

- 2) During Mining – Monthly surveying will be conducted while the longwall face is within 1000 feet of being underneath the ditch (if seasonal access permits). This will include mining under Panel E6.
- 3) Post-mining – Monthly surveys will be completed for the first two months after each longwall face has proceeded to more than 1000 feet from being underneath the ditch (or only one final survey will be done if seasonal access is unavailable during the 30-day period immediately following undermining of the ditch). Data from the surveys will be reported in the semi-annual subsidence report.

Detailed Description of Mitigating Measures – 2.05.6(6)(f)(iv)(A-D)

Impacts to structures (buildings) and ground and surface water resources will be monitored and mitigated, if necessary, as presented later in this section, in Sections 2.04.7(3) and 2.05.6(6)(e)(ii)(A-C), in Exhibit 19C, and in Exhibit 52. Monitoring personnel (e.g. hydrology, subsidence survey) are regularly in the field throughout the permit area and note observations of cracking, landslides, rockfalls, or other natural and/or subsidence hazards or impacts. The private landowner in the Jumbo Mountain lease tract observed and reported cracking, sliding, and other unusual conditions. Roads will be repaired through regrading or filling if adversely affected by subsidence. Should cracking or blockage of a trail or an unimproved road that is open for use (i.e. is not blocked, reclaimed, or otherwise "closed" from use) occur from subsidence, the damage would be repaired (i.e. fill crack, buttress, install drains, or remove blockage etc.) or the area barricaded or blocked to prevent access. MCC will also place an informational sign along the primary public access to the USFS lands for mining and/or natural hazards awareness.

MCC recognizes that proposed mitigation to surface waters, roads, vegetation, wetlands, etc. on Forest lands in the SOD will be accomplished in accordance with the USFS stipulations specified on the BLM Federal Lease C-1362. This document contains the stipulations agreed to by MCC with the Forest regarding, in part, the mitigation requirements for mining related impacts within the Forests Lands in the SOD area.

MCC will repair impacts of subsidence on surface drainages on USFS lands (or other private lands), including revegetation as necessary to control erosion. For any impacts occurring on USFS lands, MCC will consult the USFS immediately to determine a) The level of mitigation needed, and b) The feasibility of employing the proposed mitigations. Should these impacts occur on USFS lands, MCC, in conjunction with the USFS, will evaluate the impacts on a case by case basis to assess the most appropriate mitigation. MCC will seek Forest Service approval for any mitigation(s) on USFS lands.

If stream channels are impacted by subsidence, efforts will be made to repair the channel to ensure that flow continues in the channel. If cracking, headcutting or significant channel incising occurs, MCC will evaluate the channel morphology and prepare a mitigation plan. Mitigation may require the sealing of fractures, if they occur in the stream channel, with bentonite/soil mixes to stop water loss, excavating ridges or high areas created by subsidence within the stream channel that impede flow, and redirecting flow, if necessary, back into the original channel if diverted due to subsidence. Temporary culverts in ditches and streams may also be used to bridge surface cracks while the best method to seal the fractures is determined. A 0.6 acre area of subsidence on South Prong Creek at the confluence with the North Fork of South Prong Creek (see Map 34) on MCC property was repaired by backfilling with nearby native soils, injecting the backfill with cementitious grout and sealing the area with a bentonite cap.

If stream courses are blocked by mining induced slide movement, MCC will use hand tools or appropriate heavy equipment to reopen affected channels. The necessary permits to perform such work will be obtained prior to performing mitigation. Other mitigation may include the placement of straw bale dikes or silt fences below slide areas to reduce sediment loading. If ponding occurs due to rockfalls or slides within the stream channels and is not determined to create a hazard to the public, no additional mitigation is proposed. However, if the ponding creates hazardous conditions, the structure creating the ponding