What is claimed is:

1. A method to monitor expansion of a downhole metallic sealant, the method comprising:

deploying a metallic sealant along a section of a wellbore;

exposing the metallic sealant to a reacting fluid to initiate a galvanic reaction;

measuring a change in temperature caused by the galvanic reaction; and

determining an amount of expansion of the metallic sealant based on the change in the temperature.

2. The method of claim 1, further comprising:

applying pressure to the metallic sealant to expose a previously unexposed section of the metallic sealant;

exposing the previously unexposed section of the metallic sealant to the reacting fluid to initiate a second galvanic reaction;

measuring a change in temperature caused by the second galvanic reaction; and

determining an amount of a second expansion of the metallic sealant based on the change in the temperature caused by the second galvanic reaction.

3. The method of ~~claim~~claims 1 or 2, further comprising monitoring an integrity of the metallic sealant based on the change in the temperature.

4. The method of claim 3, further comprising:

detecting a differential pressure across two points of the metallic sealant;

determining a partial loss of integrity of the metallic sealant in response to detecting the differential pressure;

after detecting the differential pressure, detecting an increase in temperature proximate to the two points of the metallic sealant; and

in response to detecting the increase in temperature proximate to the two points, determining whether the integrity of the metallic sealant has been restored.

5. The method of ~~claim~~any of claims 1-4, further comprising performing a pressure test to determine the amount of expansion of the metallic sealant.

6. The method of ~~claim~~any of claims 1-5, further comprising determining a rate of the galvanic reaction, wherein the rate of the galvanic reaction is based on an amount of dopant added to the metallic sealant.

7. The method of ~~claim~~any of claims 1-6, further comprising:

measuring displacement of a non-reacting fluid deposited in the wellbore, wherein the non-reacting fluid is displaced by the expansion of the metallic sealant; and

determining the amount of expansion of the metallic sealant based on the displacement of the non-reacting fluid.

8. The method of ~~claim~~any of claims 1-7, wherein a fiber optic cable is deployed proximate to the metallic sealant, and wherein measuring the change in temperature comprises utilizing the fiber optic cable to measure the change in temperature.

9. The method of ~~claim~~any of claims 1-8, wherein a thermometer is deployed proximate to the metallic sealant, and wherein measuring the change in temperature comprises utilizing the thermometer to measure the change in temperature.

10. The method of ~~claim~~any of claims 1-9, further comprising determining a sealant capacity of the metallic sealant based on the amount of expansion of the metallic sealant.

11. The method of ~~claim~~any of claims 1-10, further comprising flowing the reacting fluid into the wellbore.

12. The method of ~~claim~~any of claims 1-10, wherein metallic sealant is deployed at a section of the wellbore that contains the reacting fluid.

~~13. A method to monitor downhole fluid displacement, the method comprising:~~

~~flowing a non-reacting fluid into a wellbore having a metallic sealant deployed along a section of the wellbore;~~

~~exposing the metallic sealant to a reacting fluid to initiate a galvanic reaction;~~

~~measuring a change in temperature caused by the galvanic reaction;~~

~~determining an amount of expansion of the metallic sealant based on the change in the temperature; and~~

determining a displacement of the non-reacting fluid based on the amount of expansion of the metallic sealant.

14. The method of claim 13, further comprising:

applying pressure to the metallic sealant to expose a previously unexposed section of the metallic sealant;

exposing the previously unexposed section of the metallic sealant to the reacting fluid to initiate a second galvanic reaction;

measuring a change in temperature caused by the second galvanic reaction; and

determining an amount of a second expansion of the metallic sealant based on the change in the temperature caused by the second galvanic reaction; and

determining a displacement of the non-reacting fluid based on the amount of the second expansion of the metallic sealant.

15. The method of claim 13, further comprising monitoring an integrity of the metallic sealant based on the change in the temperature.

16. The method of claim 13, further comprising:

detecting a differential pressure across two points of the metallic sealant;

determining a partial loss of integrity of the metallic sealant in response to detecting the differential pressure;

after detecting the differential pressure, detecting an increase in temperature proximate to the two points of the metallic sealant; and

~~in response to detecting the increase in temperature proximate to the two points, determining whether the integrity of the metallic sealant has been restored.~~

~~17.~~13. A downhole metallic sealant measurement system, comprising:

a galvanically corrodible metallic sealant deployed along a section of a wellbore, wherein a galvanic reaction is initialed when the galvanically corrodible metallic sealant is exposed to a reacting fluid, and wherein the galvanic reaction causes an expansion of the galvanically corrodible metallic sealant to isolate a section of the wellbore; and

a temperature sensor positioned proximate to the galvanically corrodible metallic sealant and operable to determine a temperature change caused by the galvanic reaction, wherein an amount of expansion of the metallic sealant is determined based on the temperature change caused by the galvanic reaction.

~~18.~~ The downhole metallic sealant measurement system of claim ~~17~~13, wherein the temperature sensor is at least one of a fiber optic cable, a thermometer, and a component of a logging tool~~.~~

~~19.~~14. ~~The downhole metallic sealant measurement system of claim 17~~, and optionally, wherein the temperature sensor is operable to measure a difference in temperature at two different points proximate to the metallic sealant to determine the temperature change.

~~20.~~15. The downhole metallic sealant measurement system of ~~claim 17~~claims 13 or 14, further comprising a pressure sensor operable to detect a differential pressure at two different points of the galvanically corrodible metallic sealant.