



Anaheim office
July 10, 2014

Locations:

Gail Materials
10060 Dawson Canyon Road
Corona, CA 92883

1101 S. Winchester Blvd.
Suite G - 173
San Jose, CA 95128
(408) 727-0330

Attn: Dave

INFILTRATION RATE – ORGANIC LOCK

Attached are the results of an infiltration rate analysis conducted on in-place pad of Organic Lock at the Gail Materials main office in Corona California on July 10, 2014

4741 E. Hunter Ave., Suite A
Anaheim, CA 92807
(714) 282-8777

A double ring infiltrometer with a 12-inch inner ring and 24-inch outer ring was used. The infiltrometer was hammered into the soil to a depth of 10 cm. The small amount of disturbed soil around the rings was tamped to approximate the rate of compaction of the surrounding undisturbed soil.

The surface of the soil in both the inner and outer rings was covered with a layer of thin plastic to avoid disturbing the soil surface while the rings were filled with water. After the rings were filled to a depth of 6 inches, as determined by point gages placed in each ring, the plastic was removed to allow water to enter the soil surface.

Over the course of the six hours, water was continuously added to maintain an even depth of 6 inches in both rings. The amounts of water required to maintain this constant 6 inch head were recorded at intervals of 15, 30, 45, 60, 90, 120, 180, 240, 300 and 360 minutes.

The volume of water added to the rings and respective time intervals were used to calculate the rates of infiltration in both the inner and outer rings these rates are expressed below in inches per hour.

For practical purposes, when the two values differ, the inner ring considered to give the best indication of the actual infiltration rate of water into the soil.

As is typical, the rates of water infiltration varied to some extent throughout the test with the fastest infiltration rates being measured at the beginning of the testing. This is expected since that is the point at which the material is the driest. The average infiltration rate is the 12-inch ring over the course of 6 hours was determined to be 0.85 inches per hour.

If we can be of any further assistance, please feel free to contact us.

Jason Gihring

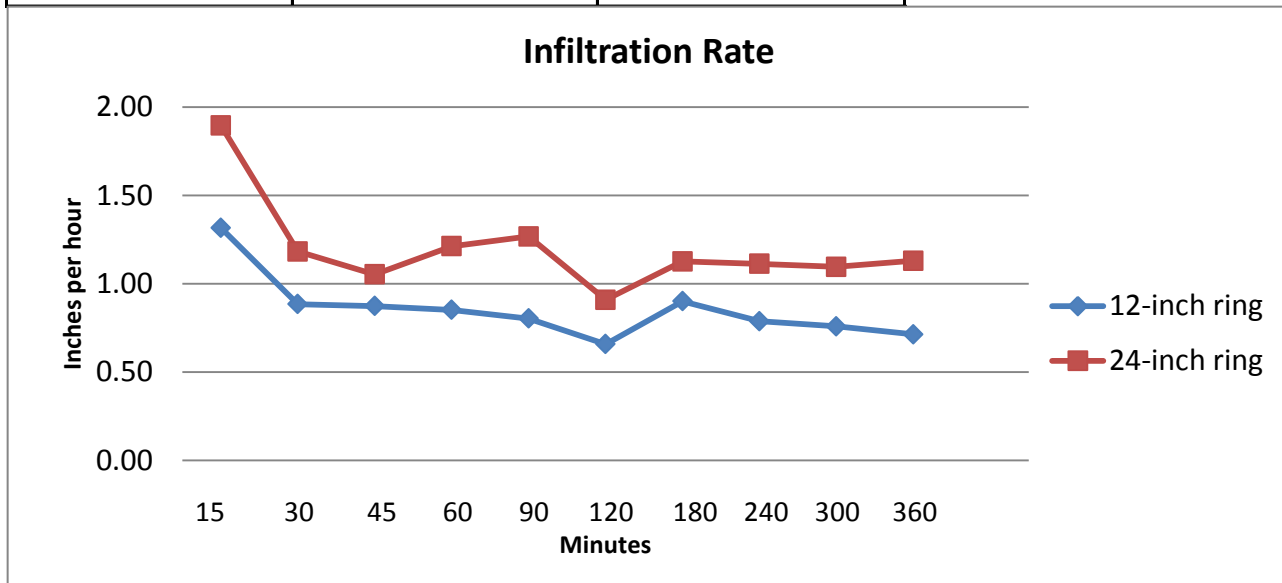
Gail Materials - Organic Lock 7-10-14

12 - inch ring

Elapsed time (min)	Quantity of water (ml)	Infiltration (in. / hour)
15	610	1.32
30	410	0.88
45	405	0.87
60	395	0.85
90	745	0.80
120	610	0.66
180	1670	0.90
240	1460	0.79
300	1407	0.76
360	1323	0.71

24-inch ring

Elapsed time (min)	Quantity of water (ml)	Infiltration (in. / hour)
15	3510	1.90
30	2190	1.18
45	1950	1.05
60	2245	1.21
90	4695	1.27
120	3365	0.91
180	8340	1.13
240	8240	1.11
300	8110	1.09
360	8370	1.13



12-inch ring average: $\frac{\text{inches per hour}}{0.85}$
 24 inch ring average: $\frac{\text{inches per hour}}{1.20}$