



Terra Novo Inc., 2930 Patton Way, Bakersfield, CA 93380

www.earthguard.com



VEGETATED SLOPE AFTER ONE MONTH OF HEAVY RAINFALL IN KITTANNING, PENNSYLVANIA.

Marcellus Shale Pipeline Project

In September 2012, the second largest Marcellus Shale gas producer in Southwestern Pennsylvania sprayed **EarthGuard Fiber Matrix** on a pipeline project that they had a hard time stabilizing in Kittanning, Pennsylvania. After the installed erosion control matting had failed, they looked into using a higher end spray-on erosion control product.

On September 7, the production company contracted Penn Line Services and **EarthGuard** was applied at a rate of 9 gallons and 2,800 pounds per acre. Following the application, a severe storm (approximately 1-inch rainfall) went through the project area less than 24 hours after the application. Not only did the **EarthGuard** prevent erosion, it also kept the seed in place

allowing for germination and permanent stabilization.

“If we used this product during the initial restoration, we do not believe this area would have been a problem” said Senior Environmental Coordinator with the gas corporation. “I will recommend **EarthGuard** to my project managers in the future.”



FAILED MATTING



EARTHGUARD APPLIED 9/7/12



EARTHGUARD RESULTS 10/7/12

Long Term Erosion Control

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EarthGuard® is a soil stabilizing emulsion, specifically formulated to reduce erosion and sediment runoff. It is non-toxic, 100% biodegradable, and conforms to the **New York State Department of Transportation Qualified Products List under Class IV, Types A - C**. The **Pennsylvania Department of Environmental Protection** recently released **Final 2010 Erosion and Sediment Pollution Control Program Manual**, recognizes a "Polymer Stabilized Fiber Matrix" (generic name for **EarthGuard**) as an effective erosion control blanket in Chapter 11 which can be used as an alternate to rolled erosion control blankets, bonded fiber matrices, and flexible growth mediums.

EarthGuard® FM is a one-step spray application, combining **EarthGuard®** and wood/cellulose fiber. It is applied as an aqueous slurry by itself or in combination with seed. **EarthGuard® FM** is chemically engineered to be effective at low rates while, absorbing the impact of raindrops, and providing immediate dust control, erosion control, and soil stabilization until permanent vegetation is established or construction has resumed. **EarthGuard® FM's** versatility allows it to be highly effective in many applications: erosion control, slope stabilization, dust abatement, landscape design, storm water runoff, fire burn rehabilitation, land development, landfill winterization and vegetation, roadway construction, and golf course construction.

For areas with greater than 20" of annual rainfall

Slope	5:1 or less	4:1	3:1 or greater
EarthGuard (gal/ac)	6	8	10
Mulch (lb./ac)	2,000	2,500	3,000

LONG TERM EROSION CONTROL OF PERMANENT SLOPES INCLUDING SEED

During the spring and summer months, follow the above charts for **EarthGuard®** and mulch rates. Add seed mixes as recommended to achieve long-term erosion control. This can be applied via a one-step hydroseeding process. However, some may prefer a two-step application (hydroseed and fertilizer first, and then **EarthGuard®** and mulch over the top).

WINTERIZATION

To winterize job sites or stockpiles, apply **EarthGuard FM** to achieve full-seasonal erosion control protection. This Winterization Best Management Practice (BMP) can be used to help your construction site comply with your local stormwater construction permit. Seeds, that may stay dormant until spring, may be added for growth in the spring.

EarthGuard (gal/ac)	10
Mulch (lb./ac)	3,000

FOR PARTIAL SEASON OR EXTENDED PROTECTION, CONTACT TERRA NOVO FOR RECOMMENDATIONS

STORM-BY-STORM PROTECTION

For temporary protection of slopes and flat areas that are still in progress, apply **EarthGuard** at 3-5 gallons per acre prior to a storm event with a water truck or spraying rig. After the rain has stopped and the ground is dry enough, proceed with grading.

APPLICATION & MIXING GUIDELINES

Spray all mixtures at a minimum rate of 3,000 gallons of water/acre (higher rates may be required) evenly over the area to be treated. Be careful not to spray too fast, creating puddles or run-off that may damage the soil structure before **EarthGuard** products can work. Application should be sprayed from multiple directions and angles to insure complete and proper coverage. Do not disturb treated areas after **EarthGuard** products are applied. Mulch manufacturers recommend all hydraulic applications using fiber mulch to have a 24-hour window without rain. Some situations with sandy-sandy loam soils, very little organic matter in the soil, poorly compacted slopes, heavy rainfall locations (over 30 inches per year), very intense rain storms (3-4 inches at a time), high wind exposure, etc. may require increasing the **EarthGuard** and/or mulch by 1.25-1.50 times. When SWPPPs, or other plans are being written, contact Terra Novo, Inc., or your local dealer for more specific rate recommendations.

EarthGuard- Always thoroughly mix before using. Always close or seal containers after use. Store in a dry, insulated location to avoid moisture or freezing. Frozen product, once thawed, can and should be remixed.