

COAL BASIN

Project Case Study

2016

Background

The Coal Basin project area is located in the White River National Forest, northwest of Redstone, Colorado. This region's geologic formations that lead to mass wasting coupled with coal mining operations since the 1800's, has prompted the County of Pitkin to mandate restoration activities on previous surface mined areas. A combination of surface mined areas, haul roads, and refuse piles has augmented sedimentation into the Dutch Creek and eventual receiving watercourses such as Coal Creek and Crystal Creek. The owner of the property had intentions to conduct Land Development activities. For the past decade, several unsuccessful attempts have been made to revegetate the impacted area. The owner contacted Triton Environmental to assist with obtaining long-term sustainable vegetative growth. Triton Environmental conducted site specific soil tests and the results are as follows:

Low Organic Matter- below 2%

pH - 7.7

Nutrient levels for NPK were low (N=1.5, P=4.1, K=52.4)

Compacted tailing piles

Challenges

As per the project specific soil samples results, the client was limited to product use. Other than the low fertility, Triton Environmental decided to recommend a Biotic Soil Amendment approach (BSA): which would focus on building O and A horizons and selecting the right seed mixture to take over and flourish in a climate that has a short growing season. In addition to adding the BSA soil amendment, proper grading would be needed to prepare the soils to serve as erosion control and providing a micro-climate for the seed.





Solution

Upon receiving the soil test results and working with the client's budget, Triton was able to recommend Biotic Earth Green Hydraulic Growth Medium (HGM) by Verdyol combined with Richlawn 3-6-3 organic fertilizer containing Humates and Mychorrizae native to this area. The Biotic Earth HGM, which is a key soil forming component, was hydraulically applied at a rate of 3500 pounds per acre. This approach was more practical and cost ef-

Results

The combination of the Biotic Soil Amendment and the Richlawn Organic Fertilizer provided much needed organic matter and nutrients that had previously been deprived in these soils. The BSA materials help correct the deficiencies in the soil that had shown up on the soil test and amended the soils horizons to create a sustainable stand of desirable vegetation. Based on the success of phase one of this project, the owner decided to continue with the same approach on phase two and three. At the end of 2015, the entire projects permit was closed due to the successful stand of vegetation

