FASTER, LESS EXPENSIVE, TIME PROVEN

Geosynthetics, including geotextiles, geomembranes, geonets, geogrids, geocells, geocomposites, and geosynthetic clay liners, often used in combination with conventional materials, offer the following advantages over traditional materials:

- Rapid Deployment—Geosynthetics can be installed quickly, providing the flexibility to construct during short construction seasons, breaks in inclement weather, or without the need to demobilize and remobilize the earthwork contractor.
- Cost Savings—Often geosynthetics are less costly to purchase, transport, and install than other materials, soils, and aggregates.
- Time Proven—Geosynthetics have been in use for more than 40 years.

PRODUCTION AND EMPLOYMENT

Most geosynthetics are produced in U.S. textile and plastics mills. As a result, strict quality control procedures can be followed to create superior material consistency compared to soil, rock, concrete, or other natural materials.

There are more than 40 manufacturers of geosynthetics that provide products for the North American marketplace. More than half of the manufacturers are located in the Southeastern U.S or Texas. The industry provides more than 12,000 jobs in the U.S. in manufacturing, fabrication, distribution, and installation. The geosynthetics industry adds $2.1 billion to the U.S. economy.

GMA
Geosynthetic Materials Association

For more information about geosynthetic materials contact:

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Geosynthetic materials – important role in shale gas industry

The recovery of natural gas contained within shale rock will soon become an energy source that rivals oil, coal and nuclear and dwarf all renewable combine. The technology of its removal by horizontal drilling coupled with hydrofracking is making it possible to recover tremendous amounts of natural gas.

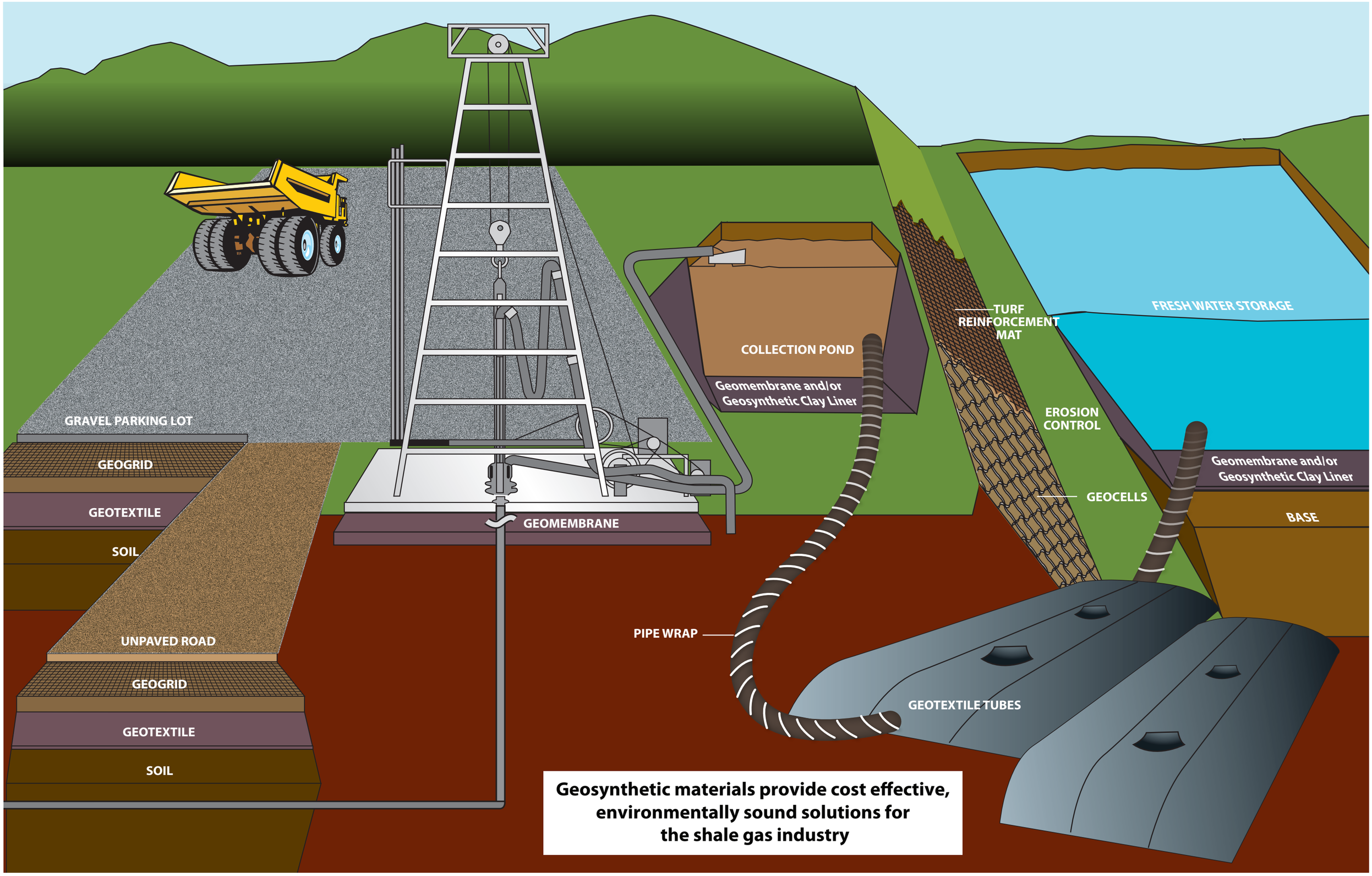
Geosynthetic materials plays an important role in the shale gas recovery industry as this industry seeks the most environmentally friendly practices.

This brochure briefly illustrates how geosynthetic materials help make the extraction process more efficient, economical and environmentally friendly.

Geosynthetics are a family of civil engineering materials used in our nation's infrastructure. Many durable polymers (plastics) common to everyday life are found in geosynthetics. The most common are polyolefins and polyester; although rubber, fiberglass, and natural materials are sometimes used. Since their introduction in the late 1960s, geosynthetics have proven to be versatile and cost-effective ground modification and environmental protection materials. Their use has expanded rapidly into nearly all areas of civil, geotechnical, environmental, coastal, and hydraulic construction.

In the natural gas extraction industry geosynthetic materials provide for:

- Containment and storage of large quantities of surface water for drilling and fracturing purposes using geosynthetic liners
- Lining storage and reuse of flow-back water from the hydrofracking process.
- Dewatering and proper disposal of the "cuttings" from drilling operations
- Drill pad site contamination protection
- Protection of Frack-tank and storage area from contamination.
- Reinforcing and strengthening of access roads, parking and staging areas
- Minimizing site disturbance and providing level areas by using mechanically stabilized earth (MSE) walls and steep soil slopes.
- Protection from soil erosion and topsoil contaminant to avoid stream and property contamination.



Geosynthetic materials provide cost effective, environmentally sound solutions for the shale gas industry