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TO: File

FROM: Daron R. Haddock, Permit Supervisor *DRH*

RE: On-site Oversight Evaluations, Alternative Sediment Control, and Small Area Exemptions, Starpoint, Castle Gate and Skyline Mines, ACT/007/006, ACT/007/004, ACT/007/005, Carbon County, Utah

SUMMARY

Part of the 1996 oversight evaluation, includes a field assessment of the effectiveness of sediment control practices and small area exemptions. A field visit was made to three mines to evaluate signs of excessive sedimentation into receiving streams outside the permit area. Areas employing alternative sediment control were specifically visited. No signs of excessive sedimentation to streams outside the permit area were identified.

Field Evaluation:

At approximately 1:00 p.m. on June 25th the review team consisting of Mike Rosenthal, Steve Johnson and Daron Haddock arrived at the Skyline Mine. A discussion was held with Keith Zobell and Barry Barnum (both with Coastal) about the purpose of the site visit and the need to evaluate areas of the minesite that did not report to a sedimentation structure. A tour of the minesite ensued, whereupon the majority of Alternate Sediment Control Areas (ASCA's) and Small Area Exemptions (SAE's) were evaluated. Skyline has 32 of the ASCA/SAE areas, mostly associated with the overland conveyor system that was installed about 4 years ago. Skyline's main objective for these small areas is to establish vegetation to the extent that it provides sediment control. In area where vegetation is not practical, or in areas where vegetation has not yet established, they have installed silt fence and straw bales. These measures appear to be effective in preventing off-site sedimentation. No signs of excessive erosion or sedimentation were evident in the areas just downstream from the ASCA/SAE's.

On June 26th a site visit occurred at the Starpoint Mine site. An initial meeting was held at 9:00 am to discuss various permitting issues and plans for final reclamation at the site. Johnny Pappas and Ben Grimes (Cyprus), David Hansen and Delmas Johnson (Hansen and Associates), Mike Rosenthal (OSM) and a large number of DOGM staff members were in



attendance. After this meeting sediment control issues were discussed and a tour of the site was conducted. Part of the group went to look at reclamation issues and part of the group went to look at sediment control areas. Weather was warm with intermittent brief rain showers. Those participating in the sediment control evaluation were: Mike Rosenthal, Bill Malencik, Steve Johnson, Jess Kelley and Daron Haddock. There are eleven areas classified as Alternative Sediment Control Areas at the Starpoint Mine. The largest is a soil/subsoil storage area comprising 5.93 acres. The other ten areas combined comprise approximately 6.1 acres, the largest being 1.64 acres and the smallest .009 acres. Sediment control measures for these areas consist of straw bale or silt fabric silt traps, terraces, vegetation, sediment traps, sheet flow and total containment. These sites were all visited in the field and the sediment control appears to be functioning adequately. No signs of off-site sedimentation were evident.

In the afternoon at about 2:30 p.m. a field evaluation started at the Castle Gate Mine. Those participating in this exercise were Johnny Pappas (Cyprus), Mike Rosenthal (OSM) Steve Johnson, Bob Davidson, and Daron Haddock.

Castle Gate Mine employs the following treatments in varying degrees to control erosion in alternative sediment control areas.

1. Surface ripping
2. Contour furrowing
3. Mulching
4. Filter fabric (silt) fences
5. Straw bales
6. Seeding and fertilization where necessary,
7. Reseeding areas that do not exhibit successful germination
8. Surface roughening and mulch incorporation

Sowbelly Canyon was the first area investigated. This canyon has recently undergone reclamation activities and sediment control is extensively done using alternative measures. Surface roughening and mulch incorporation are primary means of control. Large pocks have been made throughout the regraded site to retain moisture and to control runoff. Vegetation in the area (although it consists of many weeds) is also quite effective in controlling runoff. Battery powered remote monitoring devices are installed both upstream and downstream of the mine site to gauge effectiveness of the sediment control. The drainage below the minesite was walked and there appeared to be no evidence of increased sedimentation occurring below the site.

The group then traveled to Hardscrabble Canyon and looked at the measures being utilized there. Again surface roughening plays a big role in controlling erosion. Silt fence is also installed in various segments up the canyon. Only a portion of this canyon has been regraded and seeded (#4 area) at this point. Additional reclamation will occur later this year and alternative sediment control is planned for much of this area as well since the sediment ponds would interfere with the overall grading plan. The techniques employed thus far seem to be effective in controlling sedimentation. No evidence of excessive off-site sediment transport was apparent.

Conclusion:

All three mines that were investigated utilize alternative sediment control to varying degrees. Alternative sediment control is used when it is determined that a sedimentation structure may not be practical or the best technology for the given area. In most cases the areas were small compared to the overall size of the disturbed area. Sediment control methods included a variety of treatments including but not limited to surface roughening, mulches, silt fence, straw bales, and vegetation. The measures were effective at the three mines that were investigated during this evaluation.

cc: Mike Rosenthal
Steve Johnson
Joe Helfrich
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