A pre-inspection of Goldstake’s proposed exploration areas along Whitewood Creek was conducted on May 29, 2013. Under the proposed exploration project, Goldstake is planning to evaluate the amount of gold present in tailings and substrate materials in certain properties along Whitewood Creek approximately three to five miles west and southwest of Vale, SD.

During the exploration project, Goldstake will excavate up to 250 test pits along transects perpendicular to the creek. Each transect will have up to six pits and will be spaced 50 to 150 feet apart. Each pit will be excavated with a backhoe and will be 10 to 20 feet long and up to 20 feet deep. The pits will be a minimum of three feet wide but will be terraced for deeper pits to allow for safe access into the pits for sample collection. The pits will be located a minimum of 10 feet away from the bank of Whitewood Creek. A maximum of 50 pounds of material will be removed from each test pit as well as 10 composite samples of less than 5 tons each. All material will be transported off site for analysis and testing.

Goldstake will also drill a maximum of 30 test holes. A few kilograms of samples may be recovered from the drill cuttings. Some of the test holes will be completed as monitoring wells for baseline purposes to collect data for a proposed mine permit. No new roads will be constructed for the exploration activity.

The group met at the turn of the Vale Cut Off Rd and Rosander Rd near the siphon on Whitewood Creek in Butte County at 10:00 am MDT. From here, the group drove to the southern exploration areas on the Holsclaw and Balo properties located in Sections 19 and 20; T7N-R5E, Meade County. We arrived at the Holsclaw Ranch at 10:25 am MDT. At this point, the group was joined by landowners Stan Holsclaw and Guy Balo. After brief introductions, the group returned to their vehicles and Mr. Holsclaw led the group to the first site to look at an area representative of the proposed exploration project.

We arrived at the first inspection site located in the E1/2 Section 20; T7N-R5E at 10:45 am MDT. According to Mr. Holsclaw, this area was the original stream bed for Whitewood Creek prior to the deposition of tailings (Photo 1). It was estimated there are approximately 15 to 20 feet of tailings in this area, which is representative of other areas where exploration will take place.
Ms. Johnson explained Goldstake’s proposed exploration plan. The company will excavate test pits along transects located perpendicular to the creek. Each transect will be spaced 50 to 150 feet apart with a GPS unit. Each pit will begin no closer than 10 feet from the creek bank and proceed away from the creek. No pits will be excavated in the creek channel. The pits will be approximately 10 feet long and up to 20 feet deep. However, the pits will be longer if necessary. Goldstake will halt pit excavation if the water table is encountered prior to reaching the desired pit depth. The width of the pits will vary with depth to ensure that the pits can be safely accessed for collection of samples. Ms. Johnson indicated the pits will be excavated according to OSHA standards for excavations to ensure the safety of the work crew. Therefore, deeper pits will be wider at the top and terraced to allow for safe access to the bottom of the pit with minimal concern for slumping of pitwalls.

Samples from the pits will be taken at discernible changes in the tailings. Goldstake plans to take a 3,000 gram sample from each pit. Each sample will be collected at various depths in the soil, ore, and substrate where there are notable differences in the layers. At least two samples will be collected from the substrate. Goldstake also plans to take ten 50-pound composite samples from several pits during exploration. All samples will be analyzed for multiple metals to better characterize differences in the tailings as well as differences found between the tailings and natural alluvium in the area.

The tailings are easily delineated from the underlying materials by its fine sandy texture. The older tailings are larger grained materials and may have larger rocks in them. This will work well for the mine plan Goldstake is currently working on as it will help to minimize any crushing or grinding that may need to be done on the ore prior to processing. Ms. Johnson said Goldstake will not need to crush the tailings prior to processing, although she acknowledged that some material in the tailings may need to be separated for crushing. It is not known at this time how or where such material would be handled during mining.

The vegetative cover on the tailings in this area was remarkable, considering there were no attempts to reclaim the tailings since the South Dakota’s mining laws and regulations were not in effect during the time the tailings were deposited. Vegetative species noted include various wheat and blue grasses, smooth brome, assorted vetches, prickly pear, woods rose, chokecherry, buck brush, and curly burdock. Over the many years since the tailings were deposited, a growth medium has naturally formed over the tailings which supports vegetation and should be salvaged for use during final reclamation (Photo 2).

An archaeologic site is located about ½ mile east of this location. This site was not inspected. Mike Fosha of the Archaeological Research Center recommended that Goldstake place a 20 meter buffer around the site.

We then proceeded to the northwest to view the tailings along the banks of Whitewood Creek. We arrived at 11:15 am MDT. The tailings in this area appeared to be approximately 20 to 25 feet thick. We noted the different layers of tailings deposited through the years along the stream bank. The creek at the time of the inspection was somewhat high, but the entire depth of the tailings was exposed as well as the top part of the underlying shale layer. A topsoil or growth medium layer was noted on top of the tailings which was supporting a good stand of vegetation.
The tailings were layered with varying colors of brown and gray. At the bottom of the tailings, there was a section of deposited material which contained larger rocks (Photo 3).

The tailings are eroding extensively along the stream, especially during flood events as the creek undercut the tailings along the creek. They in turn collapse into the creek bed and are washed further downstream. This is common along areas of the stream bank to the south of the proposed exploration operation.

The primary concern with the tailings, besides the contamination from various metals, is its highly erosive nature. However, since Goldstake has no plans to conduct exploration operations in the creek channel, it plans to stay at least 10 feet from the creek bank during pit excavation, and all pit excavations will be backfilled and reseeded, erosion of tailings into the creek from exploration operations should be minimal. The DENR has concerns with having a pit a minimum of 10 feet from the creek where active undercutting of the tailings is occurring. As a result of these concerns, the DENR feels it is necessary to condition pits be a minimum of 20 feet from the edge of the creek. Goldstake may move pits within 10 feet of the creek by obtaining approval for the areas through the DENR based on individual site conditions. Goldstake should be required to install erosion control devices if erosion does become a problem.

Before we left the Holsclaw property, we drove to a portion of the creek that is adjacent to Mr. Holsclaw’s barn. Tailings in this area eroded over time toward the barn, which began to threaten the stability of the barn’s foundation. Mr. Holsclaw constructed a berm to move the creek away from the barn and prevent further erosion. The area behind the barn is now swampy, but the creek is now approximately 100 feet west of the barn (Photo 4).

The group then drove over to the Balo property, west of the Holsclaw property in Section 19 T7N-R5E. Goldstake plans to conduct exploration mainly on the north side of Whitewood Creek (Photo 5). There is a red-tailed hawk nest in this general vicinity. Turkey and deer were also noted in the area, and brown trout were noted in the creek. Stan Michals indicated some restrictions may be necessary to limit exploration activities in this area during nesting season in order to protect nesting raptors such as the red tailed hawk as well as eagles. Ms. Johnson agreed that activities would be cleared through Mr. Michals for this area before exploration begins.

At this point, Mr. Holsclaw, Mr. Balo, Mr. Keenihan, and Ms. Whitelock left the group. The remainder of the group drove north to inspect other proposed Goldstake exploration sites in Meade and Butte Counties. At 12:05 pm MDT, we stopped at a bridge over Whitewood Creek to view proposed activities in Section 4; T7N-R4E, Meade County on the Martin/Fitzgerald property. Most of the exploration activities will occur on the eastern side of the creek (Photo 6).

From this location, Ms. Johnson pointed out a gate on a fenced field approximately 150 yards to the southeast (Photo 7). Goldstake has obtained easements from several landowners to allow for access to its proposed processing area that would be part of the mine permit application. The proposed processing area would be located over the ridge from the radio tower.

We briefly discussed Goldstake’s request for easements on the Keagan Property now owned by Neil Schuck. Ms. Johnson said Goldstake is trying to obtain an easement from Mr. Schuck. If
the easement through his property cannot be obtained, a section of property currently being planned for mining will be removed from the mine permit application.

The group also looked at Whitewood Creek in this area. It appeared that the river had been flowing at least a couple of feet higher in recent days, which was not surprising due to the excessive rainfall recently in the Deadwood/Lead area at the headwaters of Whitewood Creek. The creek in this area had eroded completely through the tailings and now flows through the shale bedrock.

The final stop of the inspection was at the siphon located in Section 35; T8N-R5E, Butte County, which is along the eastern extent of the proposed exploration activities. The siphon is located at the western end of the Keegan property mentioned earlier (Photo 8). Ms. Johnson said if Goldstake can obtain the easement, it would conduct exploration in the area to the north of the creek.

According to Ms. Johnson, Cory Foreman with RESPEC (a contractor working on stream studies of Whitewood Creek for Goldstake’s proposed mine permit) indicated Whitewood Creek above the siphon looked more natural than below. In this area, the creek looks to be calmer and less erosive than in other areas we had noted throughout the day. The stream below the siphon contained large erosion scarps along the edge of the river and was deeply incised into the channel.

The inspection ended at 12:45 pm MDT.

Inspectors: \s/  

Date:  June 10, 2013
Photo 1. View of old channel of Whitewood Creek.

Photo 2. Good vegetation on the tailings.
Photo 3. View of the entire cross-section of tailings visible in cut bank along Whitewood Creek

Photo 4. Swampy area along backside of Holsclaw barn where Whitewood Creek had started eroding tailings in area.
Photo 5. Stop along Whitewood Creek on Balo property. Most exploration activity is planned for other side of creek

Photo 6. View along Whitewood Creek from the bridge at the Keagan/Martin property boundary
Photo 7. Fence line in Martin Property where Goldstake has an easement for access. (Marked by white line)

Photo 8. Siphon at east extent of exploration operation.