



SOLIDS SPOT TEST KIT

Soils, Solids, Scale, Pipeline Dust

USER INSTRUCTIONS

SOLIDS TESTING

SPECIAL Before using this Solids Spot Test Kit READ ALL INSTRUCTIONS. This kit contains five

NOTE: (5) individually sealed plastic bags, with each containing enough materials to conduct one (1) Solids Spot Test. Thus, the materials provided by this Solids Spot Test Kit are sufficient to perform five (5) separate Solids Spot Tests. There are sufficient volumes of reagents (distilled water - clear bottle, hydrochloric acid - white bottle) in the dropper bottles supplied to perform these five (5) individual tests.

CHEMICAL PARAMETERS

This kit will test (qualitatively) for the following parameters:

pH Carbonate Sulfide

TESTING

The testing is performed by using the materials in the sealed plastic bag(s) and the hydrochloric acid and distilled water (DI water) reagents displayed in the foam block. Note that extra paper test strips (pH Indicator Strips and Lead-Acetate Strips) are provided in each of the individual sealed bag(s). It is not necessary to use both test strips for each test, but the extra strips are provided should you have a problem when performing the tests, or if the test strips should become damaged/unusable during the testing. The following instructions provide the procedures for the on-site testing of soils, solids, scale, pipeline dust, or other solid materials.

INSTRUCTIONS

- Step 1: Using the sampling spoon, collect three (3) spoonfuls of the solids to be tested. Place the collected solids in the 30 ml plastic sample cup. Record the color, odor, and texture of the solids sampled on the "Solids Spot Test Reporting Form".
- Step 2: If the solids to be tested contain chunks or large pieces of material, or if the scale is in pieces, use the balled end of the plastic sample rod to grind/break the solids, soil, or scale into small pieces.
- Step 3: With the sample ground/broken into small pieces, use the sampling spoon to transfer portions of the sample into the test tube and pH test cup, as described by the following steps (Step 4 and Step 5).
- Step 4: Remove the test tube from the plastic bag and place the test tube in the foam block. Fill the sampling spoon level with the ground/broken sample and empty the spoon into the test tube.
- Step 5: Remove the pH test cup from the plastic bag and place the test cup in the foam block. Again, fill the sampling spoon level with the ground/broken sample and empty the spoon into the test cup.

Step 6: **pH Test.** Moisten the solid sample in the pH test cup with five (5) drops of distilled water from the DI water dropper (clear bottle) in the foam block. Fold the pH strip in half (fold should coincide with the wide, non-numbered color bar of the pH strip). Place the folded edge of the pH strip onto the surface of the wetted solid sample for 30 seconds. Remove the pH strip. Unfold it and compare the color in the fold of the strip to the color chart on the pH strip. Record the pH reading of the fold area on the “Solids Spot Test Reporting Form”. If there is not an exact color match with this scale, then estimate an intermediate value.

Step 7: **Sulfide test.** Remove one of the white lead-acetate strips from the plastic bag. Moisten $\frac{3}{4}$ of the lead-acetate strip length with two (2) drops of distilled water from the DI water dropper (clear bottle) in the foam block. Place the moistened lead-acetate strip on the plastic bag. Keep the strip clean. Now put fifteen (15) drops of hydrochloric acid (1N HCl, in the white dropper bottle in the foam block) into the test tube. Observe to see if bubbles/foaming are produced when the acid is added. **(Be sure to make this observation. It will be recorded later).**

Place the moistened length of the lead-acetate strip in the mouth of the test tube, leaving the small dry tail hanging over the outside lip of the test tube (see Figure 1). Loosely place the clear test tube cap onto the test tube, making sure to hold the test strip in place, not allowing the test strip to fall into the sample.

Step 7: **Sulfide test (cont).** Agitate the sample (as shown by Figure 2), for approximately 30 seconds. At the end of the 30 seconds remove the test strip from the test tube. If the test strip has turned a black/brownish color then the test is positive, and sulfides are “**PRESENT**”. If there is no color change then the test is negative and sulfides are “**ABSENT**” from the sample. Record the results of the sulfide test (“**PRESENT**” or “**ABSENT**”) on the “Solids Spot Test Reporting Form”.



Figure 1



Figure 2

Step 8: **Carbonate test.** In Step 7 you were asked to observe if bubbles/foaming occurred when adding the acid to the solid sample in the test tube. If bubbles/foaming occurred, then carbonates are “**PRESENT**” in the sample. If no bubbles/foaming occurred, then carbonates are “**ABSENT**” in the sample. Record the results of the carbonate test (“**PRESENT**” or “**ABSENT**”) on the “Solids Spot Test Reporting Form”.

Step 9: Be sure to secure the caps on the DI water dropper (clear) bottle and hydrochloric acid dropper (white) bottle and place back in the foam block. These reagents will be used for the other Solids Spot Tests that remain in this kit.

Step 10: Cap the test tube that contains the solids and acid. This test tube, the sample cup, pH test cup, and indicator strips used for this Solid Spot Test can be disposed of in the municipal trash. No hazardous chemicals are present.

Step 11: Repeat Steps 1 through 10 until all five (5) individual Solids Spot Tests (individually sealed plastic bags) have been used.

(Company)

(Location)

SOLIDS SPOT TEST REPORTING FORM

Storage Field	Line Number		
Bell Hole Number	Well Number	Drip Name and Number	
Township/District	County	State	
Comments			
Sample Location	Sample Number		
Sample Type <input type="checkbox"/> - Soil <input type="checkbox"/> - Scale <input type="checkbox"/> - Solids <input type="checkbox"/> - Sludge/Gunk <input type="checkbox"/> - Mud <input type="checkbox"/> - Slime <input type="checkbox"/> - Pipeline Dust <input type="checkbox"/> - Other _____			
Comments			
Sample Collection Date	Sample Collection Time <input type="checkbox"/> - AM <input type="checkbox"/> - PM	Sampler	
SAMPLE DESCRIPTION Color _____ Odor _____ Texture _____			
pH MEASUREMENT pH _____	WEATHER Air Temperature _____ Conditions _____ _____		
SPOT TEST			
	TEST	PRESENT	ABSENT
	SULFIDE		
	CARBONATE		
TESTED BY		DATE	
COMMENTS			