-148	E.A. Jenne (book ed.)
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161	Relyea, J.F. et al.	1977	Batch Kd Experiments with Common Minerals and Representative Groundwaters	PNL-SA-6957			125-150	
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Citation P#	Authors	Year	Title	In Journal, Book, or Report	Vol.	No.	pp.	Publisher (Editors)
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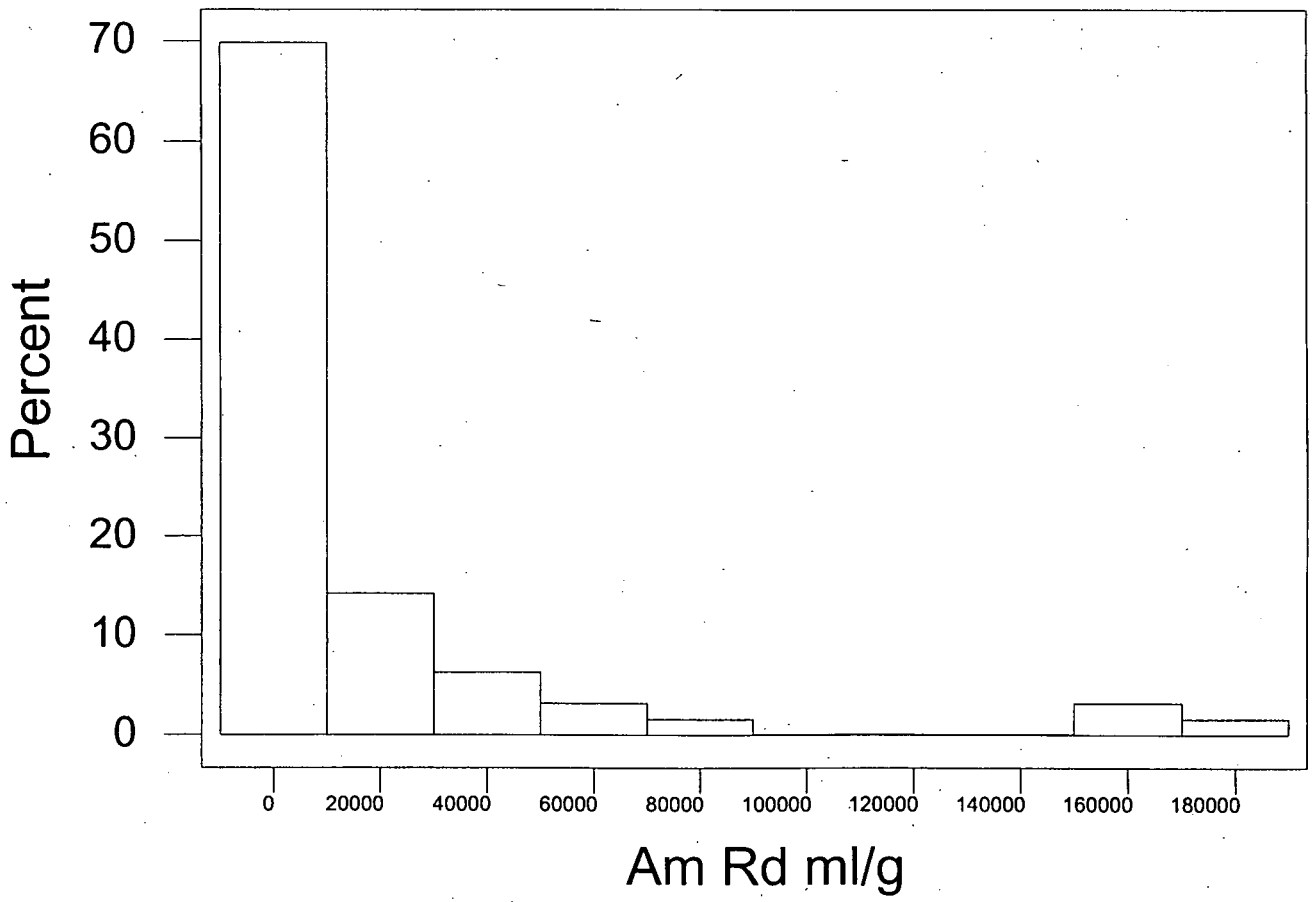
Appendix C

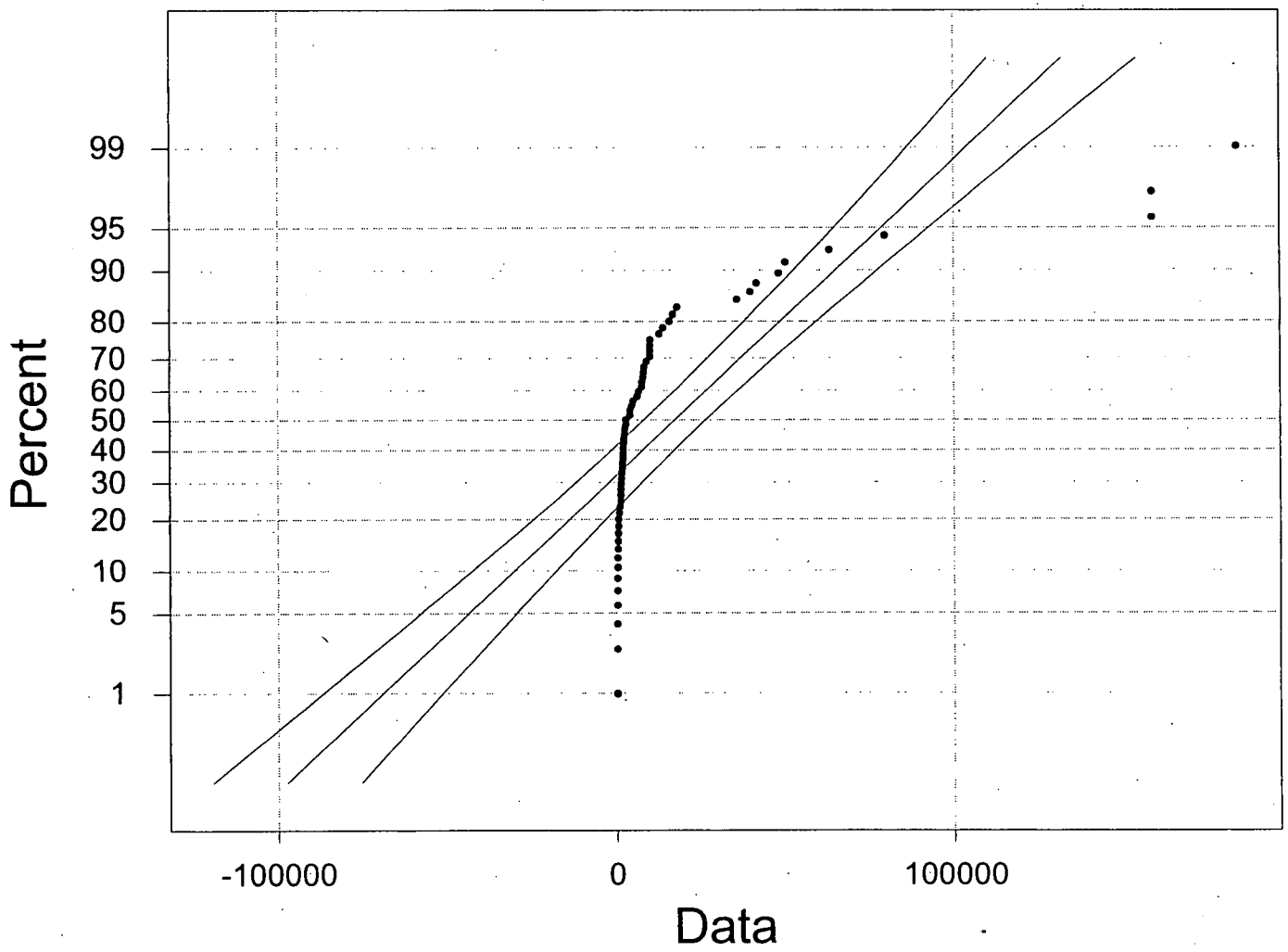
Probability Plots and Histograms for Distribution Ratios Measured at pH 7 to pH 8.5

Histogram of Am Rd Data for pH 7 to 8.5



Normal Probability Plot for Am Rd

ML Estimates - 95% CI

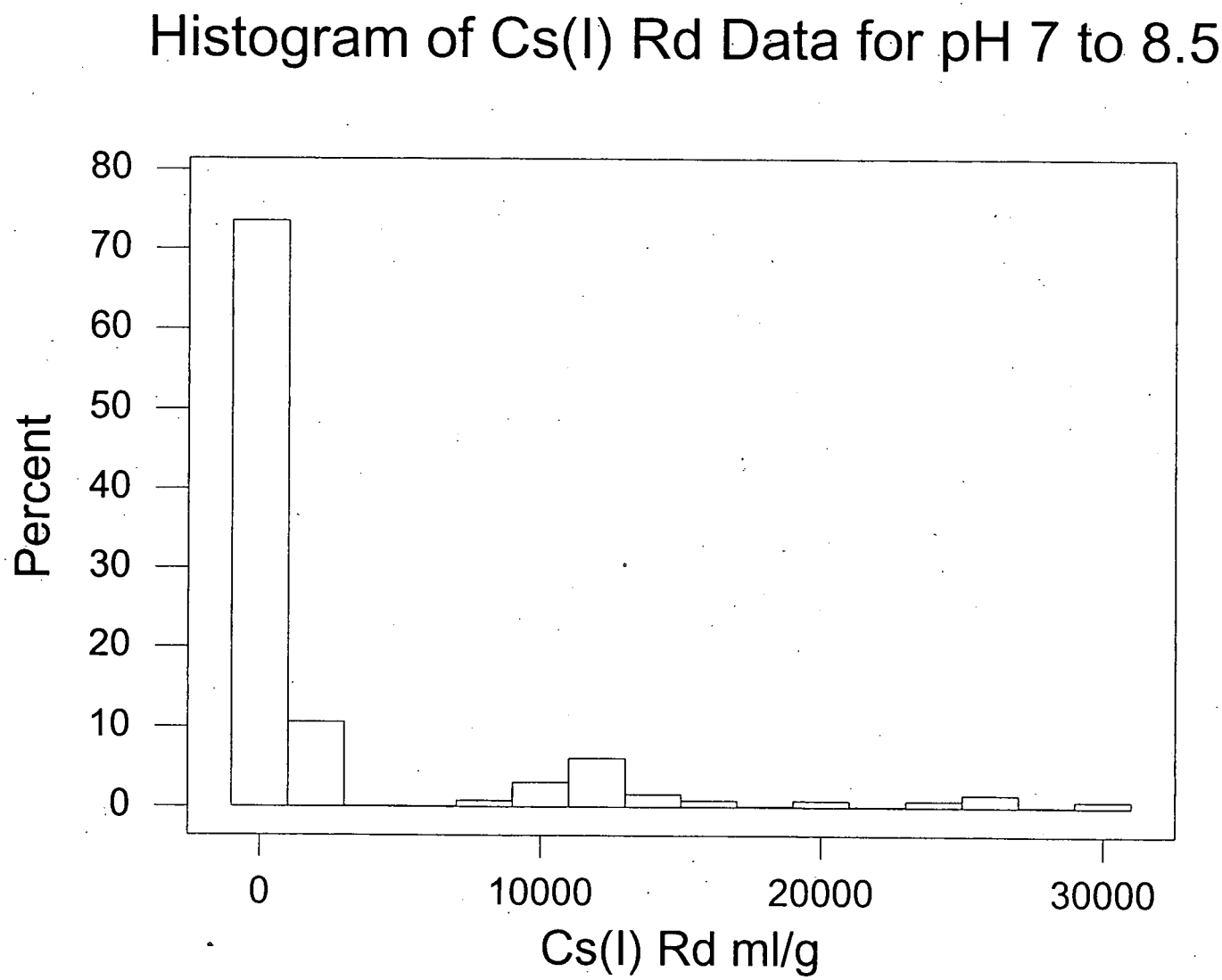


ML Estimates

Mean	17386.0
StDev	37128.2

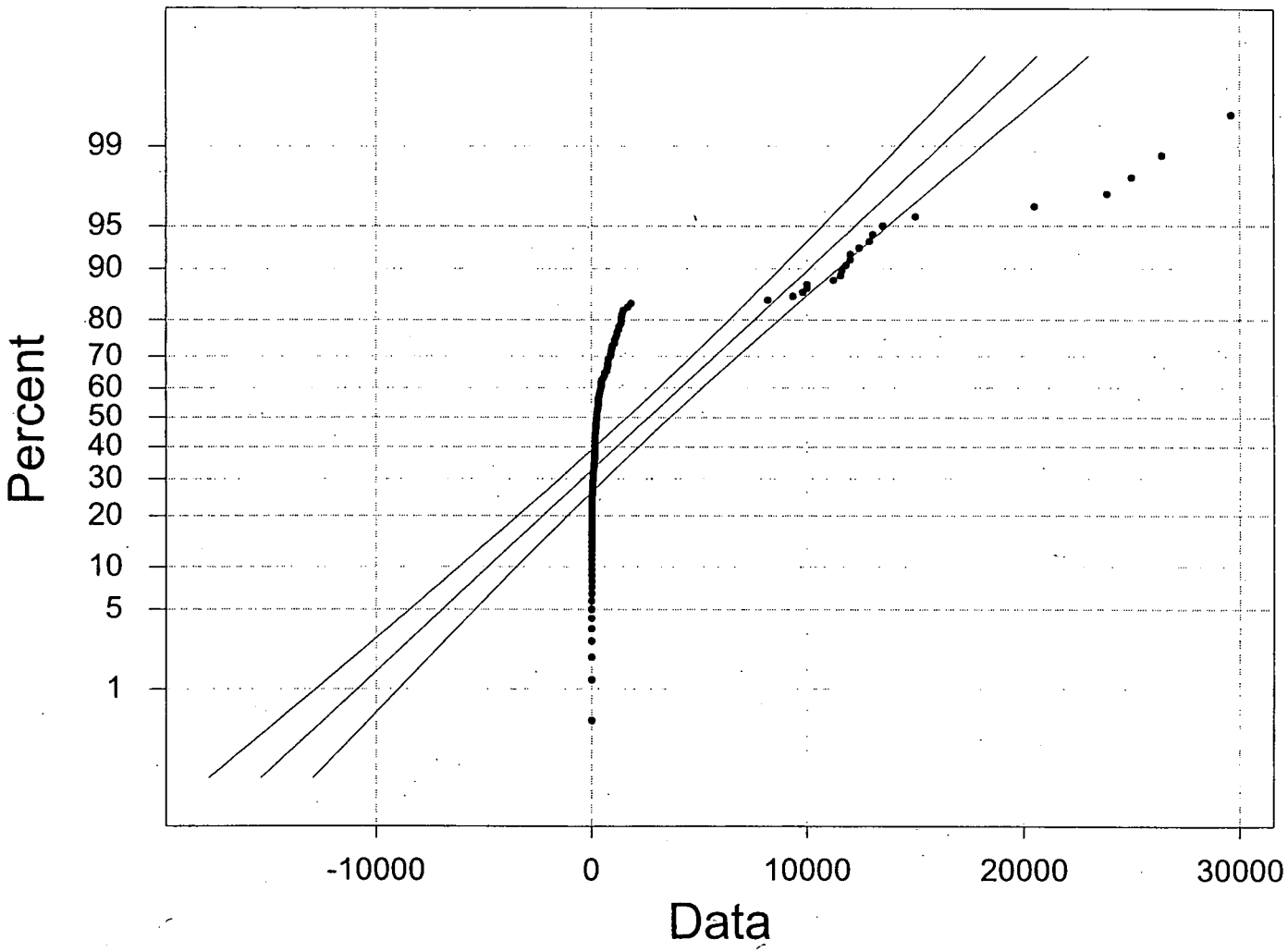
Goodness of Fit

AD*	12.1


Histogram of Cs(I) Rd Data for pH 7 to 8.5
Percent
80
70
60
50
40
30
20
10
0
0
10000
20000
30000
Cs(I) Rd ml/g

Normal Probability Plot for Cs(I) Rd

ML Estimates - 95% CI



ML Estimates

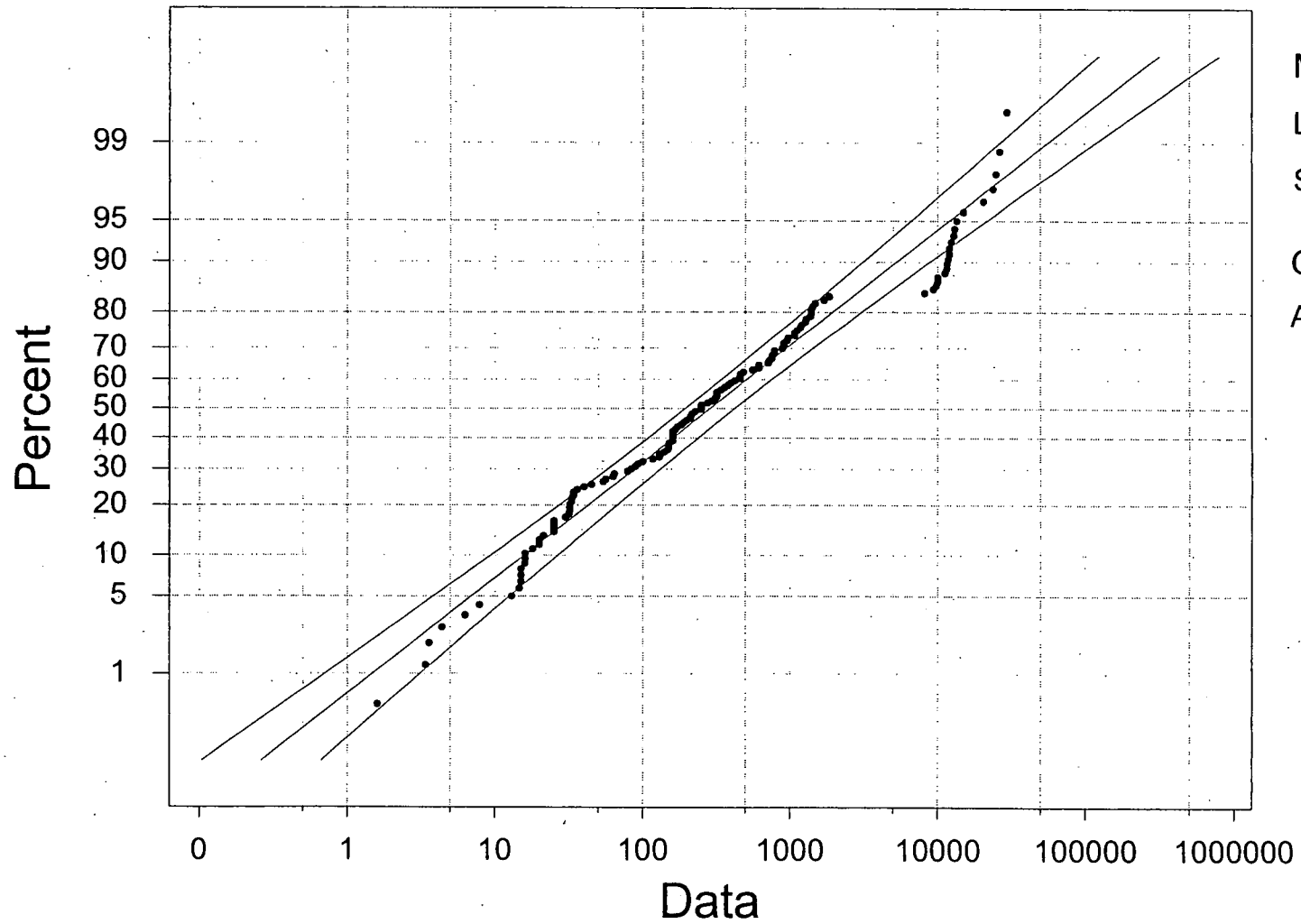
Mean	2658.90
StDev	5812.91

Goodness of Fit

AD*	27.92

Lognormal base e Probability Plot for Cs(I) Rd

ML Estimates - 95% CI



ML Estimates

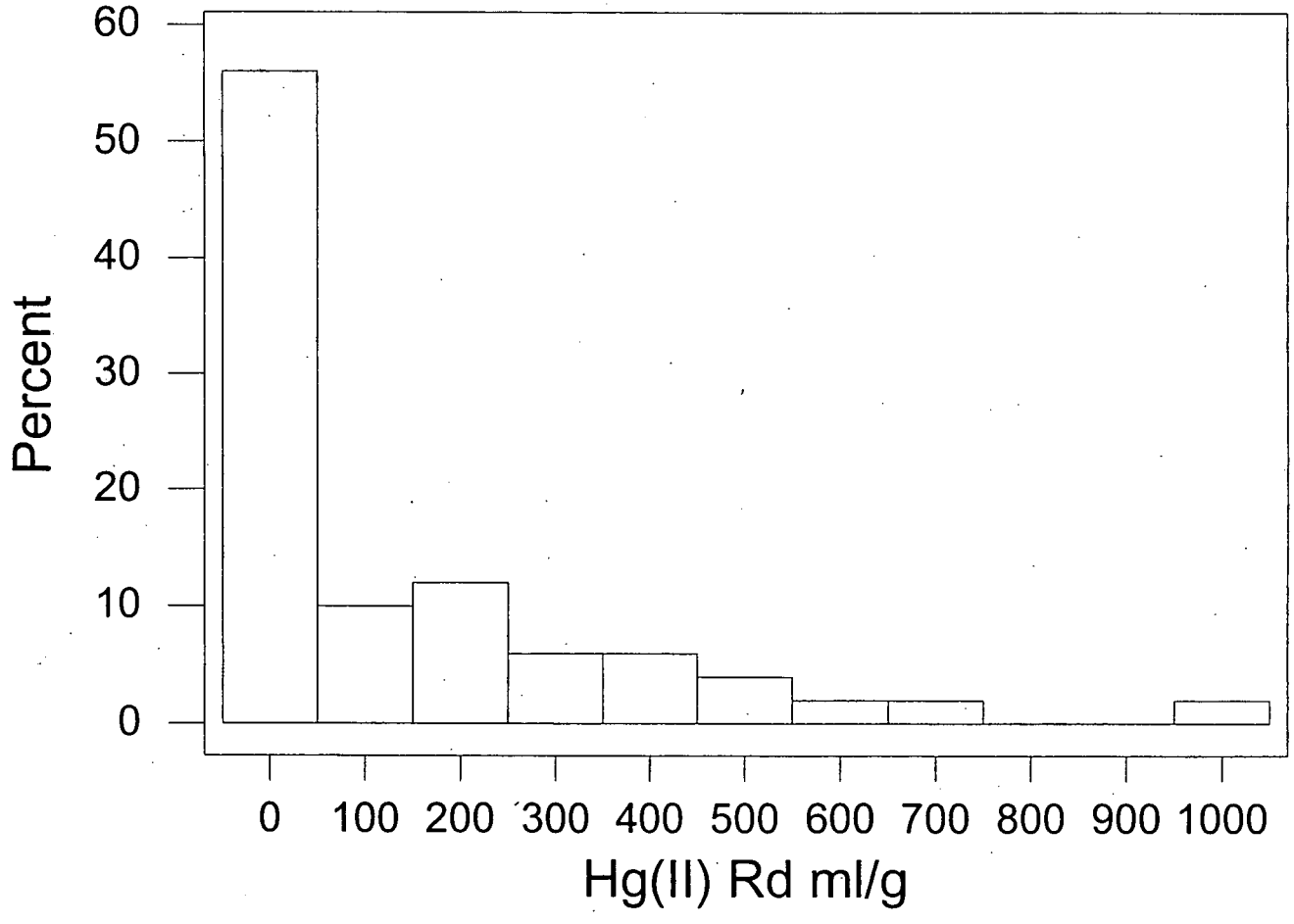
Location 5.66267

Scale 2.26512

Goodness of Fit

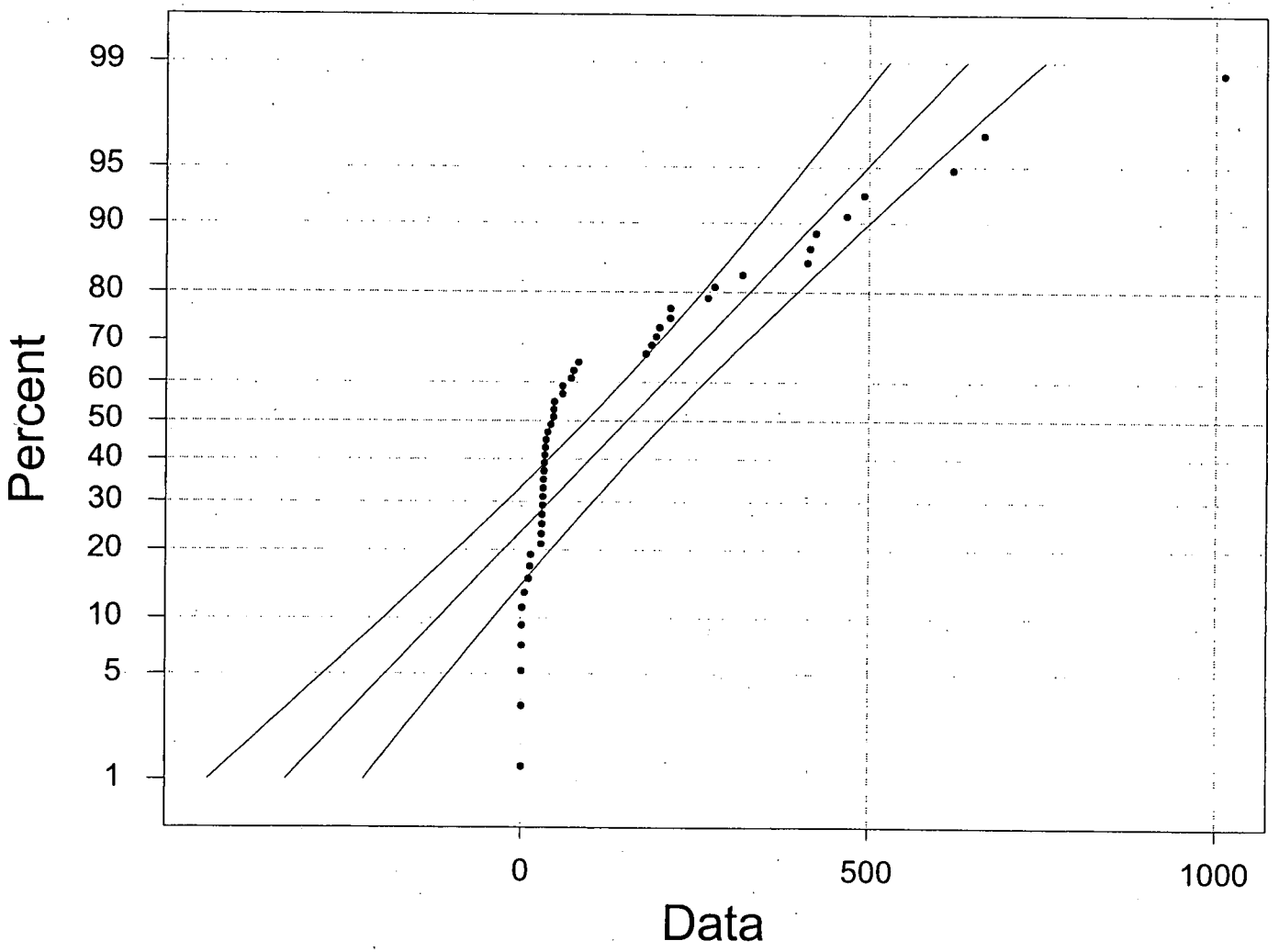
AD* 1.275

Histogram of Hg(II) Rd Data for pH 7 to 8.5



Normal Probability Plot for Hg(II) Rd

ML Estimates - 95% CI



ML Estimates

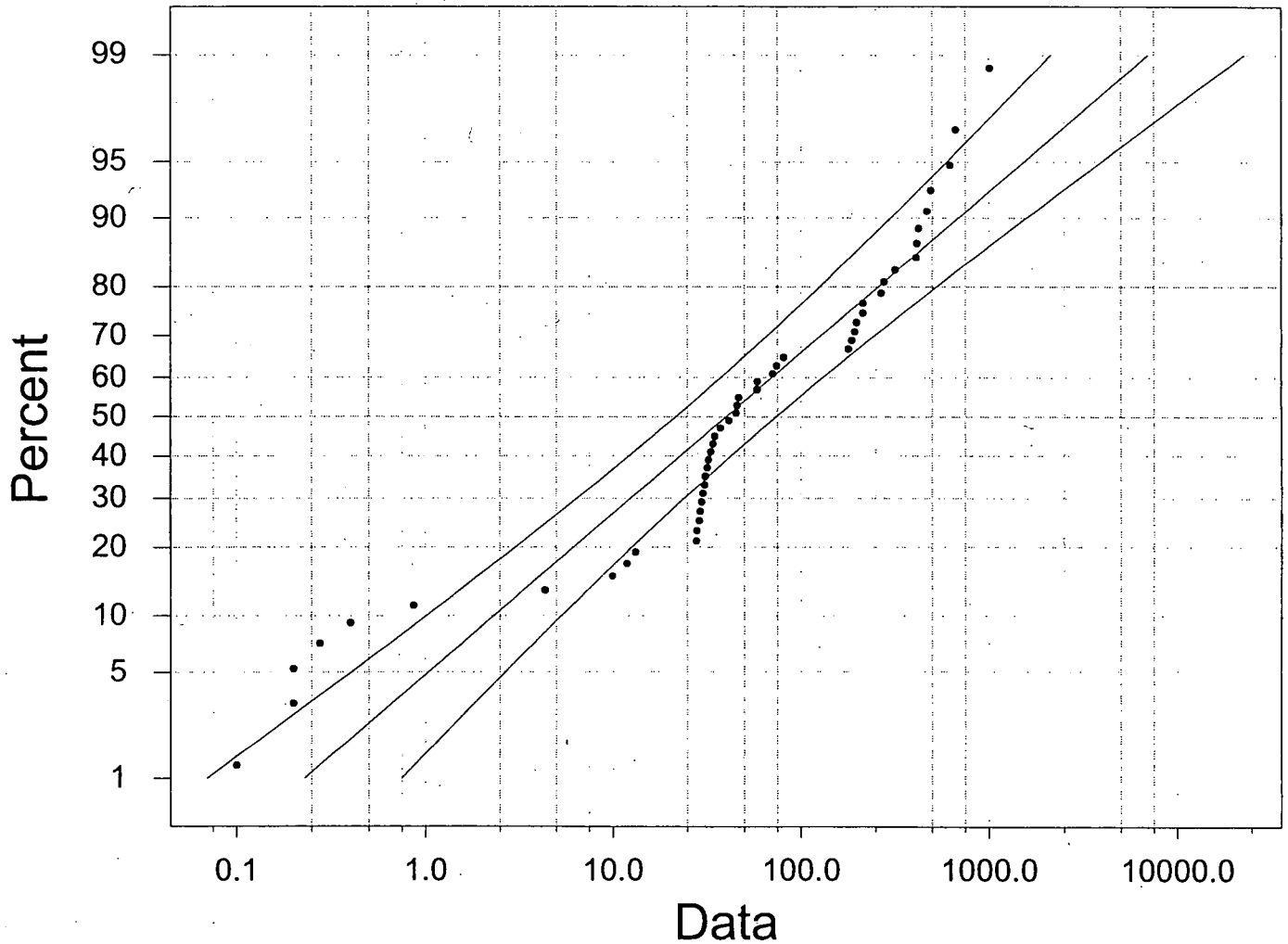
Mean	151.333
StDev	211.070

Goodness of Fit

AD*	5.395

Lognormal base e Probability Plot for Hg(II) Rd

ML Estimates - 95% CI



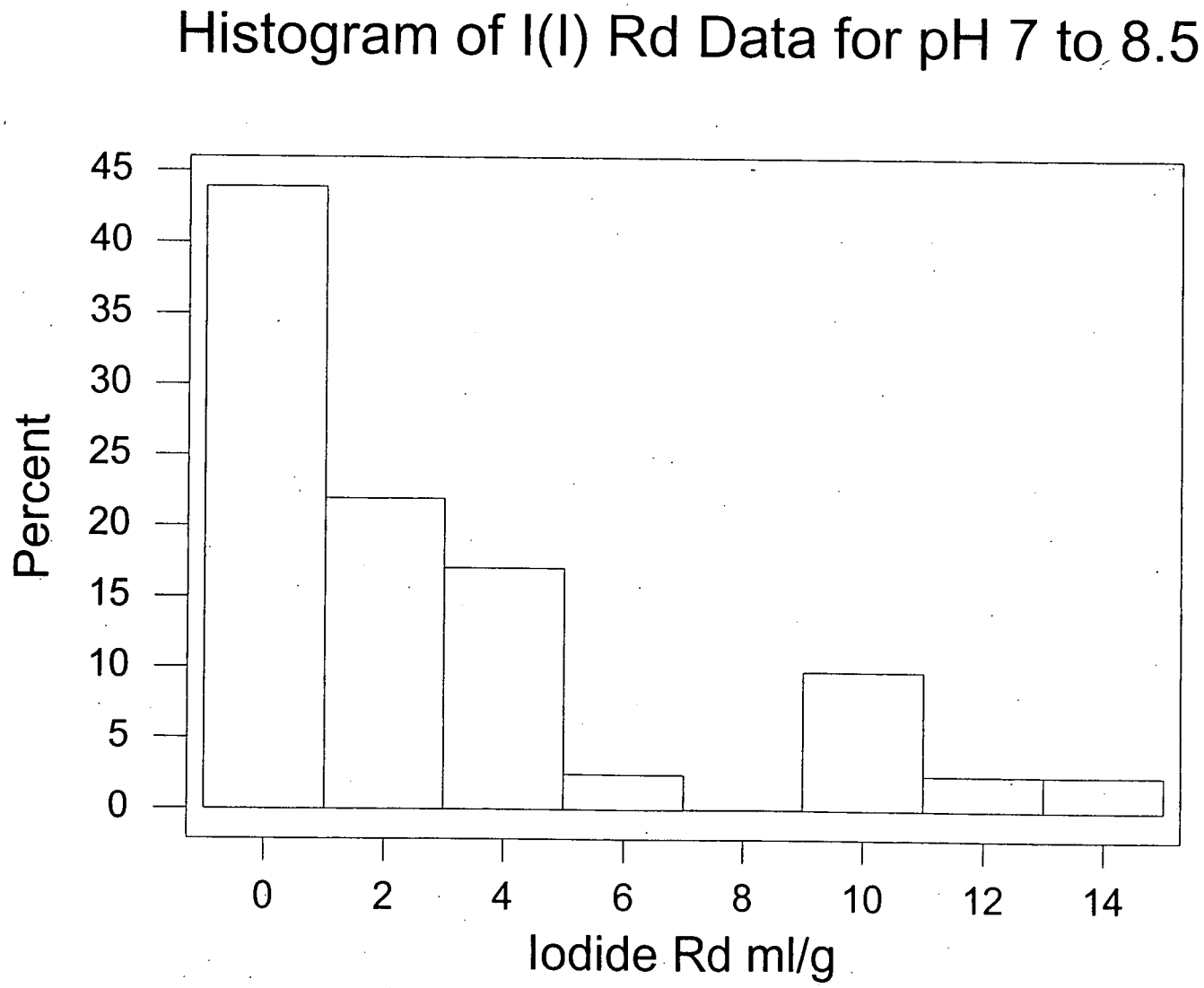
ML Estimates

Location 3.68915

Scale 2.22023

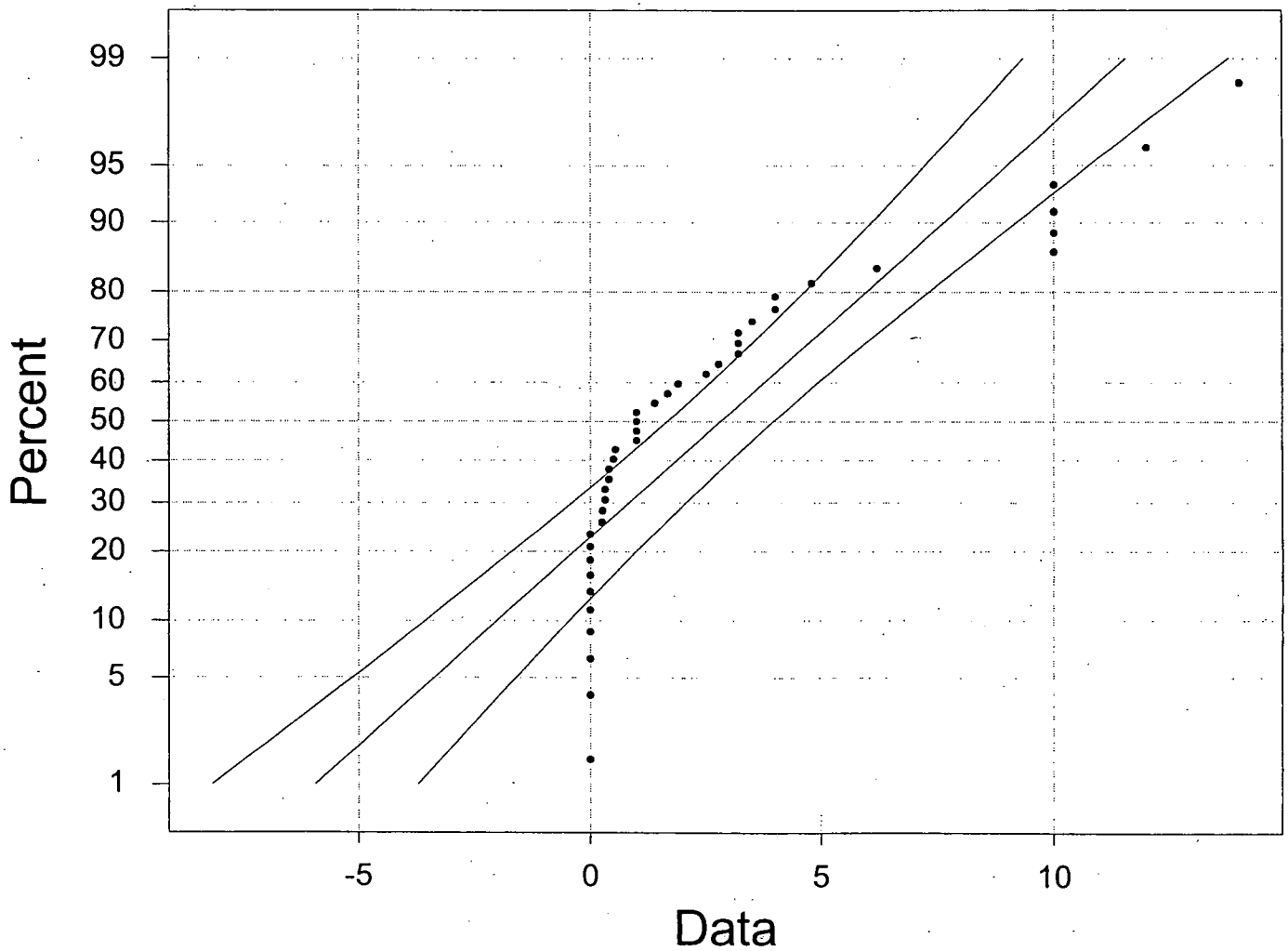
Goodness of Fit

AD* 2.307


Histogram of I(I) Rd Data for pH 7 to 8.5
Percent
45
40
35
30
25
20
15
10
5
0
0
2
4
6
8
10
12
14
Iodide Rd ml/g

Normal Probability Plot for I(I) Rd

ML Estimates - 95% CI



ML Estimates

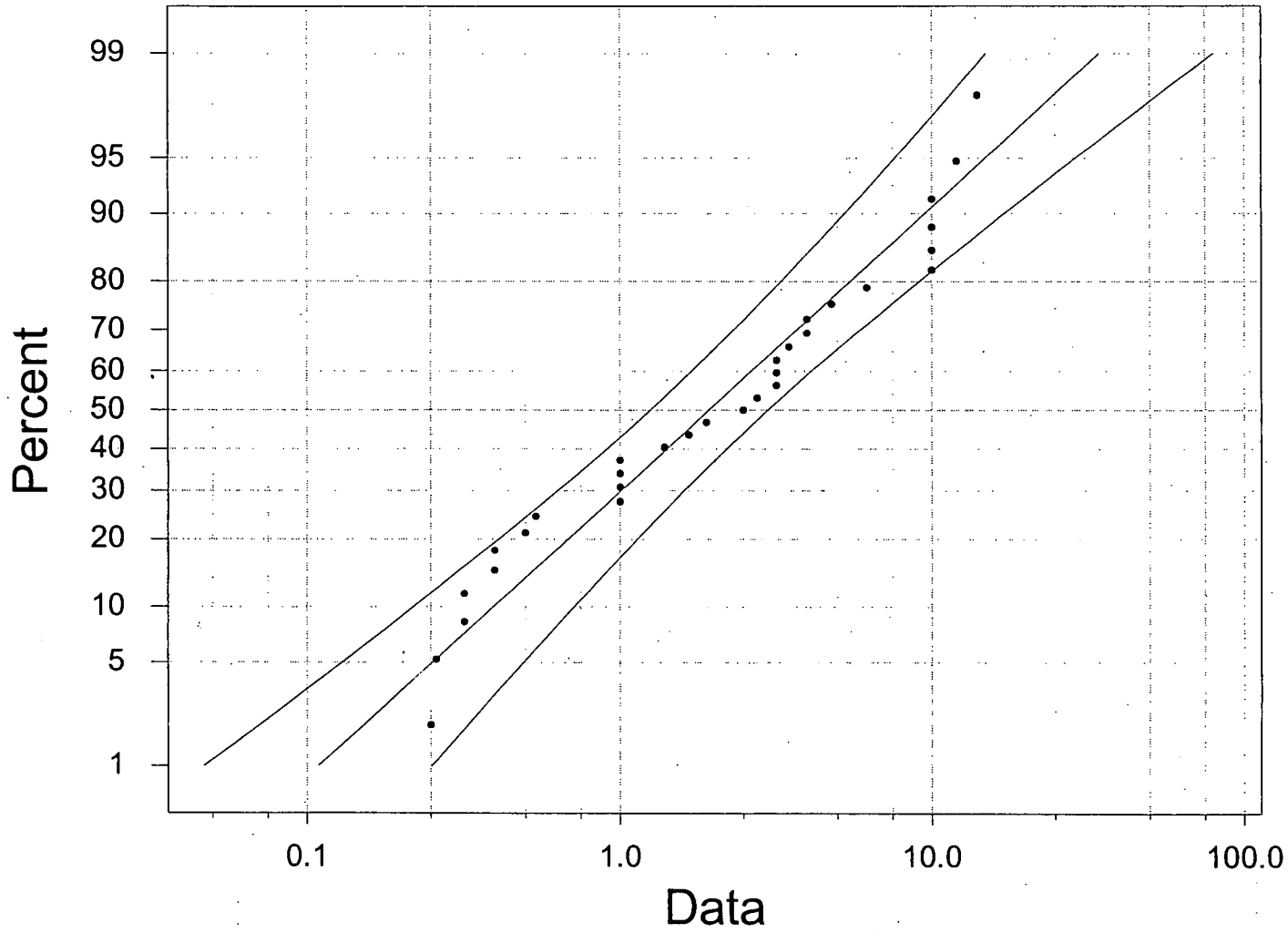
Mean	2.81254
StDev	3.75954

Goodness of Fit

AD*	4.217

Lognormal base e Probability Plot for I(I) Rd

ML Estimates - 95% CI



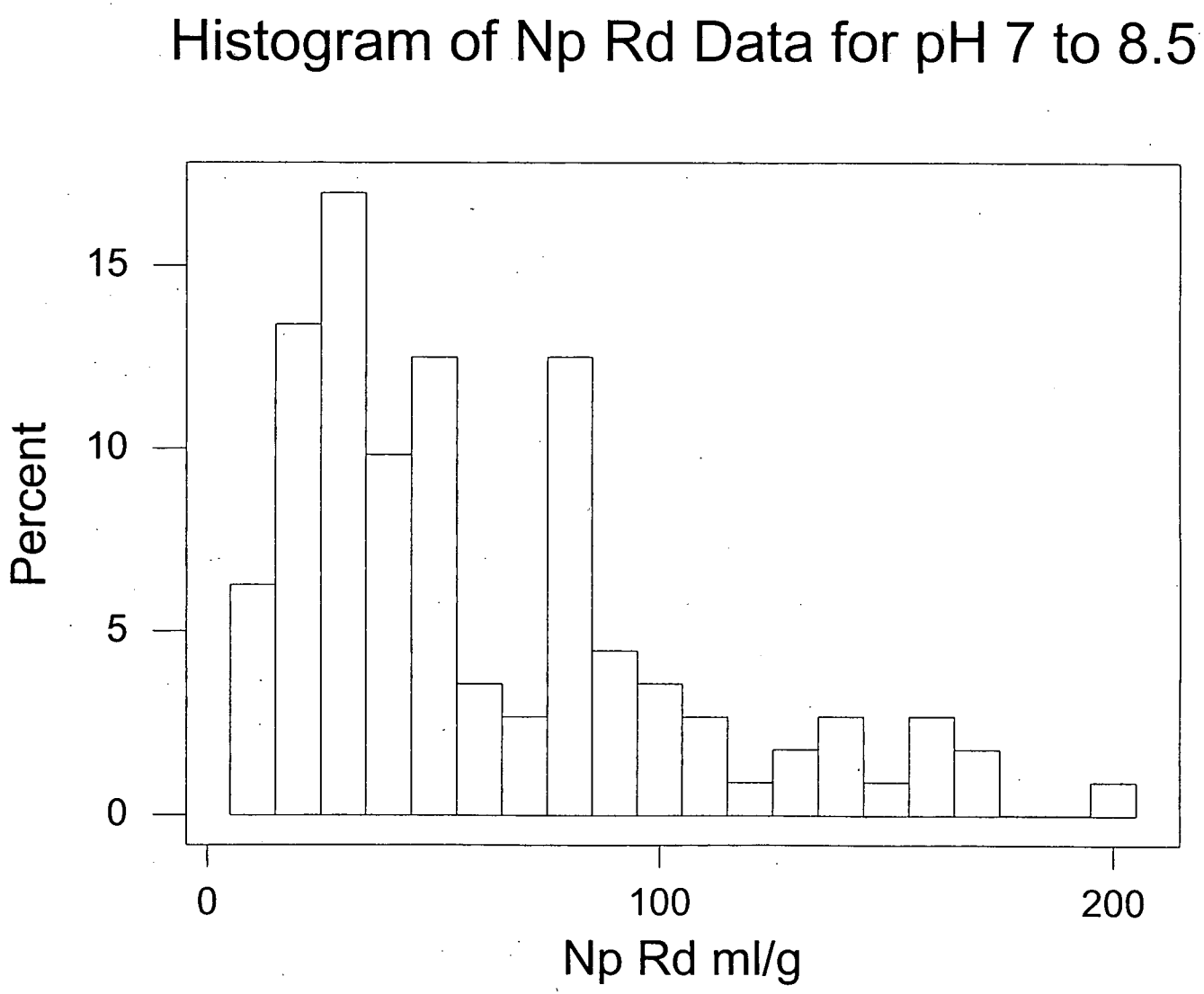
ML Estimates

Location 0.661515

Scale 1.23878

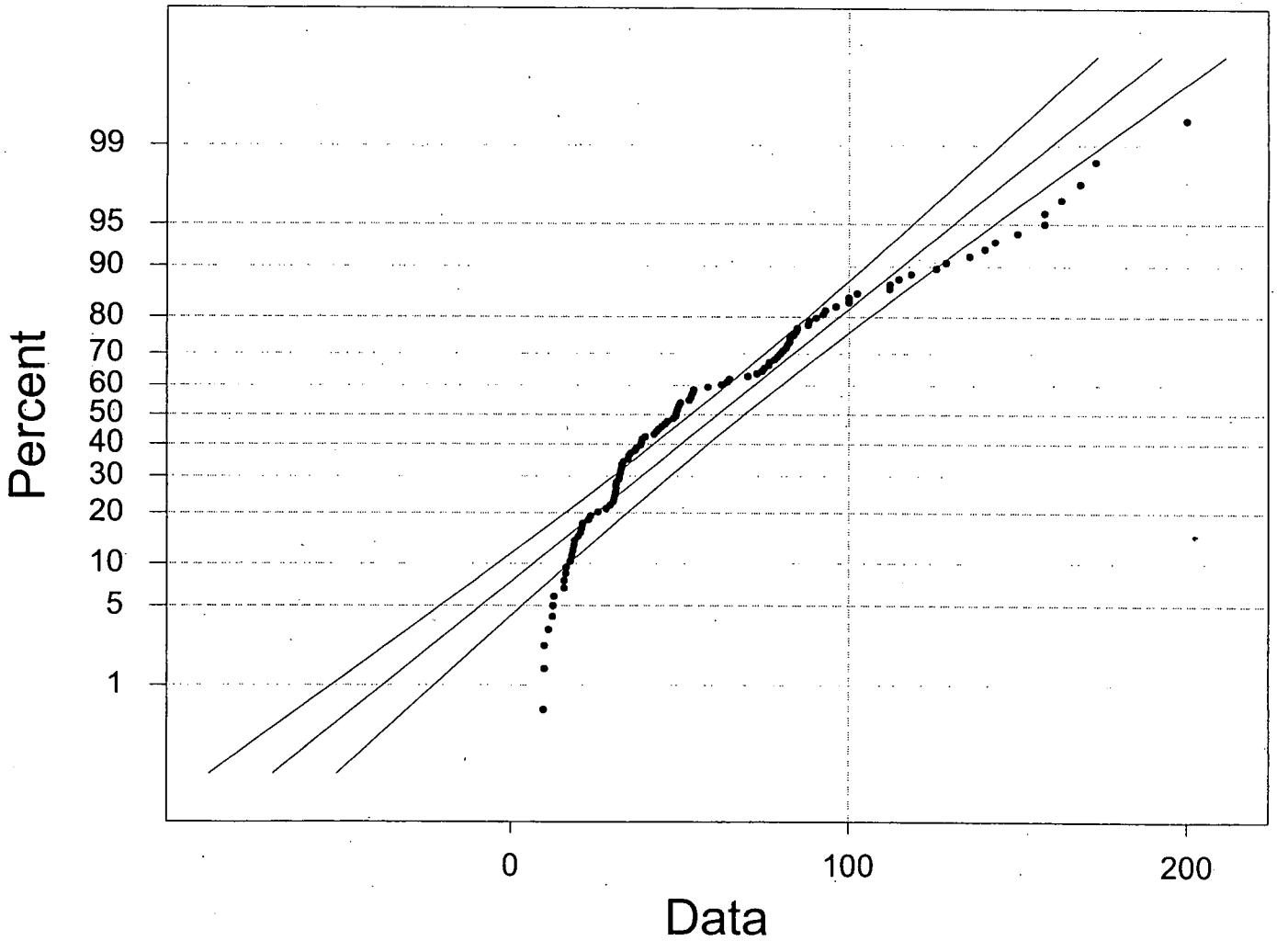
Goodness of Fit

AD* 0.87


Histogram of Np Rd Data for pH 7 to 8.5
Percent
15
10
5
0
0
100
200
Np Rd ml/g

Normal Probability Plot for Np Rd

ML Estimates - 95% CI



ML Estimates

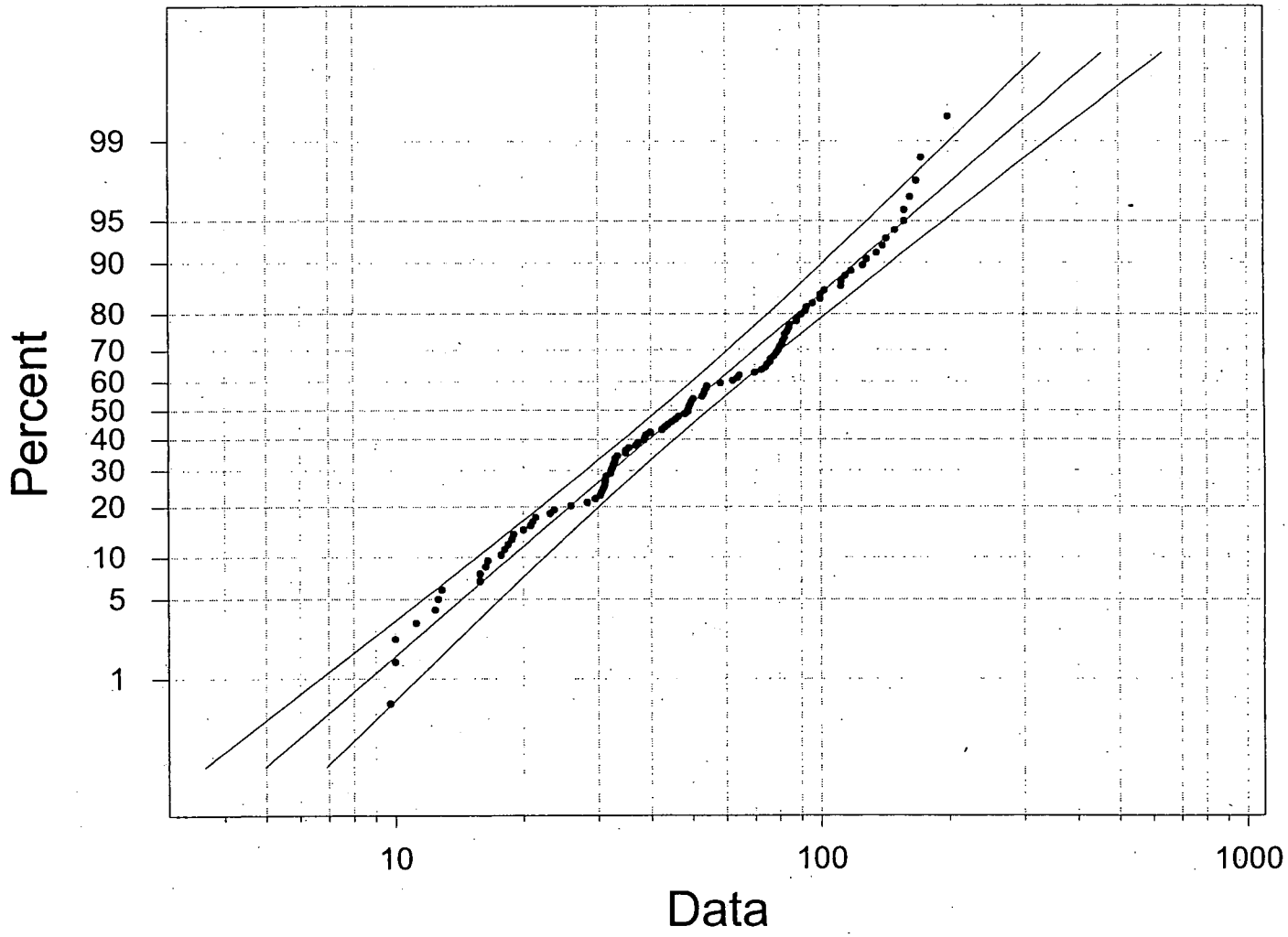
Mean	61.2069
StDev	42.5425

Goodness of Fit

AD*	3.639

Lognormal base e Probability Plot for Np Rd

ML Estimates - 95% CI



ML Estimates

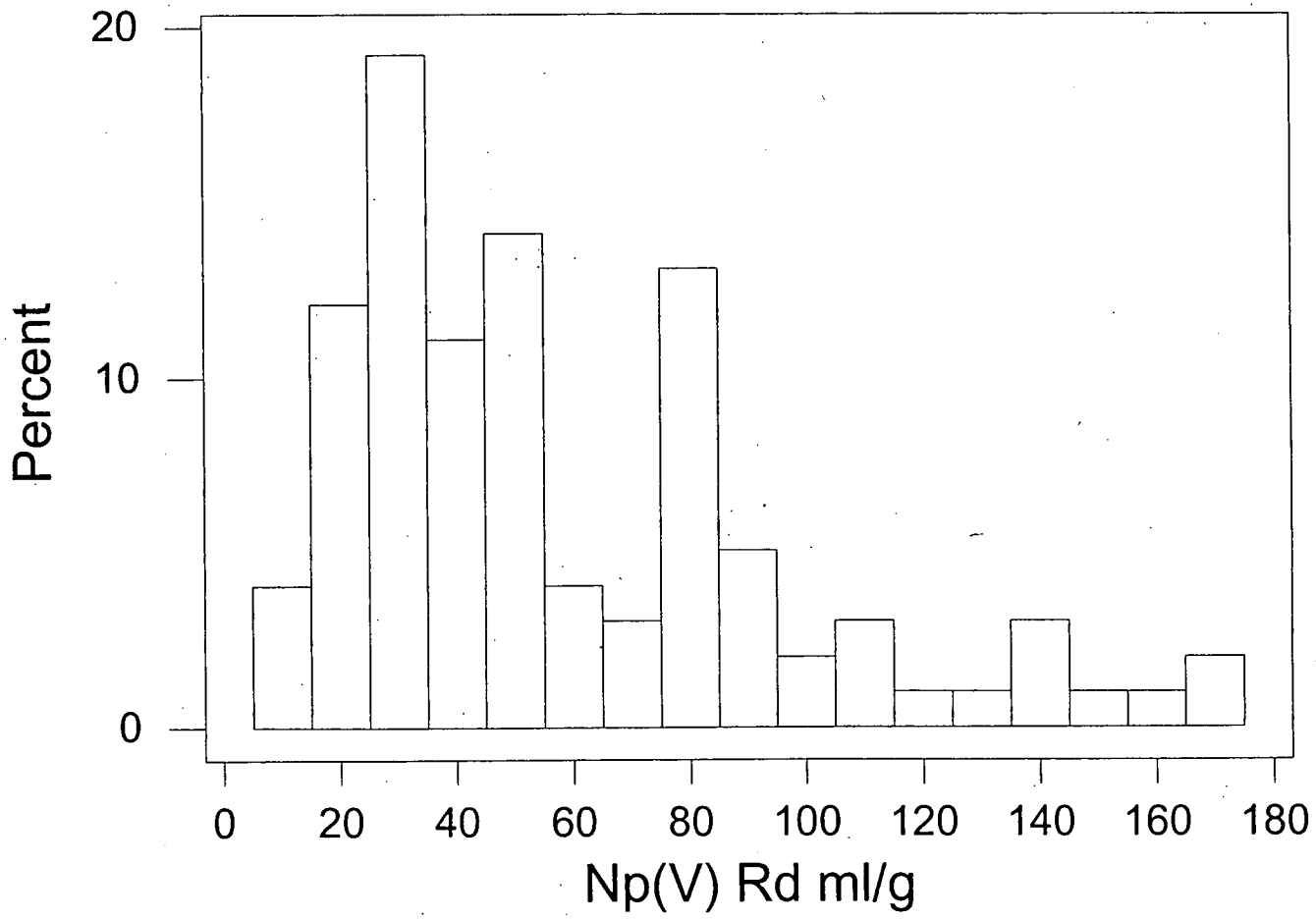
Location 3.86553

Scale 0.732239

Goodness of Fit

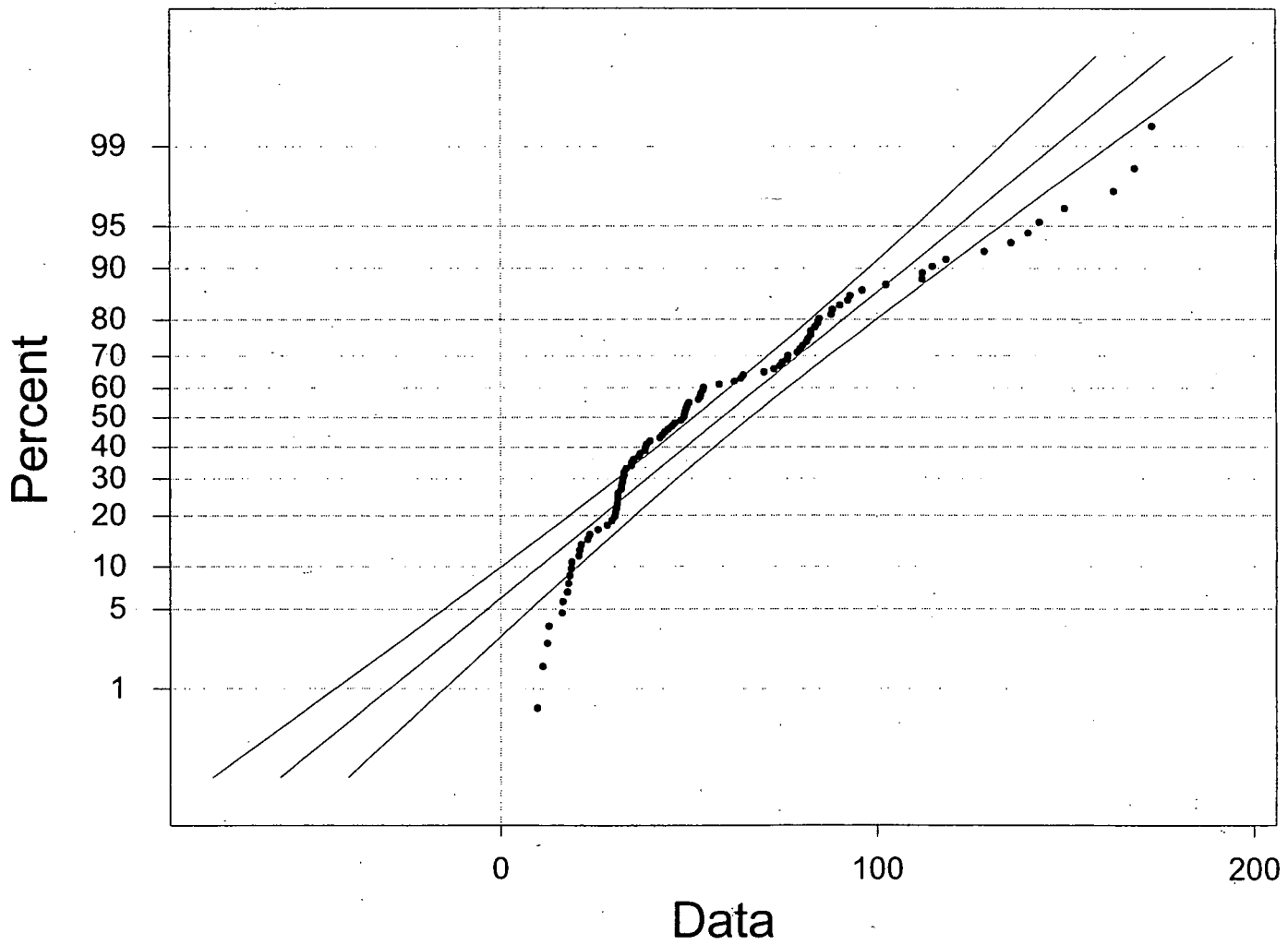
AD* 0.652

Histogram of Np(V) Rd Data for pH 7 to 8.5



Normal Probability Plot for Np(V) Rd

ML Estimates - 95% CI



ML Estimates

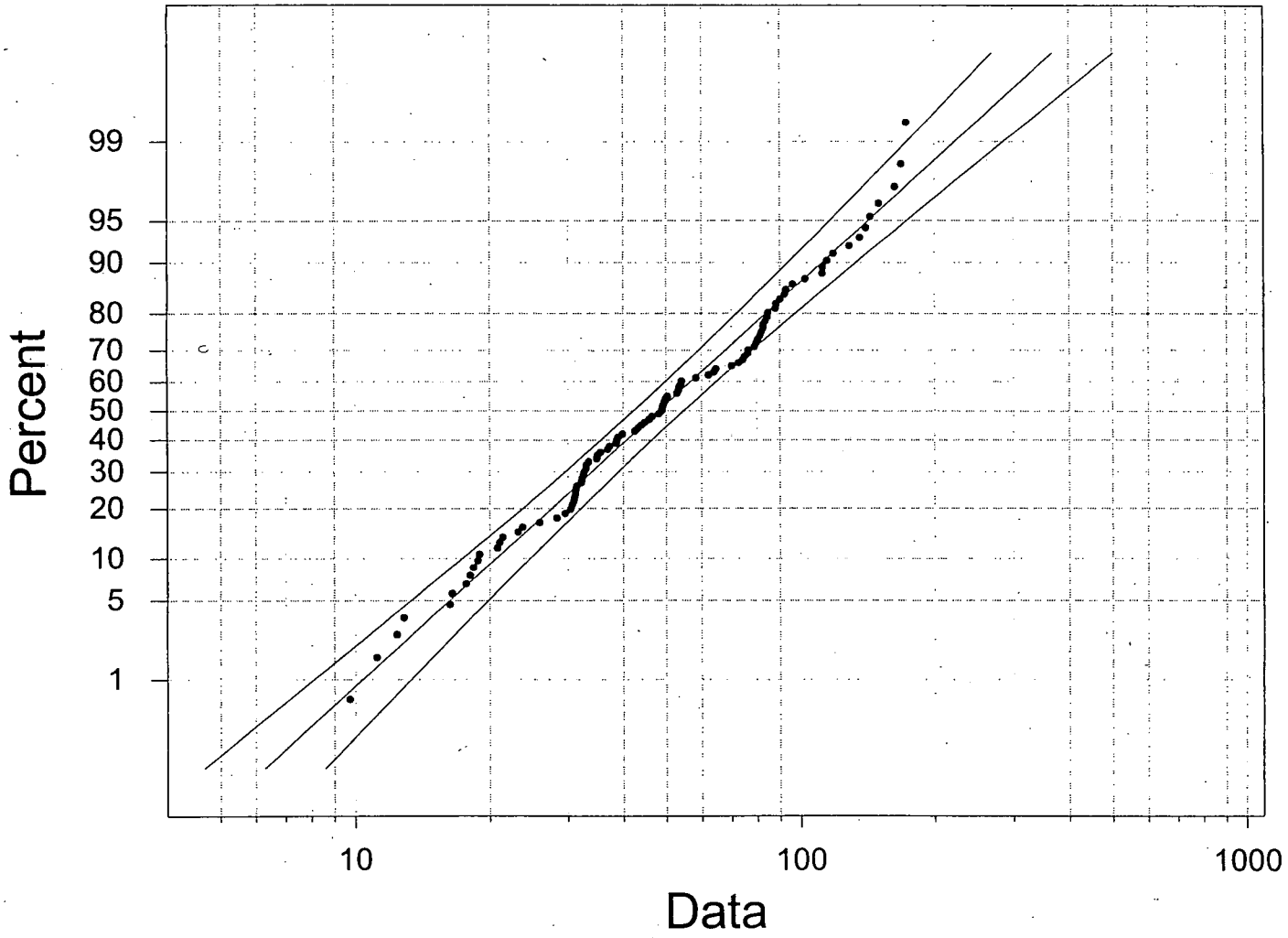
Mean	59.1008
StDev	38.0517

Goodness of Fit

AD*	3.219

Lognormal base e Probability Plot for Np(V) Rd

ML Estimates - 95% CI



ML Estimates

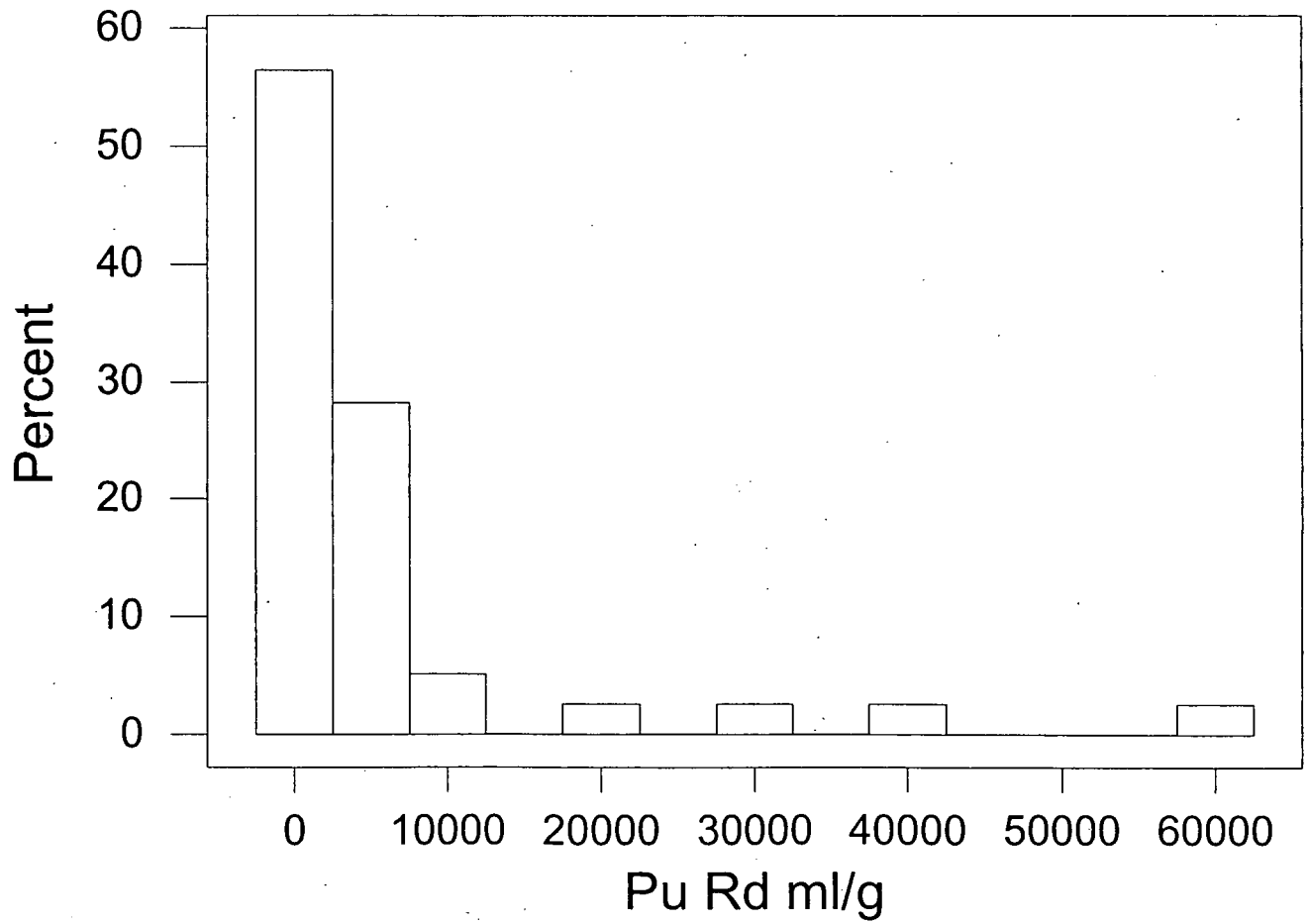
Location 3.87331

Scale 0.658961

Goodness of Fit

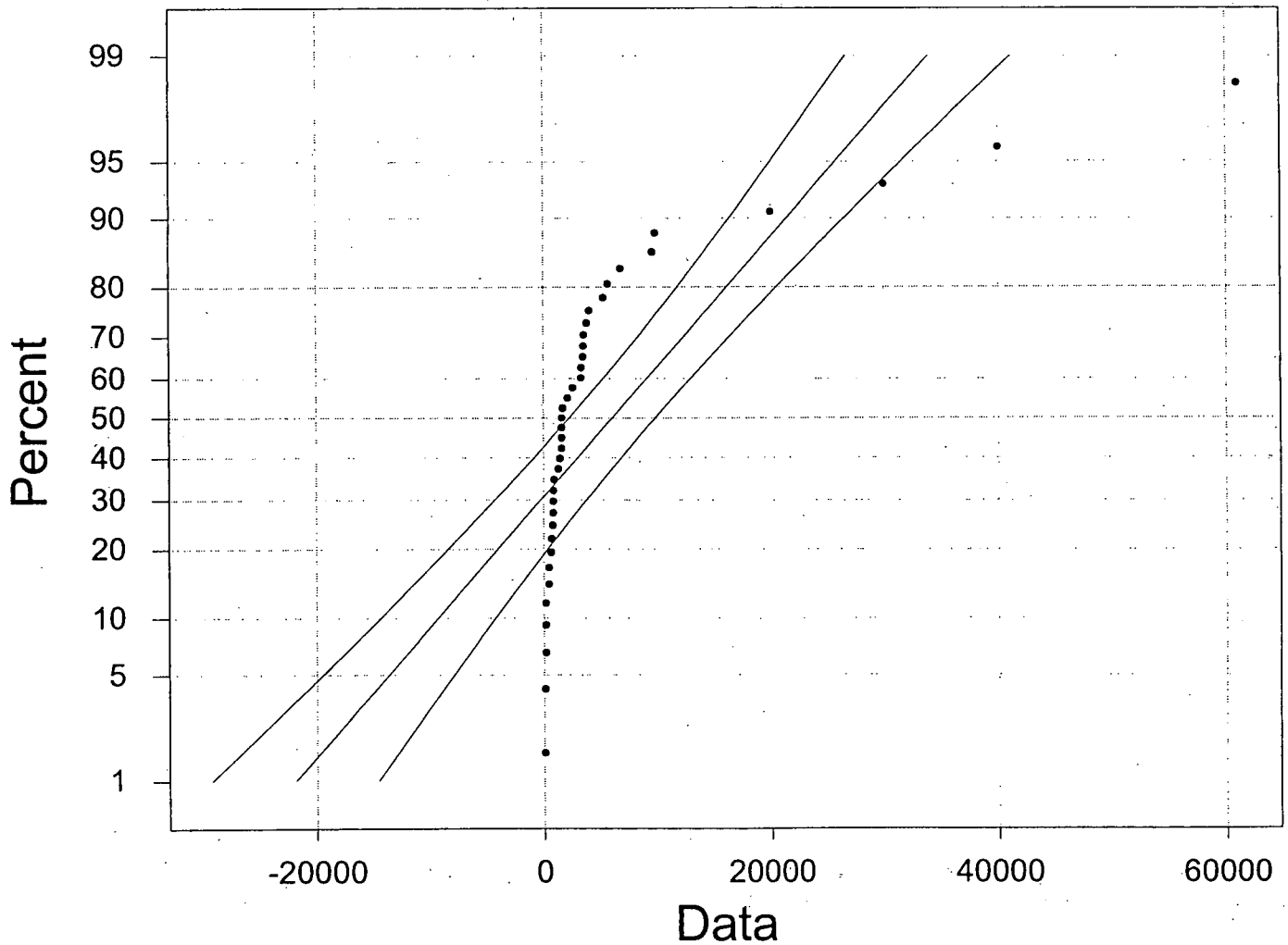
AD* 0.551

Histogram of Pu Rd Data for pH 7 to 8.5



Normal Probability Plot for Pu Rd

ML Estimates - 95% CI



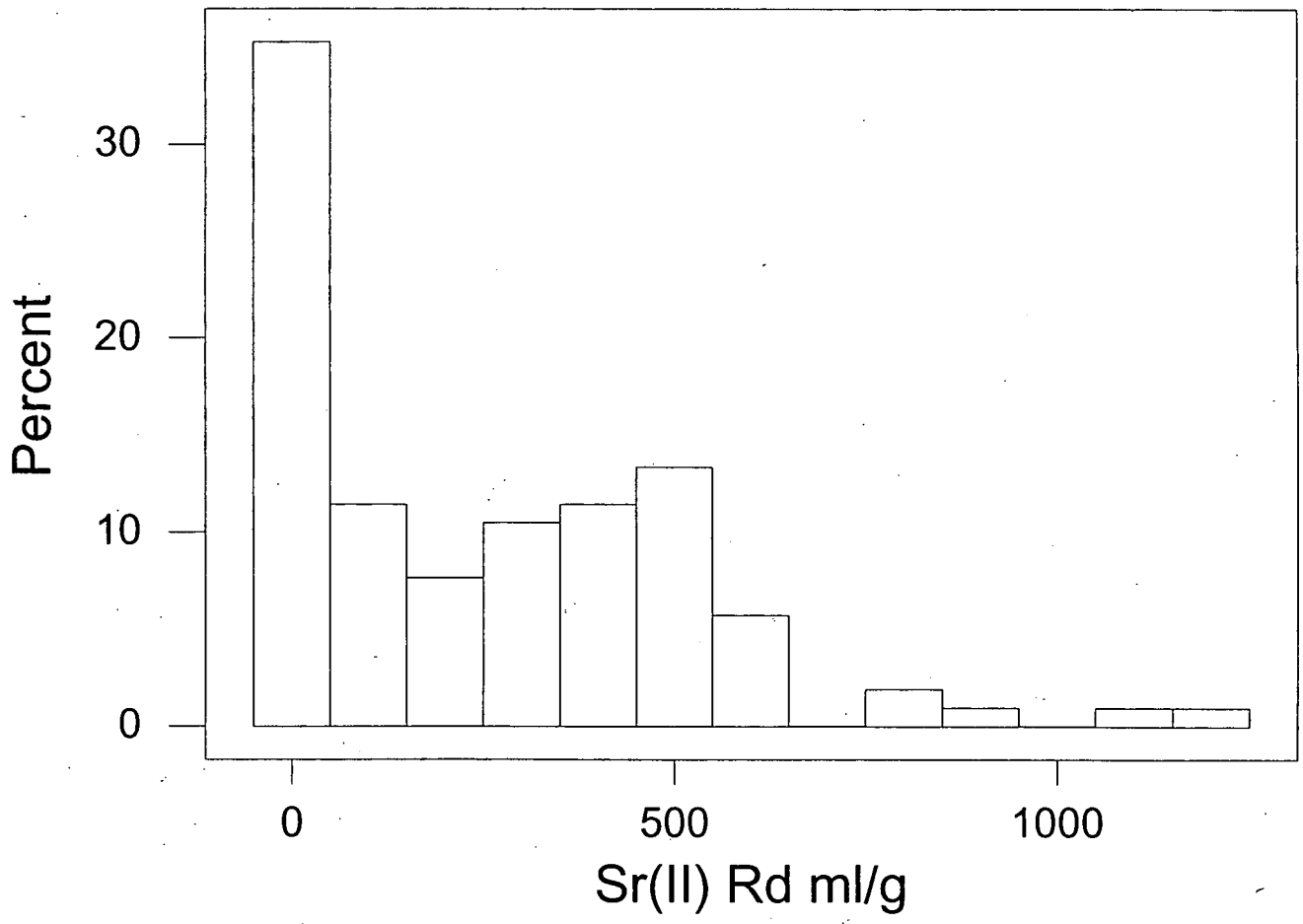
ML Estimates

Mean	6039.93
StDev	11997.1

Goodness of Fit

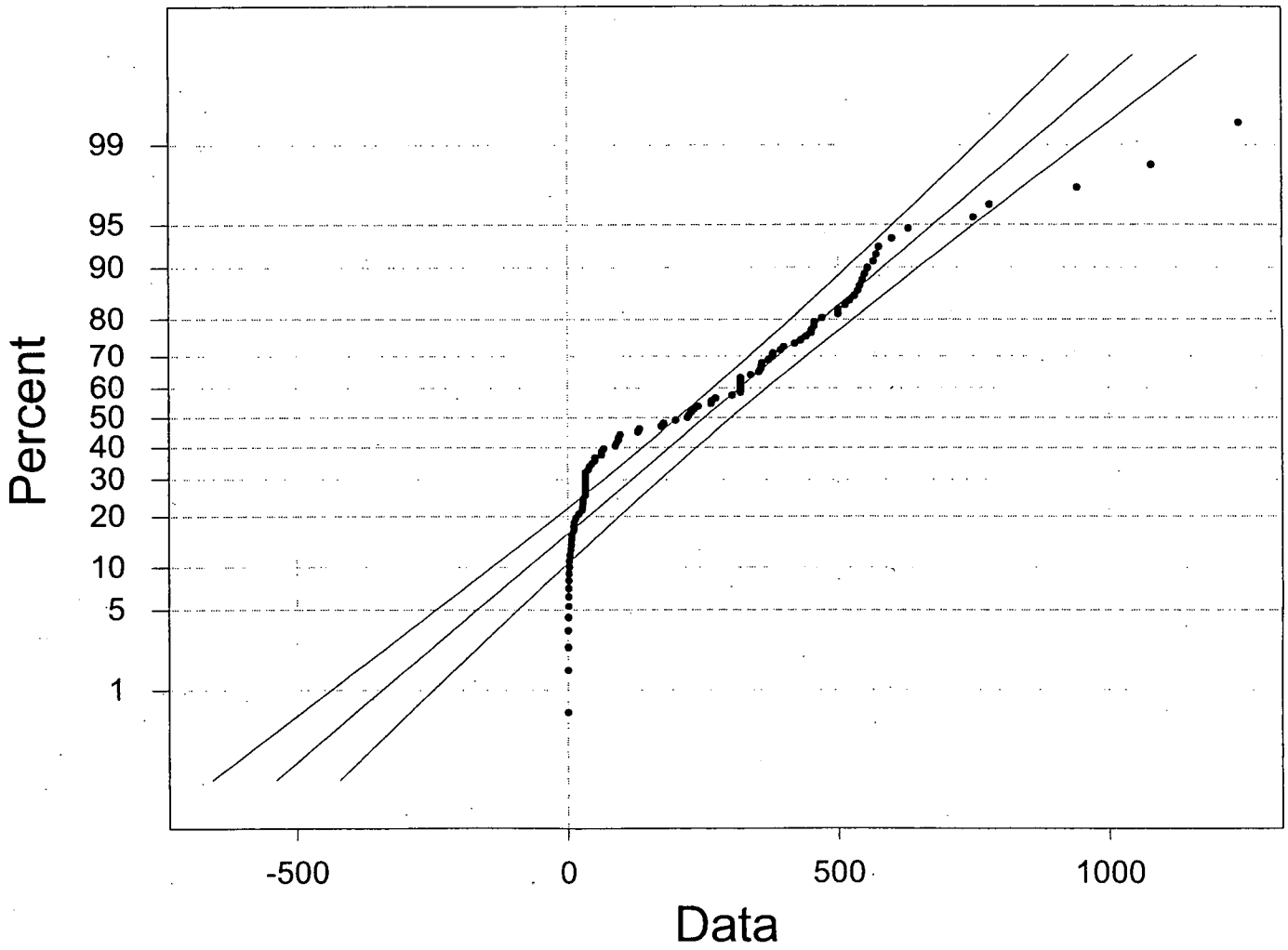
AD*	7.512

Histogram of Sr(II) Rd Data for pH 7 to 8.5



Normal Probability Plot for Sr(II) Rd

ML Estimates - 95% CI



ML Estimates

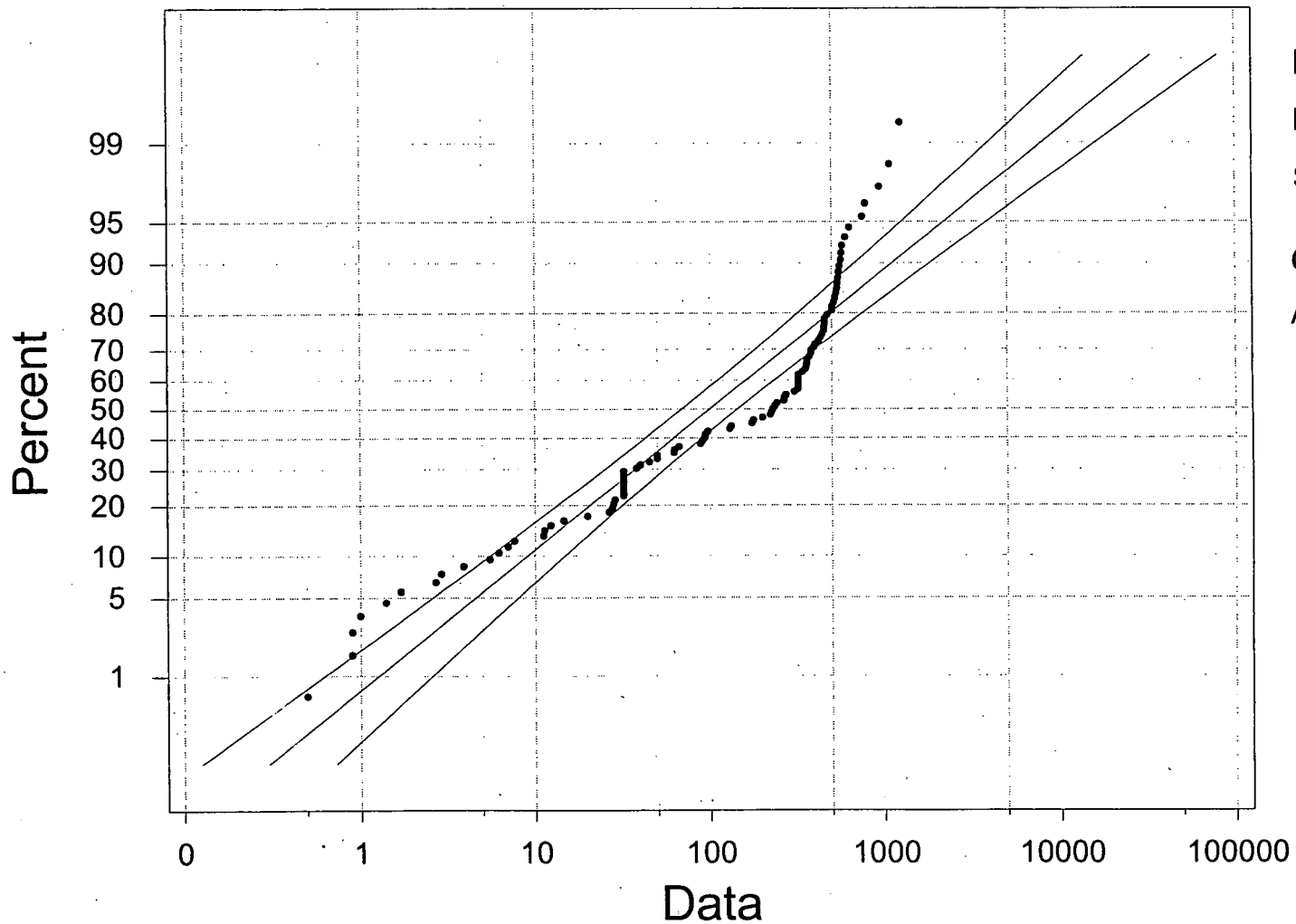
Mean	253.752
StDev	256.328

Goodness of Fit

AD*	4.104

Lognormal base e Probability Plot for Sr(II) Rd

ML Estimates - 95% CI



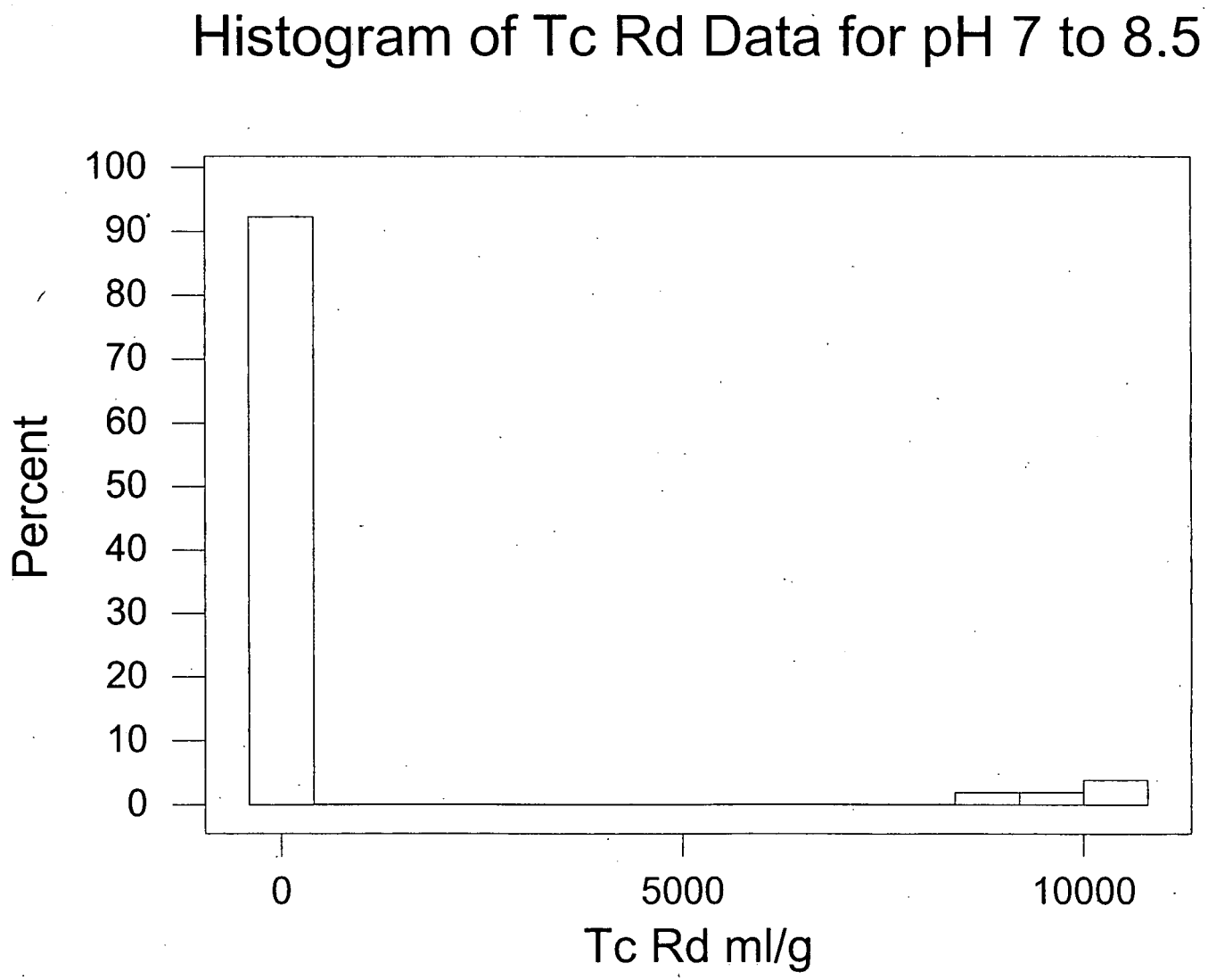
ML Estimates

Location 4.60859

Scale 1.87848

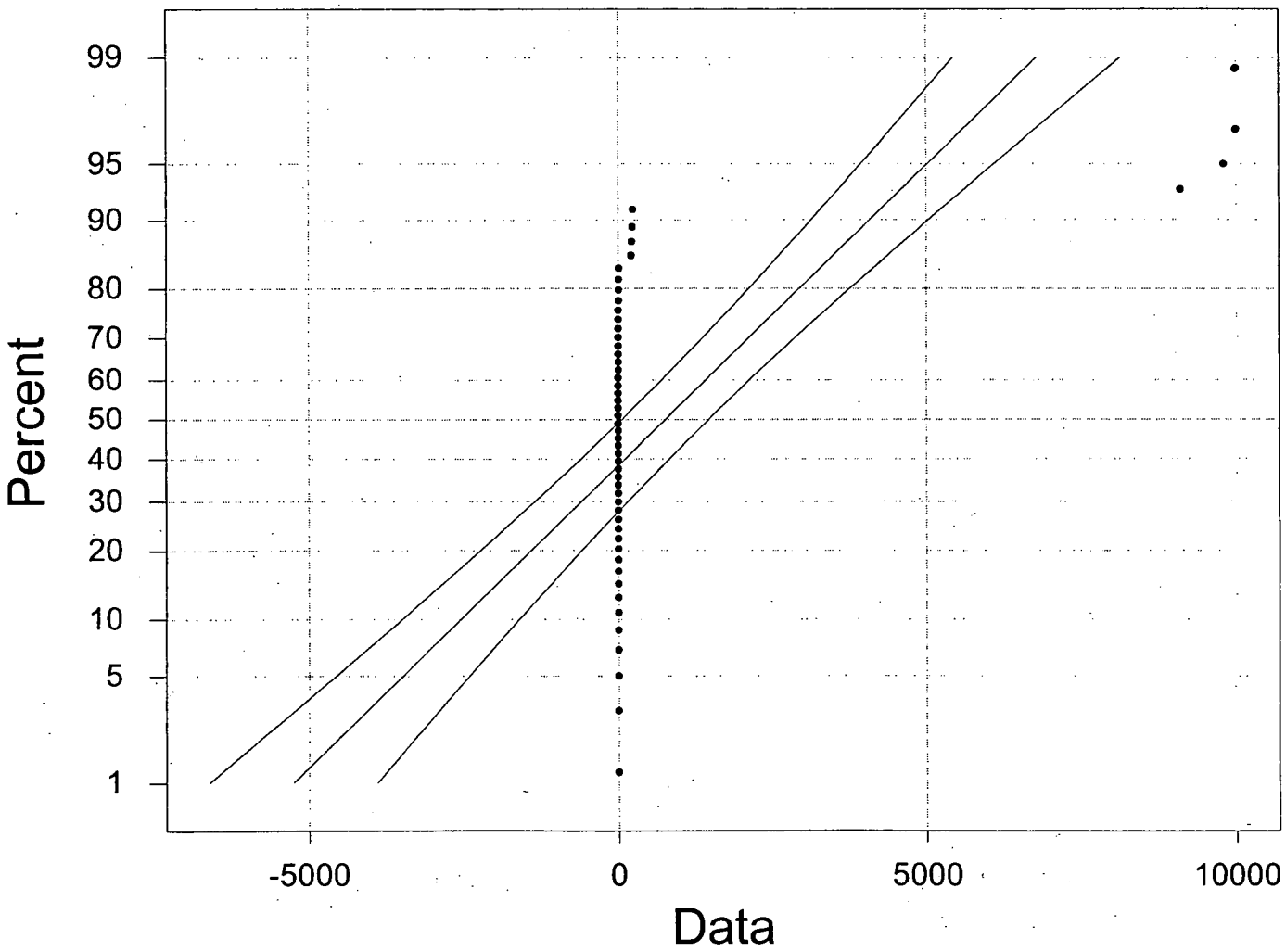
Goodness of Fit

AD* 4.396


Histogram of Tc Rd Data for pH 7 to 8.5
Percent
100
90
80
70
60
50
40
30
20
10
0
0
5000
10000
Tc Rd ml/g

Normal Probability Plot for Tc Rd

ML Estimates - 95% CI



ML Estimates

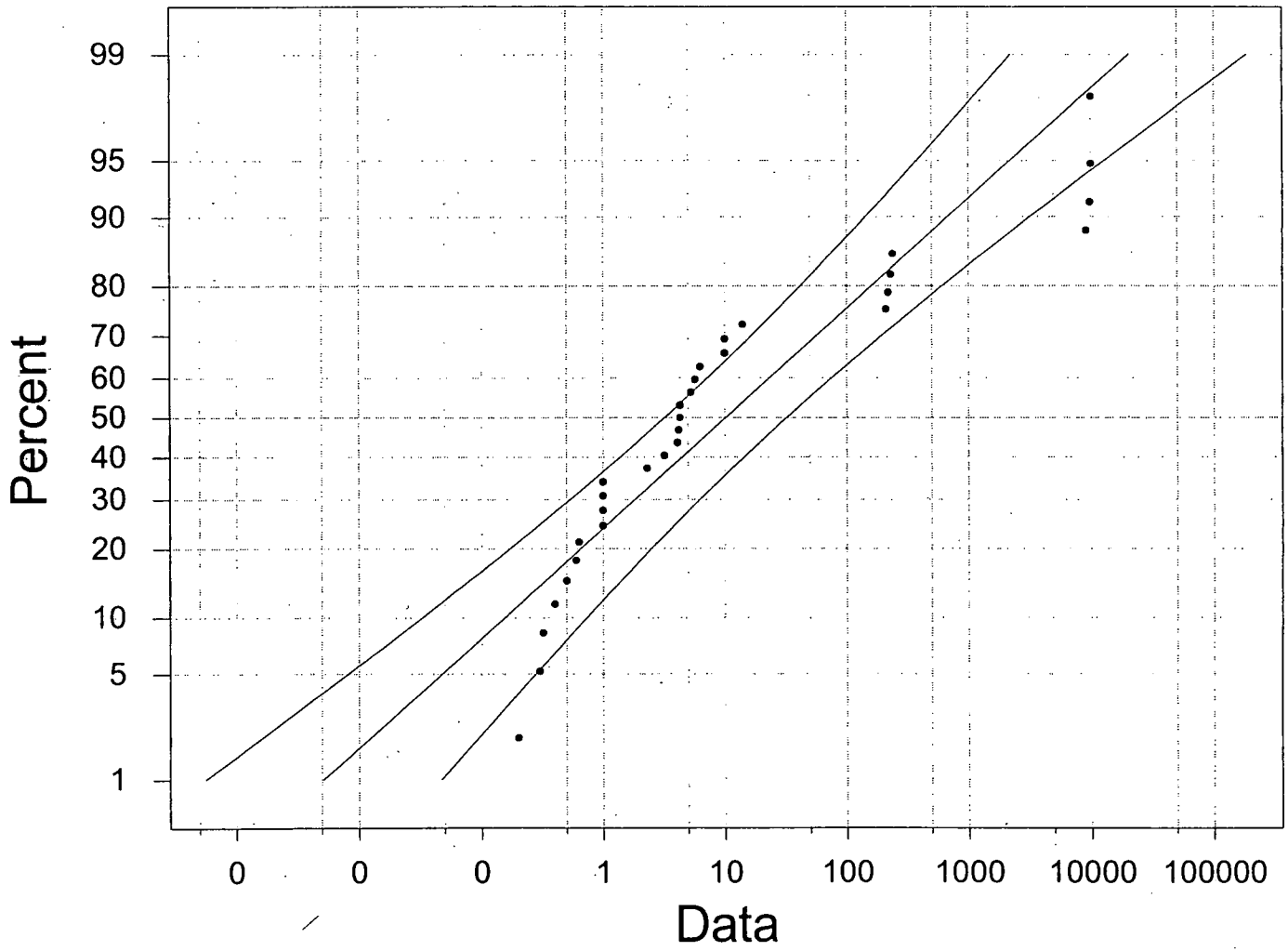
Mean	766.936
StDev	2588.69

Goodness of Fit

AD*	17.22

Lognormal base e Probability Plot for Tc Rd

ML Estimates - 95% CI



ML Estimates

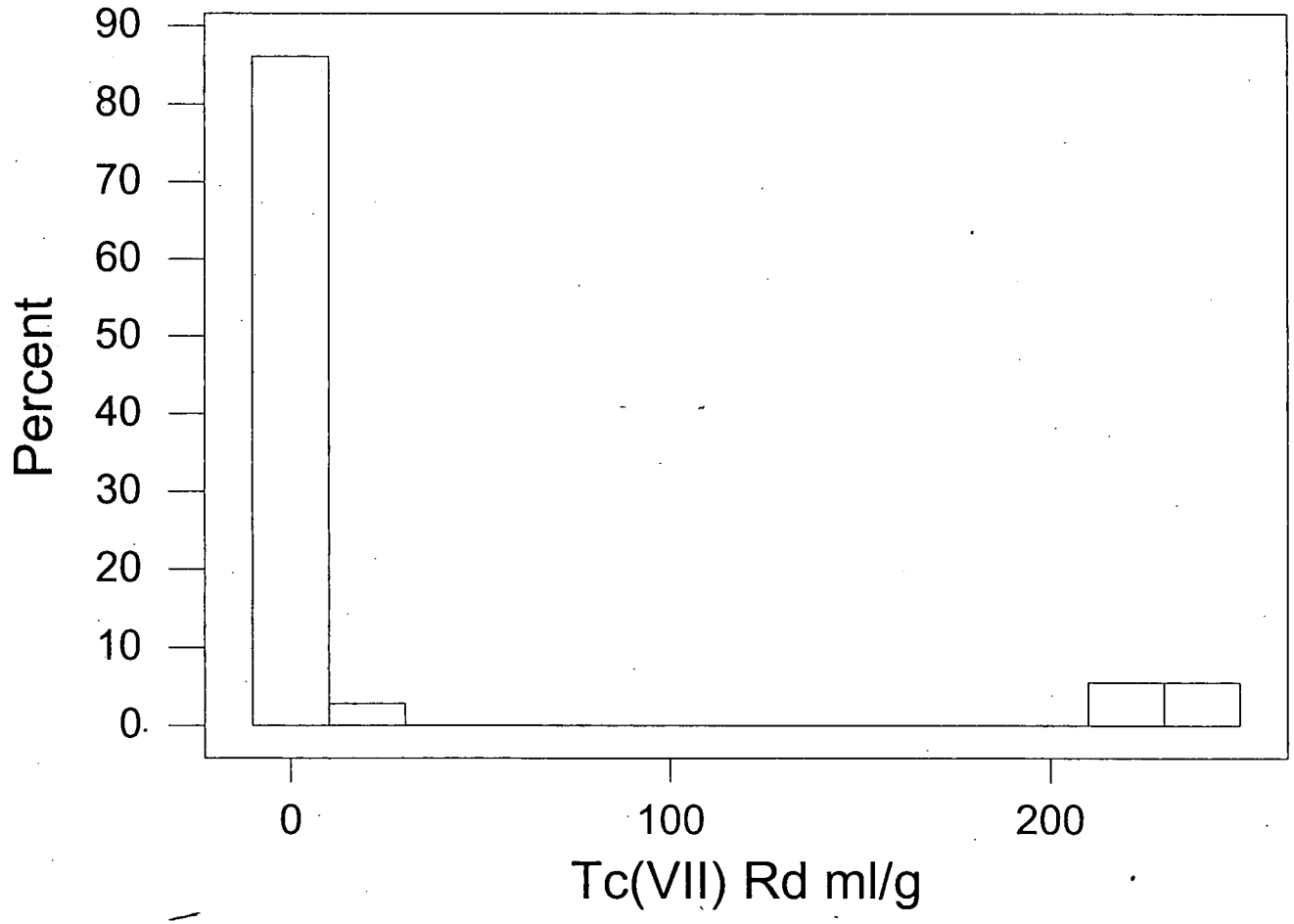
Location 2.32592

Scale 3.26792

Goodness of Fit

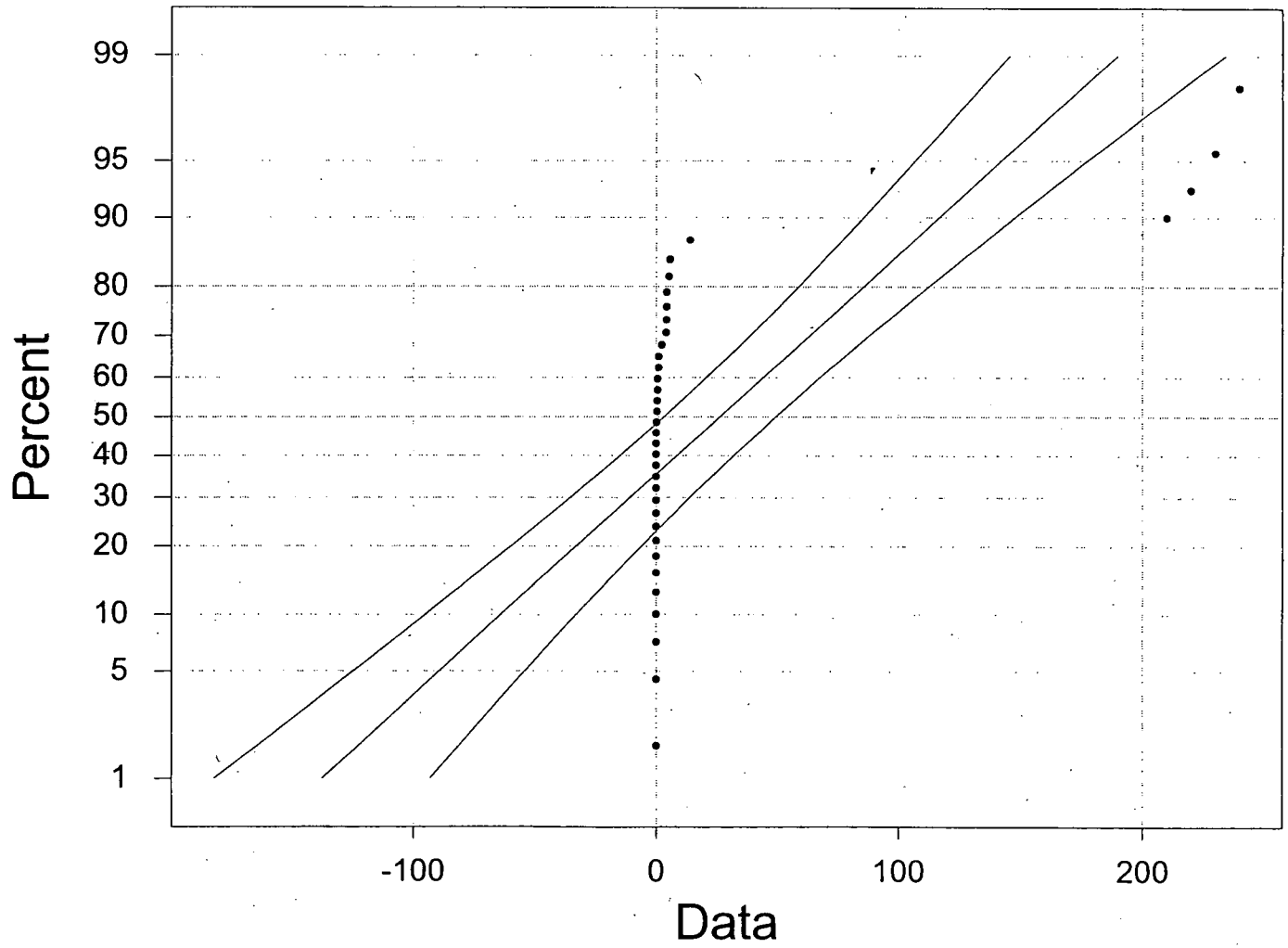
AD* 2.065

Histogram of Tc(VII) Rd Data for pH 7 to 8.5



Normal Probability Plot for Tc(VII) Rd

ML Estimates - 95% CI



ML Estimates

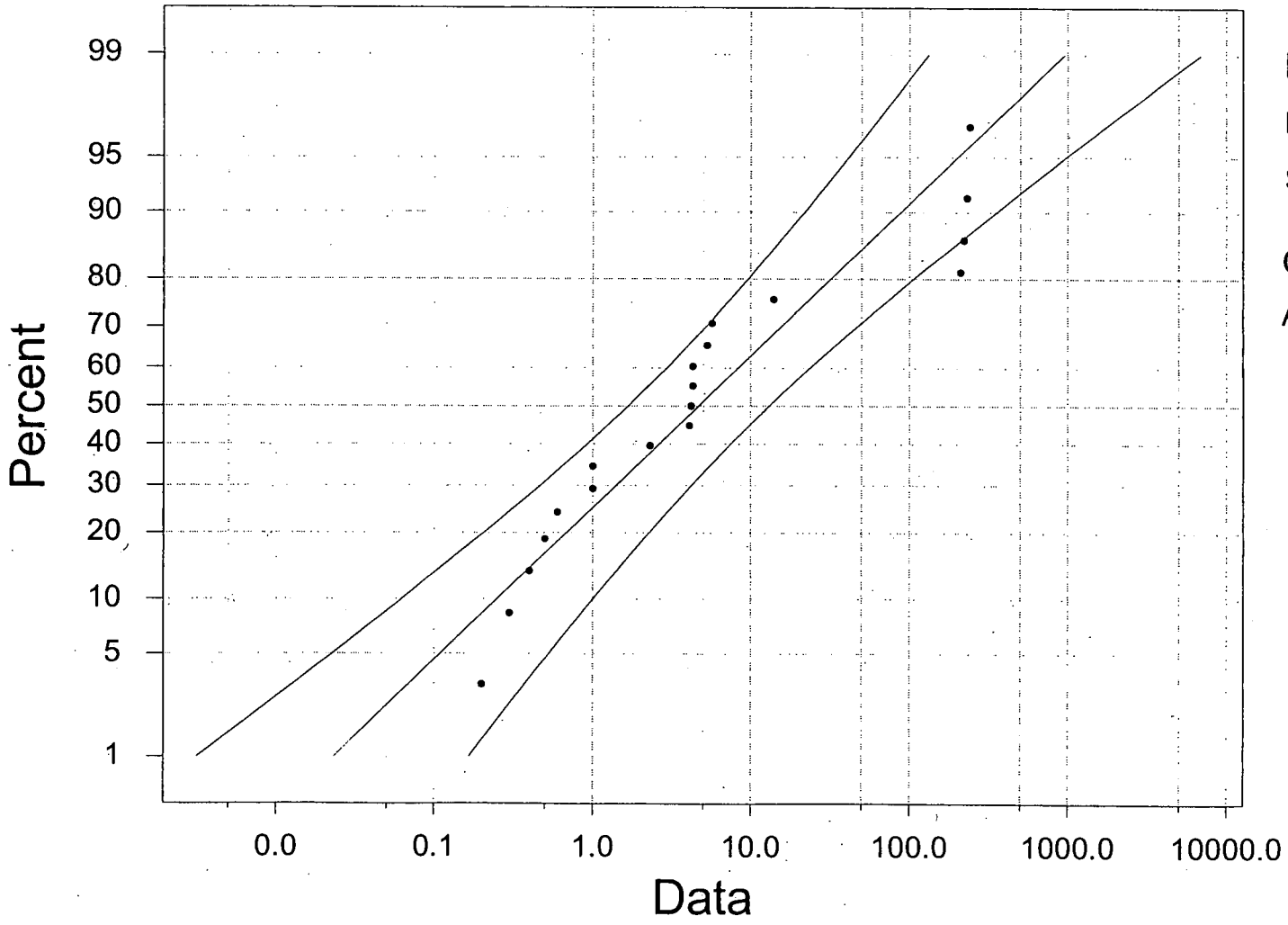
Mean	26.3389
StDev	70.3881

Goodness of Fit

AD*	10.72

Lognormal base e Probability Plot for Tc(VII) Rd

ML Estimates - 95% CI



ML Estimates

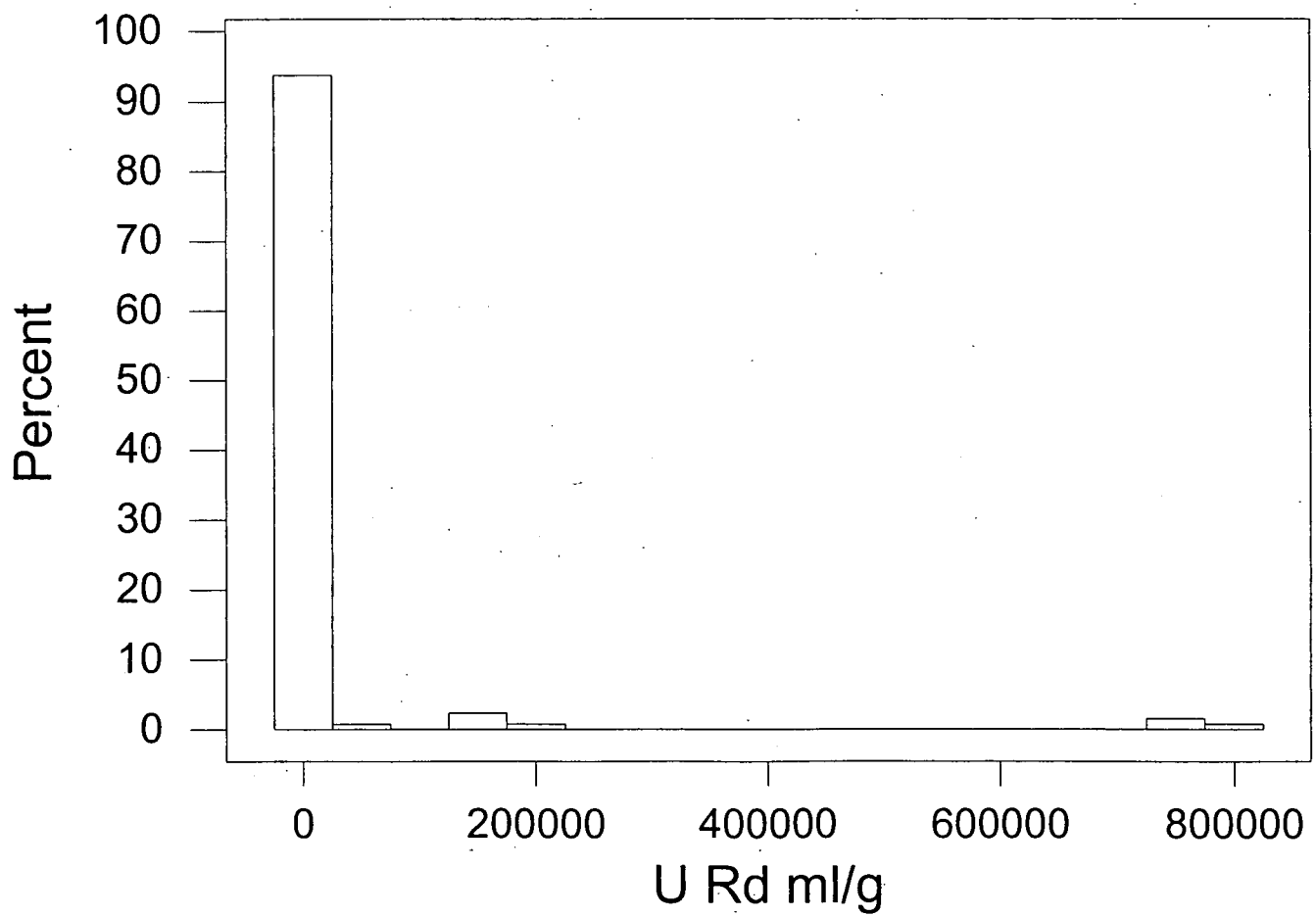
Location 1.54575

Scale 2.28601

Goodness of Fit

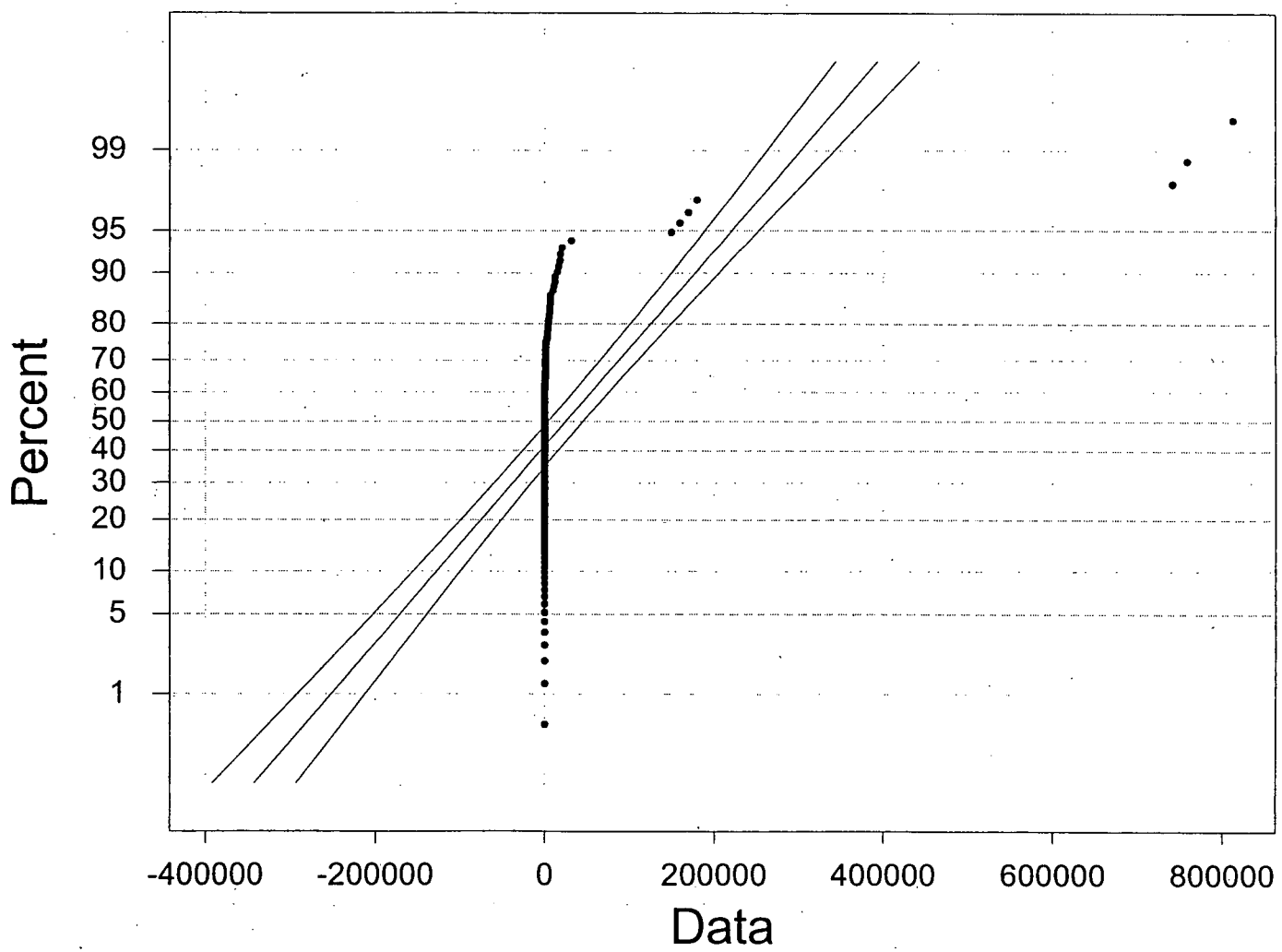
AD* 1.418

Histogram of Uranium Rd Data for pH 7 to 8.5



Normal Probability Plot for U Rd

ML Estimates - 95% CI



ML Estimates

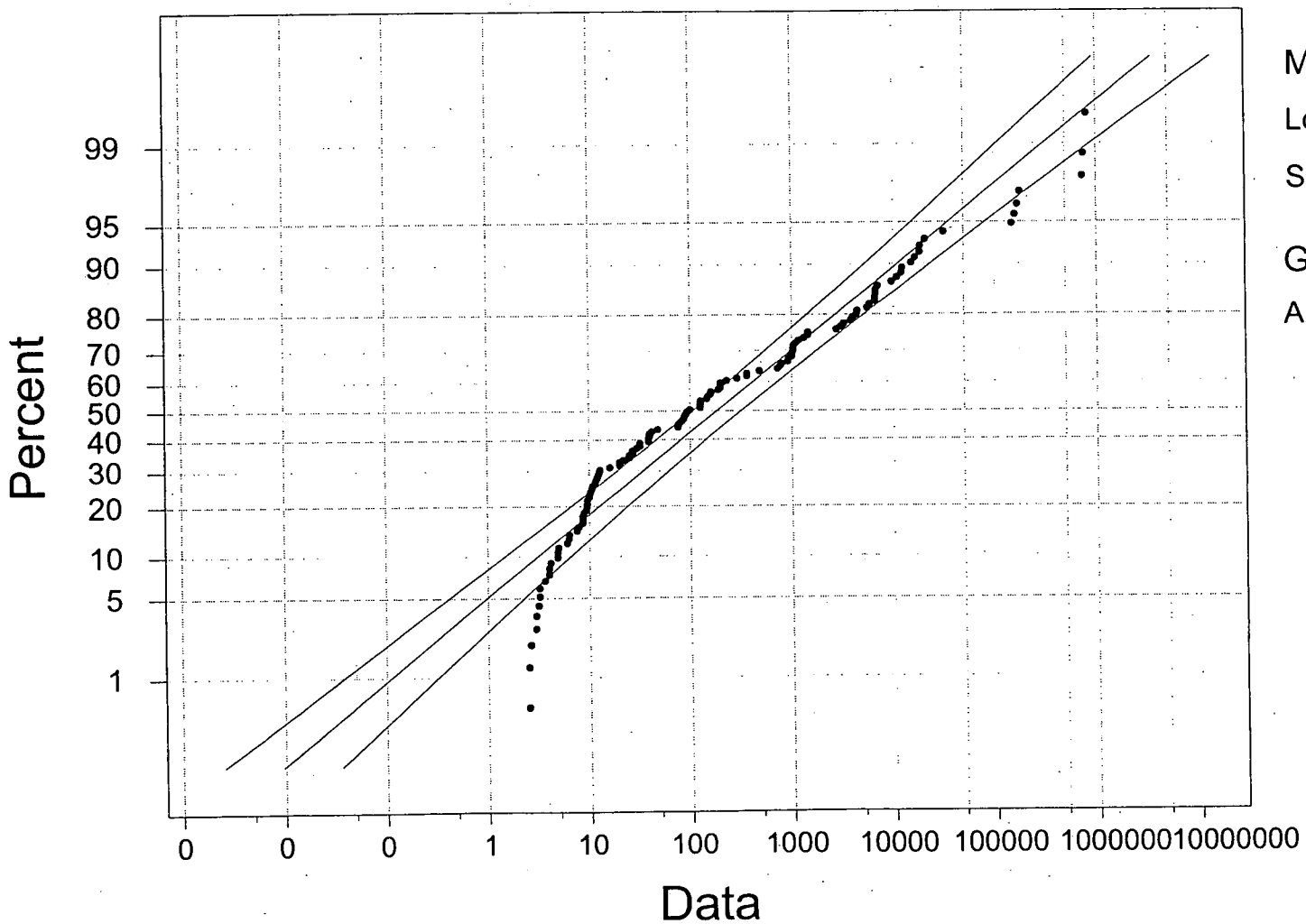
Mean	25230.7
StDev	119147

Goodness of Fit

AD*	40.95

Lognormal base e Probability Plot for U Rd

ML Estimates - 95% CI



ML Estimates

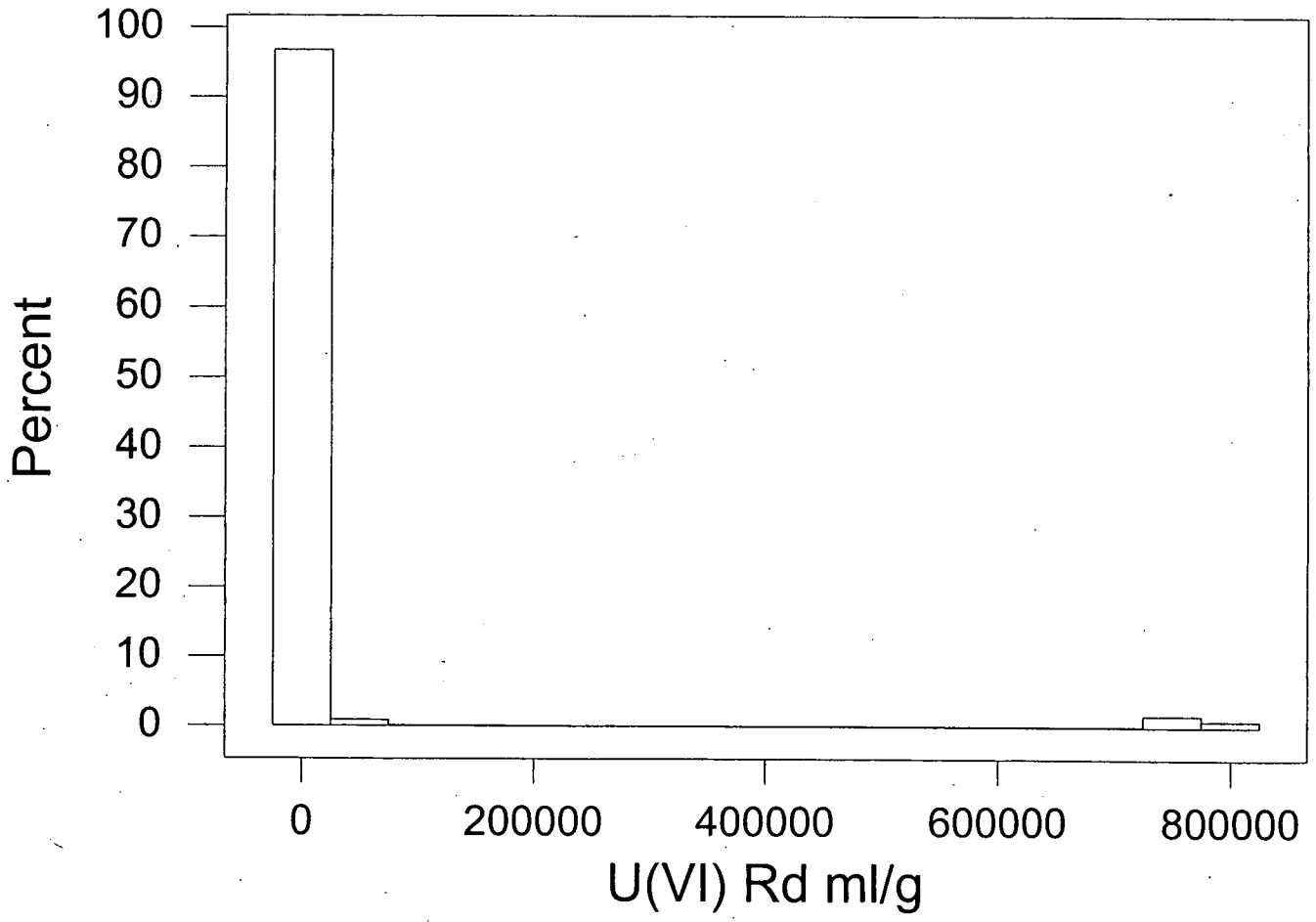
Location 5.21691

Scale 3.19176

Goodness of Fit

AD* 2.493

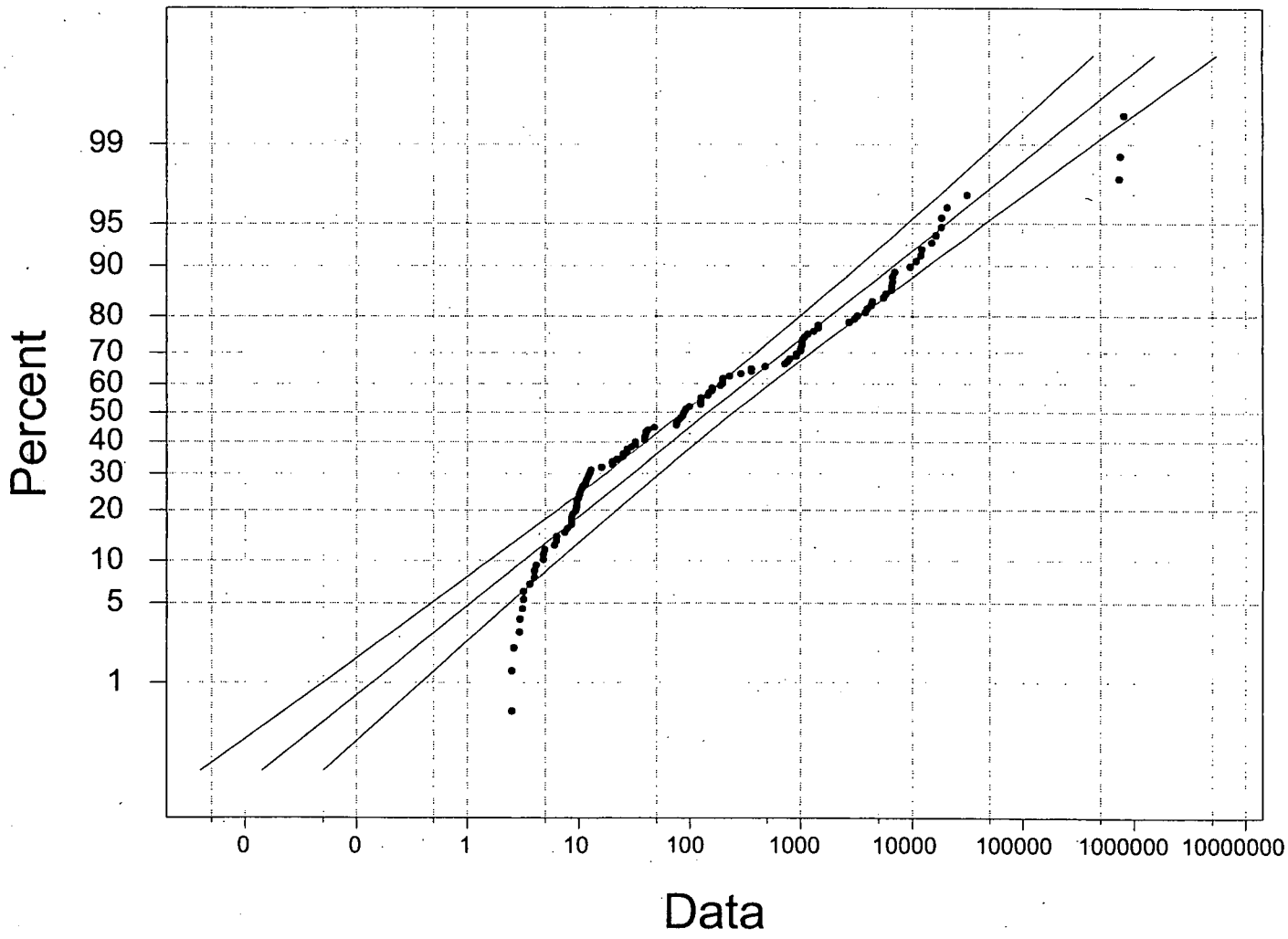
Histogram of U(VI) Rd Data for pH 7 to 8.5



12/72

Lognormal base e Probability Plot for U(VI) Rd

ML Estimates - 95% CI



ML Estimates

Location 4.99773

Scale 2.99643

Goodness of Fit

AD* 2.374