Multilayer Road Stabilization

Madain Saleh, Saudi Arabia

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Project Description: T-PRO® 500 was used to construct a polymer stabilized unpaved road for visitor access to one of Saudi Arabia's UNESCO World Heritage Sites.

Project Objectives: Terratech used T-PRO® 500 to create an access road to the best known archeological site in Saudi Arabia, located 300km from the city of Madinah. The objective of the project was to construct an all-weather road from locally available soil material and measure the improvement in engineering properties of the polymer stabilized road. The laboratory tested increase in CBR value between the polymer treated soil and untreated soil was 18%. The polymer treated soil also showed a 74% improvement over untreated soil in dry unconfined compressive strength (UCS). When tested for wet UCS values, the untreated soil, after soaking, had zero strength and became completely dissolved in the water bath. Soaked samples of soil treated with T-PRO 500 polymer remained solid and had an average UCS of 471 psi. Terratech polymer technology was accepted by the Saudi Ministry of Works as a preferred road construction method for highly sensitive environmental areas such as this UNESCO World Heritage Site.

Equipment Used: Grader, Water Truck with Hose Attachment, 10-ton Single Drum Vibrating Compactor

Application Specifications: Infused application with 0.75% polymer added and a topical seal coat at 100 ft^2/gal coverage rate.

Maintenance Requirements: Removal of loose material and topical re-application of polymer, as necessary.

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