

**MANUFACTURER OF CLAY SET**

**IONIC STABILIZATION FOR  
EXPANSIVE CLAY SOIL**



**THE NEW STANDARD**

**FOR PRE-CONSTRUCTION  
EXPANSIVE CLAY STABILIZATION**

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## WHAT WE DO

Soil Scientific is the manufacturer of Clay Set, a hydrogen ionic soil stabilization option for expansive clay. Clay Set offers an effective, permanent and money saving solution that is changing the clay stabilization world and is gaining acceptance as a new standard practice when dealing with expansive clay. Clay Set is manufactured in an ISO 9001:2015 certified facility to the highest standards and can be purchased by earthwork contractors or directly by land developers or builders who have their own excavation personnel in-house or under contract.

## WHO WE ARE

### INTEGRITY SERVICE INNOVATION

Soil Scientific was founded by Pamela Degenhardt Langan who has been a specialist in ionic stabilization of clay soils for over 15 years. Pamela has been instrumental in developing this technology and the methodologies that are making ionic stabilization a viable option in all areas of the U.S. and Canada that are dealing with expansive clay issues. We are dedicated to operating with the highest ethical standards, providing excellent products and service and continuing to be an innovator for all soil related issues.

## APPLICATION IS SIMPLE



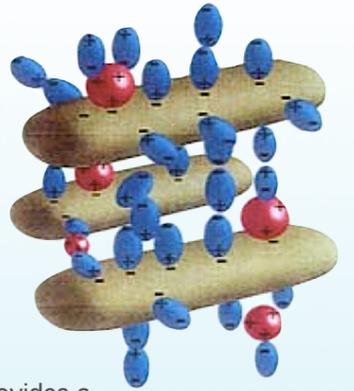
## HOW TO USE CLAY SET

Using Clay Set for your project is done quite like a typical moisture conditioning except that the Clay Set Concentrate will be added to the water as it is flowing into the water truck. A pump will be used to add the specified amount of concentrate which will be pumped directly from the holding tank or totes to the water chute where the water will pick it up and add it to the water. The Clay Set Concentrate will immediately begin to ionize the water which will become the final Clay Set Solution. Soil Scientific will provide guidance for site set up and will conduct a safety meeting with on site earth work company personnel prior to your first delivery.

- 1 - remove soil to treatment depth
- 2 - Replace soil in specified lifts
- 3 - Spray Clay Set over newly placed soil
- 4 - Mix thoroughly with tiller, disc or reclaimer
- 5 - Compact & repeat process till at grade

## THE SCIENCE AND WHY IT WORKS

**SIMPLY PUT** ...Clay soil particles attract and bind water because their lattice molecular structure produces a negative charge. Water molecules have polarized positive and negative sides, so when introduced to the clay soil, it's positive side is attracted and the water is adsorbed into the clay soil causing each clay particle to be expanded and also pushed apart, resulting in an overall swelling of the clay soil.



**WHEN SOILS ARE TREATED WITH CLAY SET** the swell potential and soil suction of the clay particles are significantly reduced and strength is increased. Clay Set accomplishes these vitally important goals by reducing the negative internal and external charges naturally found in the clay lattice. This is an irreversible molecular change that provides a reliable and long lasting low swell soil that will not carry water to untreated soils below or around the treatment zone.

## USE CLAY SET ON ANY PROJECT WITH EXPANSIVE CLAY

PRE-CONSTRUCTION EARTHWORK - COMMERCIAL CONSTRUCTION - HOUSE PADS  
TREAT THEN USE "WASTE" CLAY - ROAD SUBGRADES - UNIMPROVED FOREST ROADS  
AIRPORTS - CLAY LINERS - OIL AND GAS FIELD ROADS AND DRILL PADS

WE WILL BE HAPPY TO SHARE OUR DATA AND REFERENCES

## HOW CLAY SET COMPARES

	Clay Set	Fill	Lime
Permanent molecular treatment	Yes	No	No
Can be used on existing structures	Yes	No	No
Expense	\$	\$\$\$	\$\$
Soil disposal site needed	No	Yes	No
Truckloads of soils or materials in/out	No	Yes	Yes
Suitable fill supply needed	No	Yes	No
Causes "Bathtub Effect"	No	Yes	No
Causes sulphate heave	No	No	Yes
Moisture migration is reduced	Yes	No	No
Increases soil strength	Yes	???	Yes

Clay Set helps you solve problems instead of causing them....  
Treating clays permanently, all while reducing overall project costs!

## BETTER FOR THE ENVIRONMENT

- Clay Set solution is an environmentally inert product
- Use of on site soil eliminates export/import for select fill, thereby greatly reducing CO2 emissions
- No airborne toxic exposure issues for personnel
- No dust pollution issues for public or personnel
- No heavy metals or toxins added to the soil
- No risk of added toxins leaching into groundwater
- Smallest carbon footprint in manufacturing of product
- No landfill space consumed for waste soils



## WHY CHOOSE CLAY SET

- Proven long-term results
- Used by some of the country's largest builders & developers
- Save up to 80%
- Dramatic swell reduction
- No expensive foundations needed after treatment
- No select fill needed, allows the use of onsite soil
- Does NOT pre-swell the soil which means no excess soil to dispose of
- Potential to reduce over-ex depth when compared to water
- Soil suction is reduced
- Strength is increased
- Better for the environment
- Simple application
- Treatment allows for use of "waste" soils for fill
- Provides dust control
- Increased pavement life & reduced maintenance
- Not effected by weather