CLAIMS:

1. A method of limiting or reducing permeability of a matrix to limit or reduce liquid or gas inflow within a passage in the matrix, the method comprising measuring one or more parameters relating to said matrix, said one or more parameters including one or both of hydraulic or pneumatic parameters; and selecting one or more components of a multi-component sealing composition with reference to said one or more measured parameters and introducing said selected components of said sealing composition into said passage where the multi-component sealing composition is set or coagulated to form a seal, whereby ~~selection of said one or more components and concentration of said one or more components control set time of the multi-component sealing composition in the passage~~ setting or coagulation time of the composition is varied or controlled by said selection of components.

2. The method according to claim 1, wherein the measured parameters include measurement of one or more of: qualities of liquid present within the passage, mechanics of the matrix and geological properties of the matrix.

3. The method according to claim 2, wherein the qualities of liquid are selected from one or more of pH, temperature, mineral content and salt content.

~~4. The method according to any one of the claims 1 or 3, wherein the measured parameters include hydraulic parameters of the matrix.~~

~~5~~4. The method according to any one of claims ~~4~~ 1 to 3, wherein the hydraulic parameters include one or more of flow rate, matrix permeability, Lugeon values or hydraulic conductivity.

~~6. The method according to any one of the claims 1 to 3, wherein the measured parameters include pneumatic parameters of the matrix.~~

~~7~~5. The method according to any one of the claims 1 to ~~6~~4, wherein the sealing composition is introduced into the passage by a primary injection phase and a subsequently secondary injection phase.

~~8~~6. The method according to claim ~~7~~5 wherein the primary injection phase introduces sealing composition into the passage with the flow of liquid or gas in the passage.

~~9~~7. The method according to claims ~~7~~5 to ~~8~~6, wherein the secondary injection phase introduces sealing composition into the passage against the flow of liquid or gas.

~~108~~. The method according to any one of the claims 1 to ~~97~~, wherein components of the sealing composition are introduced into the passage and react together in situ in the passage.

~~119~~. The method according to claim ~~108~~, wherein components of the sealing composition are introduced into the passage via separate injection holes.

~~1210~~. The method according to any one of the preceding claims, wherein the sealing composition includes a latex component and at least one further additive selected with reference to said measured parameters.

~~1311~~. The method according to claim ~~1210~~ wherein the latex component is derived from a natural latex source.

~~1412~~. The method according to claim ~~1311~~ wherein the at least one further additive is selected with reference to measured variations in the natural latex, said measured variations being caused at least partially by seasonal variations.

~~1513~~. The method according to any one of the preceding claims, wherein the components of the sealing composition are pumped into the passage.

~~1614~~. The method according to claim ~~1513~~, wherein pressure of the pumping is varied in response to changes in measured parameters relating to said matrix.

~~1715~~. The method according to any one of the preceding claims, wherein the sealing composition is introduced into a ground formation prior to excavation.

~~1816~~. A method of limiting or reducing permeability of a matrix to reduce or limit liquid or gas flow within a passage in the matrix with a sealing composition comprising a grout component; and a grout curing agent wherein a portion of the grout component is mixed with a portion of grout curing agent, the ratio of grout component to grout curing agent being selected with reference to one or more measured parameters relating to said matrix, said one or more parameters including one or both of hydraulic or pneumatic parameters, wherein the combined grout component and grout curing agent are introduced into said passage where the sealing composition is set or coagulated to form a seal, whereby rate of curing or setting of said grout component in said passage is controlled or varied by selection of grout component and grout curing agent and modifying the ratio of grout component to grout curing agent with respect to said one or more measured parameters.

~~1917~~. The method according to claim ~~1816~~ wherein coagulation or setting of the sealing composition is initially delayed for a predetermined period of time.

~~20~~18. The method according to claim ~~19~~17 wherein the initial delay of coagulation or setting is followed by a relatively fast coagulation or setting of the sealing composition in situ in the matrix or passage being treated.

~~21~~19. The method according to any one of claims ~~18~~16 to ~~20~~18 wherein time taken for the sealing composition to set or coagulate is delayed by modification of the ratio of grout component to grout curing agent.

~~22~~20. The method according to any one of claims ~~18~~16 to ~~21~~19 wherein the grout component is latex based.

~~23~~21. The method according to any one of claims ~~18~~16 to ~~21~~19 wherein the grout component is polymer based.

~~24~~22. The method according to any one of claims ~~18~~16 to ~~23~~21 wherein the grout curing agent is selected from agents capable of developing or reacting with the grout component to set or coagulate the grout component in the passage.

~~25~~23. The method according to any one of claims ~~18~~16 to ~~24~~22 wherein the grout curing agent is selected from agents that are able to lower pH.

~~26~~24. The method according to claim ~~25~~23 wherein pH is lowered by generating acid via a reaction in situ of the combined grout component and grout curing agent mixture.

~~27~~25. The method according to claim ~~26~~24 wherein pH is lowered via oxidation of an alcohol to carboxylic acid within an aqueous latex dispersion.

~~28~~26. The method according to any one of claims ~~22~~20 to ~~26~~24 wherein the grout curing agent is an oxidising agent.

~~29~~27. The method according to claim ~~28~~26 wherein the oxidizing agent is selected from one or more permanganate and chromium trioxide.

~~30~~28. The method according to any one of claims ~~18~~16 to ~~26~~24 wherein the grout curing agent is a polyol.

~~31~~29. The method according to claim ~~30~~28 wherein the polyol is a monomeric polyol.

~~32~~30. The method according to claim ~~30~~28 or ~~31~~29 wherein the polyol is one or more ethylene glycol or glycerol.

~~33~~31. The method according to claim ~~30~~28 wherein the polyol is a polymeric polyol.

~~34~~32. The method according to claim ~~33~~31 wherein the polymeric polyol is polyethylene glycol.

~~35~~33. The method according to any one of claims ~~18~~16 to ~~30~~28 wherein the grout curing agent is a fatty acid ester of a polyol.