

Attachment C

Erosion and Sediment Control Plan for DCNR: Topographic and Geologic Survey, Scientific Core Drilling Project on State Game Lands 293, Shippen Township, Cameron County, Pennsylvania



Goal: To prevent erosion of existing dirt roads and to prevent sediment from core drilling activities from reaching the headwaters of the Clear Creek or Reed Hollow watersheds.

Location: A three-inch core will be drilled on the northern (downhill) side of an unnamed access road on State Game Lands 293. Ideal locality is at Latitude 41.50019, Longitude -78.40765 (Figure 1).

Site dimensions: The drilling site is defined as the area that contains the drill rig, water truck, and the immediate surrounding area. The area of drill site occupation is calculated to be approximately 1000 square feet (50ft x 20ft) and is located north of the access road.

Potential Sources of erosion and sediment:

1. Fresh water is pumped down the hole under pressure to help keep the drill bit cool and aide in the core retrieval process. Due to the high topographic nature of the site, water will likely never reach surface, in the chance that water does reach the surface, water yields are expected to be less than 10 gallons per minute. Pulverized rock dust from the core drilling would be suspended in the water.
2. After core drilling is completed, the hole will need to be flushed with water for a few hours to remove suspended pulverized rock material in the hole. This is necessary for the groundwater studies and for the optical televiwer logging. Estimated yields from the borehole are not expected to exceed 30 gallons per minute. This is expected to be the largest source of both water and sediment load. Again due to the high topographic nature of the site, water may never reach surface.
3. Vehicular travel (ex. Water truck and personal transport vehicles) on the dirt access road and at the drill site could cause erosion, particularly if wet-weather conditions occur. Drilling is most likely to occur in April or May.

Water routes and sediment control for core-hole sourced water and sediment:

All water flow at the project site would be in the form of sheet flow. Water would drain to the north towards the headwaters of Clear Creek. Any water emerging from the drill hole would be allowed to flow over the land and be absorbed by the ground. If water travels beyond 100 feet, a straw bale/compost sock barrier would be used to slow the waters velocity and spread out the water to increase percolation into the soil. Please note that the drill site was a former logging pad and the remainders of a wood chip filter berm was constructed for the pad. The remnants of this berm may be utilized for this erosion and sediment control plan.

Sediment and Erosion Control for Truck Traffic: The access road along Reed Hollow is well maintained and leads to a Marcellus gas pad and its associated compressor station and has held up to recent logging activities within State Game Land 293. It is unlikely that associated road use for this drilling project would cause degradation to the road or increase sediment load in surface water runoff. Therefore, it is unlikely any erosion or sediment control devices will be needed. However, if an erosional spot occurs, straw bales or compost socks will be used to control the sediment. Road will then be repaired after drilling activities is completed to prevent long-term erosion/degradation of the road

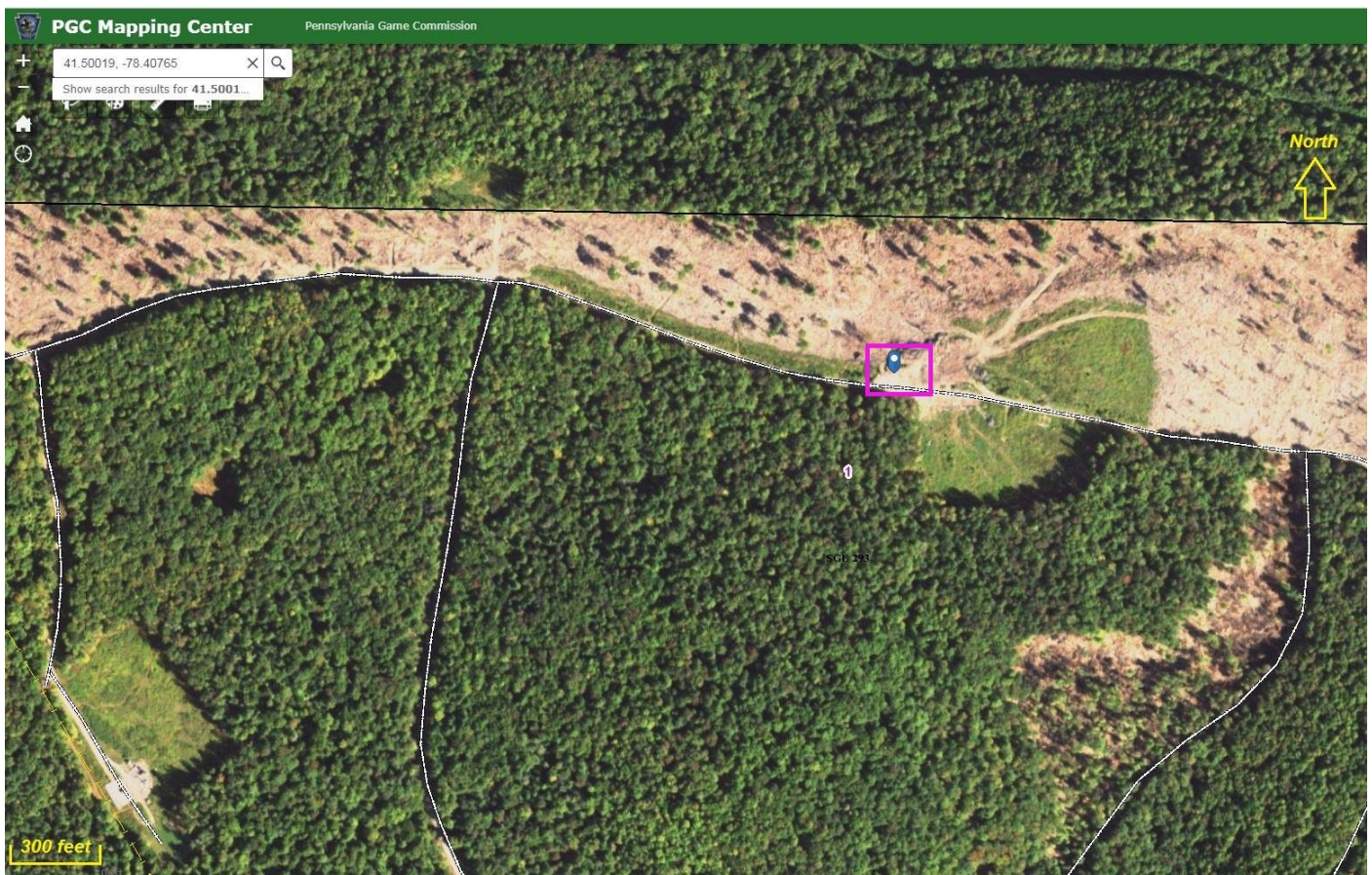


Figure 1: Aerial imagery of the area surrounding the core drilling site (Pink Rectangle).