What is Claimed:

1. A modified clay sorbent for sorbing PFAS compounds from a contaminated sample, comprising:

a clay intercalated with one or more multifunctional-quaternary amine compounds having a functionality of 3 or more and one or more mono-quaternary amine compounds.

2. The modified clay sorbent of claim 1, wherein the clay is intercalated with the one or more multifunctional-quaternary amine compounds and one or more mono-quaternary amine compounds to at least 50% of the total cationic exchange capacity of the clay.

3. A modified clay sorbent for sorbing PFAS compounds from a contaminated sample, comprising:

a first modified clay comprising a clay intercalated with the one or more mono-quaternary amine compounds; and

a second modified clay comprising a clay intercalated with the one or more multifunctional-quaternary amine compounds having a functionality of 3 or more.

4. The modified clay sorbent of any one of the preceding claims, wherein the one or more multifunctional-quaternary amine compounds are present in a mole percent of 20 mol% to 80 mol% based on the total moles of quaternary amine compound present in the modified clay sorbent.

5. The modified clay sorbent of claims 3 or 4, wherein the first modified clay and the second modified clay are each intercalated with the respective one or more mono-quaternary amine compounds and multifunctional-quaternary amine compounds to at least 50% of the cationic exchange capacity of the respective first or second modified clay.

6. The modified clay sorbent of any one of the preceding claims, wherein the one or more multifunctional-quaternary amine compounds have 18 or more carbons.

7. The modified clay sorbent of any one of the preceding claims, wherein the clay is one or more of attapulgite, bentonite, montmorillonite, nontronite, beidellite, volkonskoite, hectorite, sapponite, sauconite, sobockite, stevensite, svinfordite, vermiculite, palygorskite, kalonite, and sepiolite.

8. The modified clay sorbent of any one of the preceding claims, wherein the modified clay sorbent is present in a mat.

9. The modified clay sorbent of any one of the preceding claims, wherein the mono-functional quaternary amine is one or more of dimethyl di(C14-C18 alkyl) ammonium chloride.

10. A kit comprising: the modified clay sorbent of any one of the preceding claims and instructions for adding the clay sorbent to a contaminated sample for sorption of PFAS compounds.

11. A kit comprising:

the modified clay sorbent of claim 3, wherein the first and second modified clays are present as separate components, and

instructions for adding the first modified clay and the second modified clay individually to a contaminated sample to form the modified clay sorbent in amounts such that the one or more multifunctional-quaternary amine compounds are present in an amount of 20 mol% to 80 mol% based on the total moles of quaternary amine compounds added to the sample.

12. The kit of claim 11, wherein the first and second modified clays are added in amounts such that the one or more multifunctional-quaternary amine compounds are present in an amount of 20 mol% to 80 mol% based on the total moles of quaternary amine compounds added to the sample.

13. The kit of claim 11 or 12, wherein the first and second modified clays are added substantially simultaneously.

14. The kit of claim 11 or 12, wherein the first and second modified clays are added sequentially.

15. A method of sorbing PFAS compounds from a contaminated sample, comprising:

admixing a modified clay sorbent with the sample, wherein the modified clay sorbent comprises a clay intercalated with a one or more mono-quaternary amine compounds and one or more multifunctional-quaternary amine compounds having a functionality of 3 or more, or

admixing a clay, one or more mono-quaternary amine compounds, and one or more multifunctional-quaternary amine compounds with the sample, wherein the clay is intercalated with the one or more mono-quaternary amine compounds and the one or more multifunctional-quaternary amine compounds *in situ* to form a modified clay sorbent for sorbing PFAS compounds from the contaminated sample.

16. The method of claim 15, wherein the one or more multifunctional-quaternary amine compounds are present in an amount of at least 20 mol% based on the total moles of the quaternary amine compounds in the modified clay sorbent.

17. A method of sorbing PFAS compounds from a contaminated sample, comprising:

admixing a modified clay sorbent with the sample, wherein the modified clay sorbent comprises a first modified clay comprising a clay intercalated with a one or more mono-quaternary amine compounds and a second modified clay comprising a clay intercalated with one or more multifunctional-quaternary amine compounds having a functionality of 3 or more.

18. The method of claim 17, wherein a ratio of an amount of the first modified clay to the amount of the second modified clay is selected such that the one or more multifunctional-quaternary amine compounds are present in an amount of 20 mol% to 80 mol% based on the total moles of the quaternary amine compounds admixed with the sample.

19. The method of any one of claims 15 to 18, wherein the one or more multifunctional-quaternary amine compounds comprises at least 18 carbons.

20. The method of any one of claims 15 to 19, wherein the clay is one or more of attapulgite, bentonite, montmorillonite, nontronite, beidellite, volkonskoite, hectorite, sapponite, sauconite, sobockite, stevensite, svinfordite, vermiculite, palygorskite, kalonite, and sepiolite.

21. The method of any one of claims 15 to 20, where the sorbent is capable of adsorbing at least 0.2 milligrams of PFAS compounds per gram of modified clay sorbent.

22. The method of any one of claims 15 to 21, wherein the sample is a contaminated soil, and the method comprises mixing the contaminated soil and the modified clay sorbent such that the modified clay sorbent is present in an amount of greater than 0.5 wt% of the modified clay sorbent in the mixture.

23. The method of any one of claims 15 to 22, wherein the sample is a contaminated waste water stream, and the method comprises admixing the modified clay sorbent and the contaminated water stream by passing the contaminated water through a bed of the modified clay sorbent at a flow rate to maintain a contact time of the contaminated water with the bed of at least 1 minute.

24. The method of any one of claims 15 to 22, wherein the modified clay sorbent in in the form of a prepacked permeable mat or gabion.

25. The method of any one of claims 15 to 22, wherein the modified clay sorbent in a granular or powder form into a body of water such that the modified clay forms a permeable reactive barrier layer.

26. The method of any one of claims 15 to 22, comprising the treatment of PFAS compounds from a contaminated water stream by mixing the modified clay and contaminated water in a tank.

27. The method of any one of claims 15 to 22, comprising the treatment of PFAS compounds from a contaminated water stream by injecting a suspension of the modified clay into contaminated soil and or a contaminated groundwater plume.