

Northwater Spring Mitigation, Sufco, C/041/0002 Status Report
Lisa Reinhart
10/4/2016

Tasks associated with project:

4202: Approval of Northwater Mitigation Plan (Appendix 7-25)

4150: Mitigation proposal- deficient.

4079: Time extension for plan is requested and approved.

3308: Amends the MRP to include drilling of five boreholes, one at Joe's Mill Ponds and four at the North Water spring area.

2583: Approval for investigating water levels at the Pines 105 and Joes Mill Pond springs.

2547: Certain water sources Pines 105 and Joes Mill Pond spring have been affected by subsidence from mining of the Pines East 5L longwall panel. The Division approved repairing the crack but requested additional requirements for replacement of Pines 105 and Joes Mill Pond springs.

Background

During 2005 and 2006, longwall mining at Canyon Fuel Company, LLC's Sufco Mine (Sufco) occurred beneath the North Water Canyon tributary to the East Fork of Box Canyon (also often referred to as the East Fork of the East Fork of Box Canyon). Subsidence related effects resulted in the cessation of spring discharge to the surface from three springs in the North Water Canyon area (Pines 105, Pines 311, and Pines 310 lower).

Longwall mining and related subsidence also occurred beneath the Joe's Mill Pond area, approximately 1/2 mile south of North Water Canyon. Subsequent to mining in the Joe's Mill Pond area, discharge from a seep that provided water to an adjacent small stock watering pond also ceased to flow at the ground surface.

As a result, Sufco agreed to a mitigation plan outlined in Appendix 7-25 of the MRP. In general, the mitigation requirement is to replace the loss of surface water in the Northwater area and the Joe's Mill pond area.

Related Commitments in Appendix 7-25

- 1. Replace drinking water to wildlife and livestock in the North Water area and Joe's Mill Pond area.**

Status: Complete. Sufco constructed a system to transport water from spring MSP-89 to the existing piping system at EFB-11. EFB-11 feeds water to both the Pines (North Water) and Joe's Mill troughs (see map on last page). This system also allowed the permittees who have the grazing permit in the area to install their solar pump and pump water to their troughs on the canyon rim as they had done prior to the undermining of the area. As part of this project, Sufco

also installed two additional trough locations to allow for better foraging in the Pines area. One of the sets of troughs is located on the canyon rim directly above Sufco's pump. The other set is located to the east and utilizes the permittees pump to fill them as well as the troughs currently located above Pines 105. During the 2015 season, Sufco made several improvements to the system.

- 2. Provide a summary report of system performance and maintenance in annual report for 2nd year.**

Status: Complete. This report was submitted to Amanda Daniels on 10/16/2014 and is located in CTS.

- 3. Sufco will negotiate with the Forest to perform mitigation activities at another site within the Muddy or Quitchupah drainages that may include vegetation enhancement, spring collection improvement, fencing of sensitive areas, etc. The negotiations and mitigation project will be completed before the end of year 2017.**

Status: Complete. On 7/19/16, Amanda Daniels and I visited the three sites and verified the commitment to the Forest Service was complete. The Forest Service provided a letter dated January 21, 2016 (file code 2820) confirming the project was complete to their satisfaction.

The three projects took place within the Muddy drainage and included the following improvements: 1. MSP08 – Fenced directly around spring area, improved the development of the spring, and installed two durable water troughs. 2. GW13 – Fenced directly around spring area, developed the spring, and installed two durable water troughs. 3. Pines 310 – Developed the spring and fenced more than an acre of sensitive riparian vegetation. Projects began during the fall of 2014 and were complete during late summer of 2015.

- 4. For as long as required and reasonable, Sufco will provide in the annual report the water level measures obtained from the piezometers in the Northwater Spring Canyon and Joe's Mill areas.**

Status: Sufco has been providing the information as part of the water monitoring program.

- 5. Three years prior to cessation of mining at Sufco, the water delivery system will be evaluated for effectiveness and functionality. Negotiations may be entered into at that time with the mine, the permit holders, the Forest, and the Division to determine the future operation and maintenance of the system and if this is the best technology currently available to continue to deliver water for livestock grazing. Solutions for the long term liability of the system will be part of those negotiations**

Status: To be determined three years prior to cessation.

6. Three years prior to cessation of mining, the hydrologic condition of the Northwater area will be evaluated. A report will be compiled describing the current conditions of surface and groundwater systems as well as the changes that have occurred since mining took place in the area. At this time, all mitigation efforts associated with this project will be appropriately evaluated to determine effectiveness and conformity with the rules and regulations. The ultimate goal of the evaluations will be to determine compliance with final bond release of the project.

Status: To be determined three years prior to cessation.

7. Upon completion of all mining activities at Sufco, perpetual maintenance of the system will be discussed and agreed on between the Division, the Forest Service and Sufco.

Status: To be determined upon completion of mining activities.

Northwater Mitigation Project Location and Troughs



Photos of Forest Service Negotiated Mitigation Project

Pines 310 Spring Box



Pines 310 Fenced Wet Meadow



MSP 08 French Drain



MSP 08 French Drain and Troughs (back)



MSP 08 Trough



GW 13 Trough



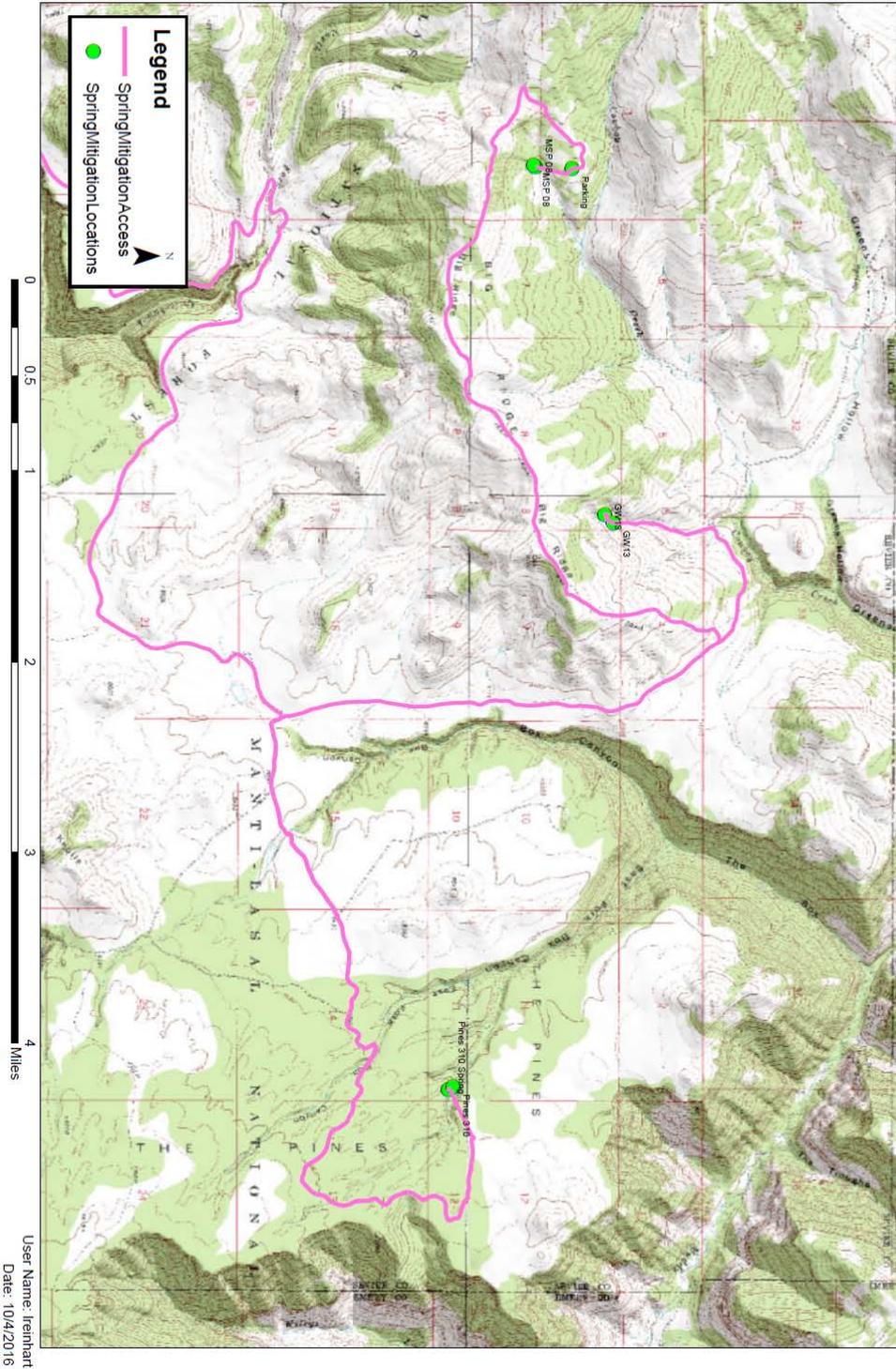
GW 13 Spring Box



GW 13 Trough



Location of Forest Service Negotiated Mitigation Project



Sufco Forest Service Negotiated Mitigation Project