Electronic Supplementary Material (ESI) for Environmental Science: Processes & Impacts.
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Title: Reduction and persulfate oxidation of nitro explosives in contaminated soils using Fe-bearing materials

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Electronic Supplementary Information

Number of pages: 7 (including a cover page)

Number of figures: 6

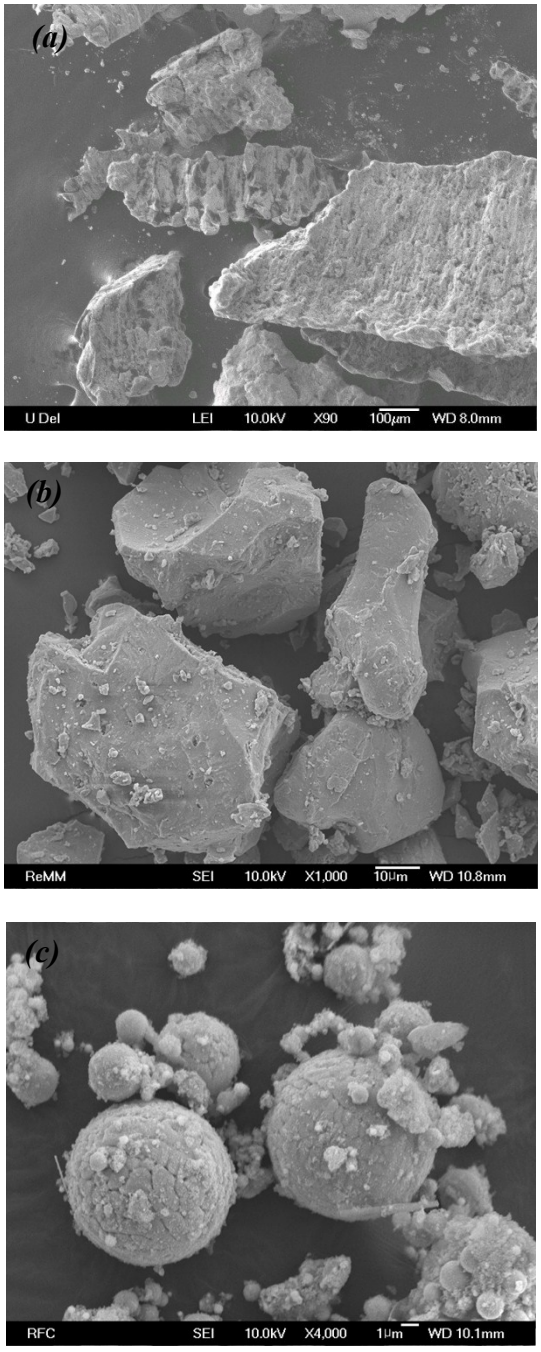

Fig. S1. Scanning electron microscopy (SEM) images of (a) Peerless iron, (b) iron sulfide, and (c) steel dust.

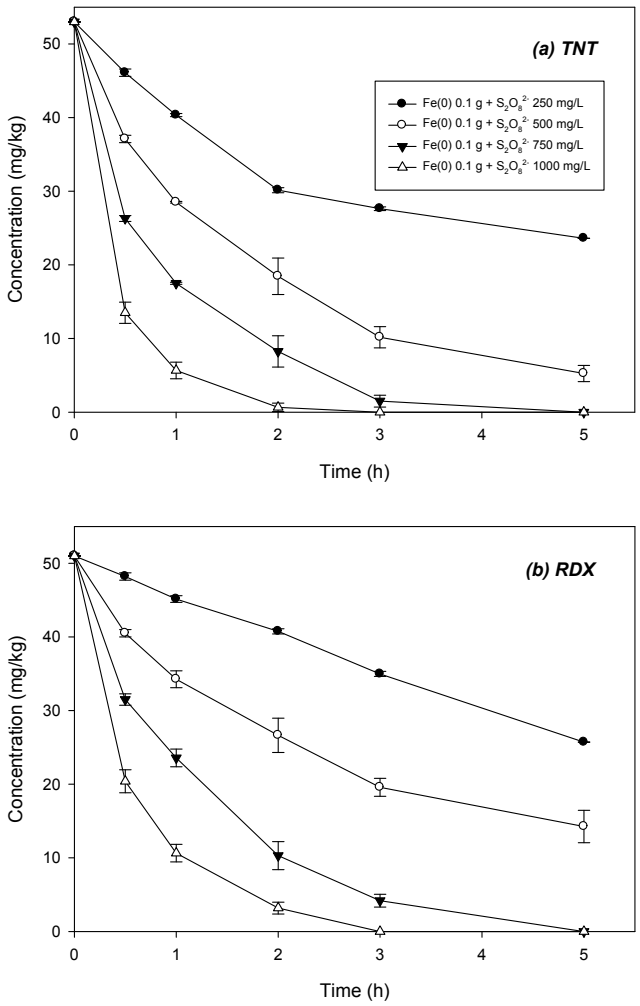

Fig. S2. Removal of explosives from contaminated soil by $S_2O_8^{2-}$ (250-1000 mg/L) activated with 0.1 g of Fe(0): (a) 2,4,6-trinitrotoluene (TNT) and (b) hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX). Data points are the average of triplicate samples, and error bars represent one standard deviation.

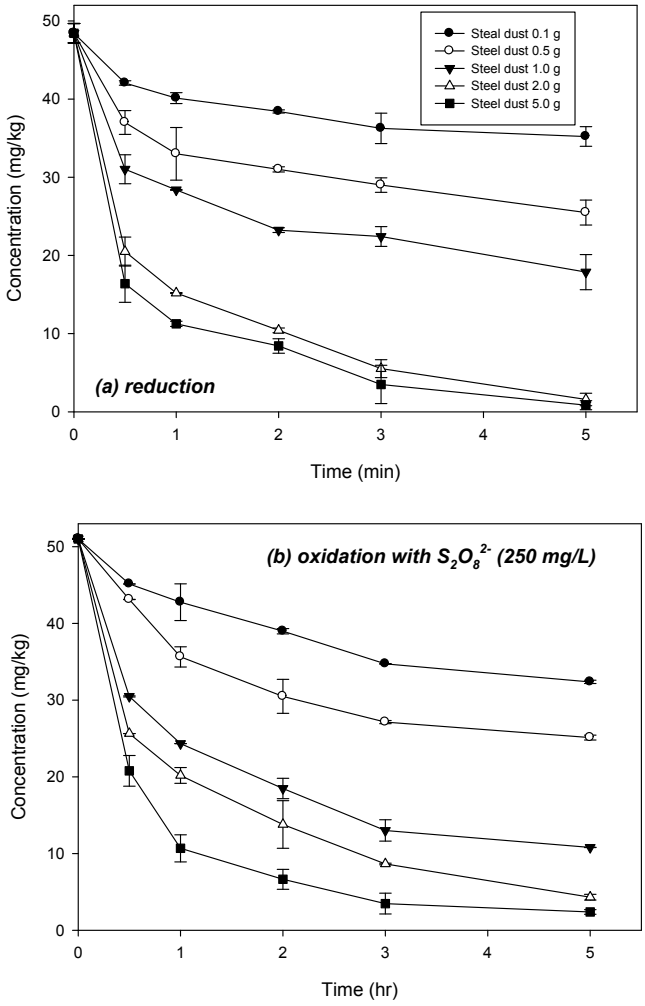

Fig. S3. Removal of RDX by (a) reduction with steel dust and (b) oxidation with steel dust-activated $S_2O_8^{2-}$. Data points are the average of triplicate samples, and error bars represent one standard deviation

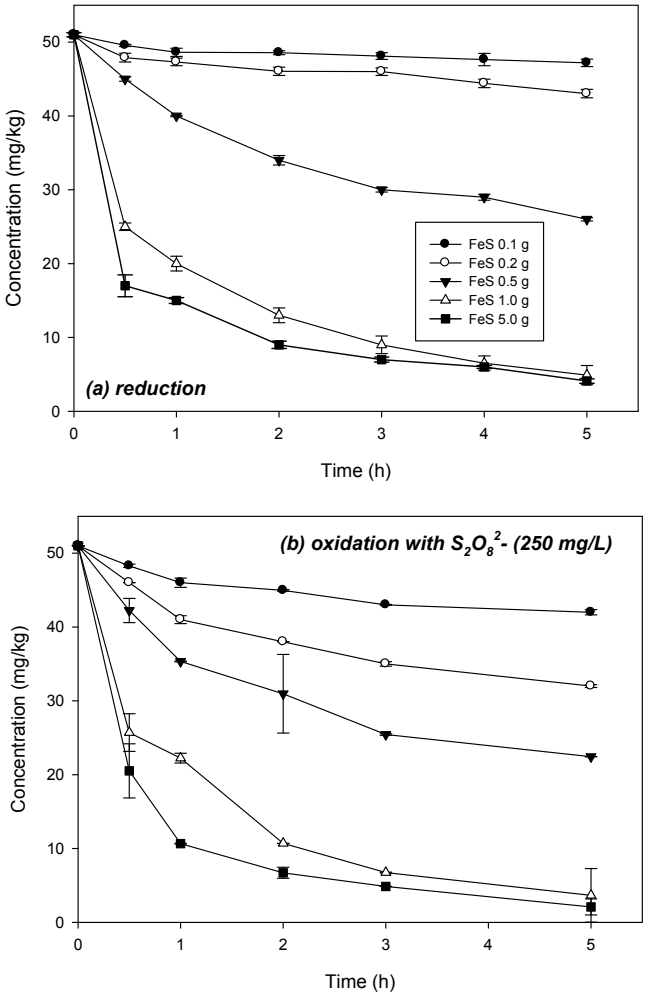

Fig. S4. Removal of RDX by (a) reduction with FeS and (b) oxidation with FeS-activated $S_2O_8^{2-}$. Data points are the average of triplicate samples, and error bars represent one standard deviation.

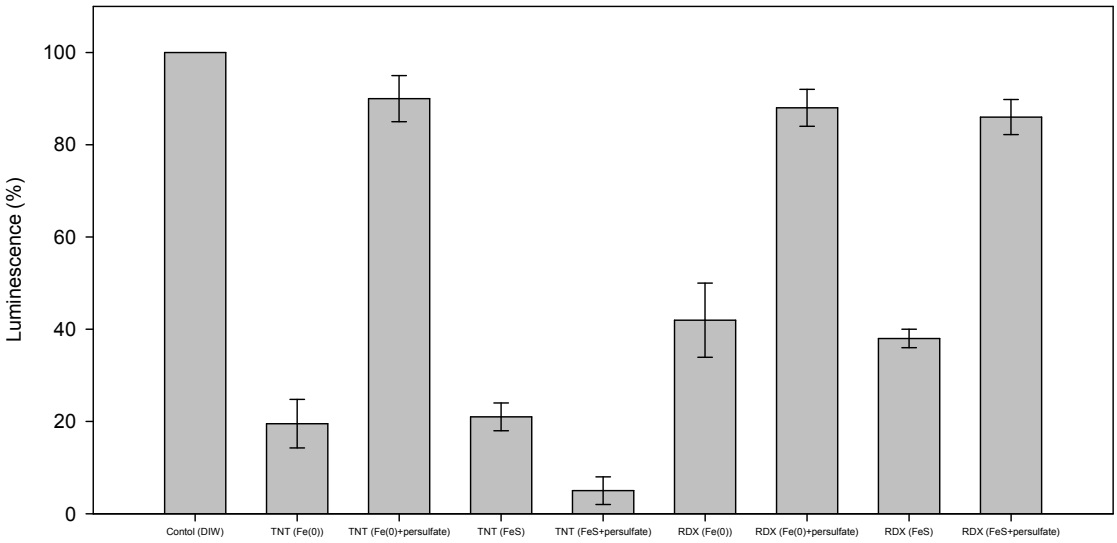

Fig. S5. Microtox® bioassay of effluents from explosive-contaminated soils treated by redox reactions using Fe(0)/FeS and persulfate. Data points are the averages of duplicate samples and error bars represent one standard deviation.

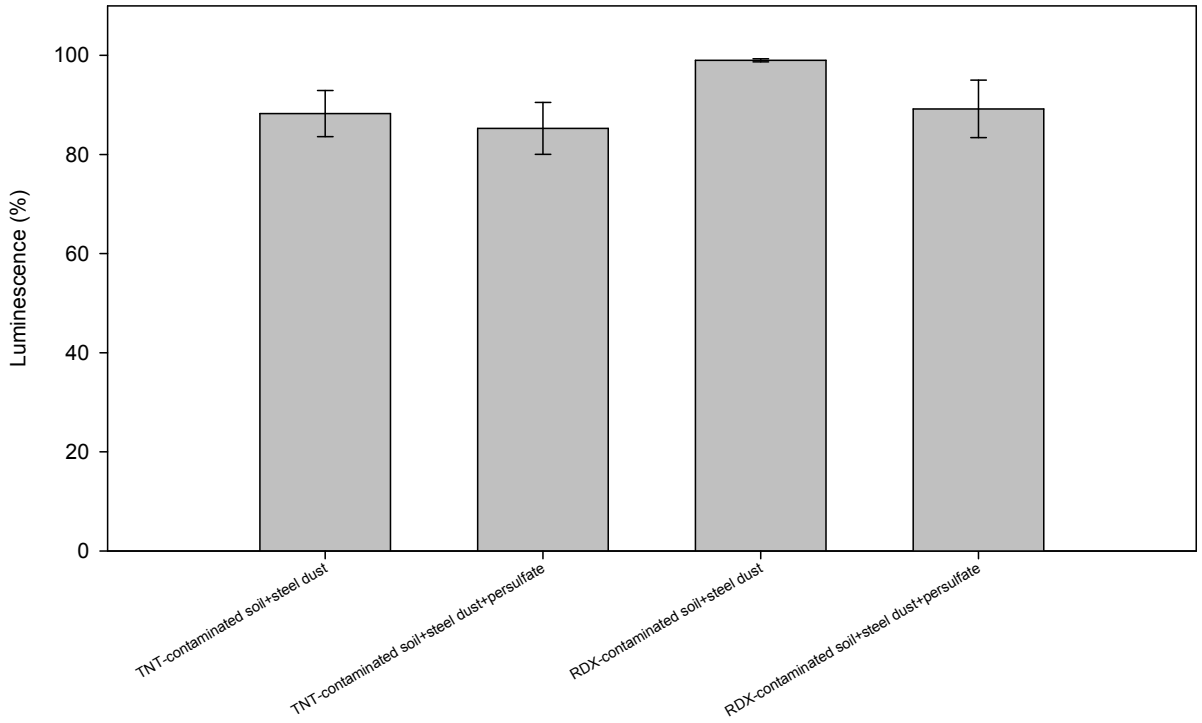

Fig. S6. Microtox® bioassay of soils treated by redox reactions using steel dust and persulfate. Data points are the averages of duplicate samples and error bars represent one standard deviation.