the dredged soil having acidity, thereby allowing the remediated dredged soil to be utilized as a resource.

[9] It is another aspect of the present to provide a method for neutralizing acid-washed dredged soil, in which coal fly ash and the like, that is, industrial byproducts from thermal power plants or the like are used as a neutralizer, thereby allowing low-cost and eco-friendly neutralization of the acid-washed dredged soil.

[10] It is a further aspect of the present invention to provide a method for neutralizing acid-washed dredged soil, in which coal fly ash is mixed with process water, followed by separation into a solid substance and a liquid substance, which can be appropriately used for neutralization of the acid-washed dredged soil and the process water, thereby allowing high-efficiency neutralization of the acid-washed dredged soil.

【Technical Solution】

[11] In accordance with one aspect of the present invention, there is provided a method for neutralizing dredged soil and used process water, which are resultants of a remediation step in which dredged soil contaminated with heavy metals is washed with an~~remediated by~~ acid washing ~~treatment to remove contaminants therefrom~~liquid, the method including: neutralizing the remediated dredged soil by adding a solid neutralizer to the remediated dredged soil in a solid phase, followed by mixing; and neutralizing used process water having been used in acid washing treatment by adding a liquid neutralizer to the used process water in a liquid phase, followed by mixing, wherein the solid neutralizer is coal fly ash (CFA) as byproducts of a coal combustion process , wherein the liquid neutralizer is prepared by mixing the solid neutralizer with clean process water, followed by separating a solid substance from the mixture , and wherein the solid neutralizer is used in an amount of 2 wt% to 6 wt% based on the weight of the remediated dredged soil , and the liquid neutralizer is used in an amount of 90 vol% to 150 vol% based on the volume of the used process water.

[12] The solid neutralizer may be coal fly ash (CFA) as byproducts of a coal combustion process.

[13] Reaction time in the neutralization step carried out by mixing the remediated

dredged soil with the solid neutralizer may range from 0.5 to 1 hour. The solid neutralizer may be used in an amount of 2 wt% to 6 wt%, specifically 2 wt% to 3 wt%, based on the weight of the remediated dredged soil.

[14] The liquid neutralizer may be prepared by mixing the solid neutralizer with clean process water, followed by separating a solid substance from the mixture. Here, a weight-based mixing ratio of the solid neutralizer to the clean process water may

【CLAIMS】

【Claim 1】

A method for neutralizing dredged soil and used process water, which are resultants of a remediation step in which dredged soil contaminated with heavy metals is washed with an ~~remediated by~~ acid ~~washing treatment to remove contaminants therefrom~~liquid, the method comprising:

neutralizing the remediated dredged soil by adding a solid neutralizer to the remediated dredged soil in a solid phase, followed by mixing; and

neutralizing used process water having been used in acid washing treatment by adding a liquid neutralizer to the used process water in a liquid phase, followed by mixing,

wherein the solid neutralizer is coal fly ash (CFA) as byproducts of a coal combustion process,

wherein the liquid neutralizer is prepared by mixing the solid neutralizer with clean process water, followed by separating a solid substance from the mixture , and

wherein the solid neutralizer is used in an amount of 2 wt% to 6 wt% based on the weight of the remediated dredged soil , and the liquid neutralizer is used in an amount of 90 vol% to 150 vol% based on the volume of the used process water.

~~【Claim 2】~~

~~The method according to claim 1, wherein the solid neutralizer is coal fly ash (CFA) as byproducts of a coal combustion process.~~

【Claim ~~3~~2】

The method according to claim 1, wherein reaction time in the neutralization step carried out by mixing the remediated dredged soil with the solid neutralizer ranges from 0.5 to 1 hour.

~~【Claim 4】~~

~~The method according to claim 1, wherein the solid neutralizer is used in an amount of 2 wt% to 6 wt% based on the weight of the remediated dredged soil.~~

~~【Claim 5】~~

~~The method according to claim 1, wherein the liquid neutralizer is prepared by mixing the solid neutralizer with clean process water, followed by separating a solid substance from the mixture.~~

【Claim ~~6~~3】

The method according to claim ~~5~~1, wherein a weight-based mixing ratio of the solid neutralizer to the clean process water ranges from 1:90 to 1:120.

【Claim ~~7~~4】

The method according to claim ~~5~~1, wherein the solid substance separated to prepare the liquid neutralizer is reused as the solid neutralizer.

【Claim ~~8~~5】

The method according to claim ~~5~~1, wherein a weight ratio of the separated solid substance to the liquid neutralizer ranges from 1:90 to 1:120.

【Claim ~~9~~6】

The method according to claim 1, wherein reaction time in the neutralization and precipitation step carried out by mixing the used process water with the liquid neutralizer ranges from 5 to 10 minutes.

~~【Claim 10】~~

~~The method according to claim 1, wherein the liquid neutralizer is used in an amount of 90 vol% to 150 vol% based on the volume of the used process water.~~

【Claim ~~11~~7】

The method according to claim 1, further comprising:

a strength enhancement step in which strength of the dredged soil is enhanced, after the neutralization step carried out by mixing the remediated dredged soil with the solid neutralizer.

【Claim ~~12~~8】

The method according to claim ~~11~~7, wherein, in the strength enhancement step, the dredged soil neutralized in the neutralization step is mixed with coal bottom ash (CBA) as byproducts of a coal combustion process.

【Claim ~~13~~9】

The method according to claim 1, wherein the neutralization step carried out by mixing the used process water with the liquid neutralizer comprises a precipitation step in which contaminants to be discarded are precipitated from the mixture of the used process water and the liquid neutralizer.