

part, these water resources were not reliable, poorly constructed or maintained, and widely distributed. The arid and highly variable climate causes groundwater fluctuations and can make intermittent reaches of ephemeral channels and springs unreliable or insufficient sources of water. The few premine structures on the leasehold were small, breached, or filled with sediment. Wells and windmills provided a more dependable source of water but maintenance issues and distance from where the water resource was needed compromised their effectiveness and made logistics difficult.

Achievement of the postmine land uses of livestock grazing and wildlife habitat on reclaimed lands is facilitated by the availability of water resources. PWCC will provide new water resources and mitigate the loss of certain existing or premine water resources affected by mining. These water resources will benefit not only reclaimed lands but also native undisturbed areas adjacent to reclaimed lands resulting in regional benefits.

PWCC will mitigate the loss of seven pre-existing or current water resources that may be impacted by mining including springs, wells, and surface water structures. They include Wells 4T-403 and 4T-404; Benally Spring (NSPG147) and Spring Site No. 97 (northwest corner of the N14 mining area); and surface water structures DM-1, DM-7, and DM-9. Interim and permanent alternative or replacement provisions for these water sources are discussed in Chapters 6, 17, and 18 and include permanent impoundment's, replacement wells, and the public watering standpipes that are tied into the N-aquifer potable water distribution system (Drawing 85324). There are no projected direct effects for intermittent reaches of the major ephemeral channels by mining activities (see Chapter 18, Probable Hydrologic Consequences). However, any potential impacts would be mitigated by the replacement features described above and in the following discussion. Mining and reclamation activities will provide a number of opportunities for permanent water source availability on the leasehold for both livestock and wildlife. These water sources are a significant improvement over premining wells, springs, and intermittent reaches in ephemeral channels that have provided a potential water resource in the past. Four types of permanent water sources have or will be developed on the PWCC leasehold as a result of mining and reclamation activities (see Drawing 85324). They include pre-law and approved or proposed postlaw internal impoundments, water control structures (ponds), public water standpipes connected to the N-aquifer potable water distribution system, and intermittent reaches of ephemeral channels.

Nineteen permanent internal impoundments currently exist or will be available for livestock and/or wildlife use as a part of the postmining landscape (Drawing 85324). Three are located in the N-2 coal resource area: N2-RA (wildlife habitat only), N2-RB, and N2-RC. The remaining 16 are pre-law and post-law internal impoundments located in the J-3 coal resource area (J3-G and five other unnamed impoundments), J-1 coal resource area (J1-RA and J1-RB), N-8 coal resource area (N8-RA), the N-1 coal resource area (N1-RA and six unnamed impoundments). One additional permanent internal impoundment is proposed and is located in the J19 coal resource area (J19-RB). Additional existing pre-law depressions that periodically hold water are also available but are not considered permanent water sources due primarily to restricted watersheds and climatic variation.

PWCC will also retain 31 existing and future sediment control structures (permanent impoundments) providing additional surface water bodies for livestock and wildlife to those above. The impoundments include nine existing MSHA structures: J-7 Dam, J-7-JR, J2-A, J16-L, J16-A, N-14H, N14-G, N14-F, and N14-D. Twenty existing sediment control structures are also included. They include J3-D, J3-E, N5-A, N6-L, N11-G, J7-R, TPF-D, J27-RA, J27-RB, J27-RC, TPF-E, N7-D, J16-G, J21-A1, J21-C, N7-E, N10-A1, N10-D, N11-A, and N12-C. Two sediment ponds scheduled for construction during the remaining life-of-mining activities are also proposed and include N10-G and J21-I. These existing and proposed ponds all meet or will be upgraded to meet the permanent pond design criteria. Their size, configuration, and upstream watersheds indicate persistent water retention (see the discussion of Permanent Impoundments, Chapter 6). Monitoring of water quality will provide sufficient information to demonstrate the suitability of these sources to support the intended postmining land uses.

Two public water standpipes have been constructed by PWCC on the leasehold, one west of the N14 coal resource area and one west of the J1 coal resource area. These sites, located on Drawing 85324, are connected to the N-aquifer potable water distribution system and provide excellent water in terms of quality and quantity. These sources of water are available for further development as livestock and wildlife watering areas, should the Tribes desire their retention in the postmining land use plans.

Maintenance and Management

PWCC's maintenance and management program for revegetated areas includes, but may not be limited to: monitoring; interseeding, reseeding and augment planting; weed control;