

CHAPTER 2

GENERAL DESCRIPTION OF THE  
MINING LOCATION AND ACTIVITIES

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## CHAPTER 2

### GENERAL DESCRIPTION OF THE MINING LOCATION AND ACTIVITIES

#### Location

The Kayenta Complex, that includes mines separately designated as the active Kayenta Mine and inactive Black Mesa Mine, is located on the Black Mesa in Navajo County, Arizona on lands leased from the Navajo and Hopi Tribes. The Black Mesa is a massive highland in Northeastern Arizona covering approximately 2.1 million acres. Along its northern boundary, the Mesa rises abruptly in a 1,200 to 2,000-foot high uneven wall then descends gently downward in a plane of rolling hills to the Little Colorado River. The maximum elevation at the northern rim of the Mesa is approximately 8,200 feet. Near the northern rim and in some of the canyons there are fairly dense stands of pinyon and juniper trees, a characteristic from which the Mesa has derived its name. Most of the Mesa, however, is rolling country covered primarily by a sagebrush shrubland. The Peabody leasehold covers 64,858 acres on the northern part of the Mesa just south of Kayenta, Arizona (Figure 1) with an additional Grant of Easement Right-of-Way for 360.94 acres.

The areas on the Black Mesa leased by Peabody consist of approximately 24,858 acres of land where the surface and mineral interests are held exclusively by the Navajo Tribe (i.e. "N" areas) and approximately 40,000 acres of land in the former Navajo-Hopi Joint Use Surface Lease Area (i.e., "J" areas). The tribes have joint and equal interests in the minerals, which underlie the former Joint Use Area; however, the surface has been partitioned. That portion of the leasehold, which lies in the former Joint Use Area, consists of approximately 33,863 acres partitioned to the Navajo Nation and 6,137 acres partitioned to the Hopi Tribe (Figure 2).

Peabody Western Coal Company (PWCC) also obtained a Grant of Easement in August 1996 for various facilities at Kayenta and Black Mesa Mines. For Kayenta Mine, two parcels representing 77.49 acres were included for the overland conveyor, overland conveyor maintenance roads, overland conveyor transfer on "B" and "C" facilities, 69 kV transmission line, seven sedimentation ponds, and access roads to pond areas. For Black Mesa Mine, two parcels containing 283.45 acres were included for haul roads (Navajo Route 41), 69 kV transmission line, water and telephone lines, utilities access roads, two sedimentation ponds, rock borrow area, and an access road to Navajo Water Well #4.

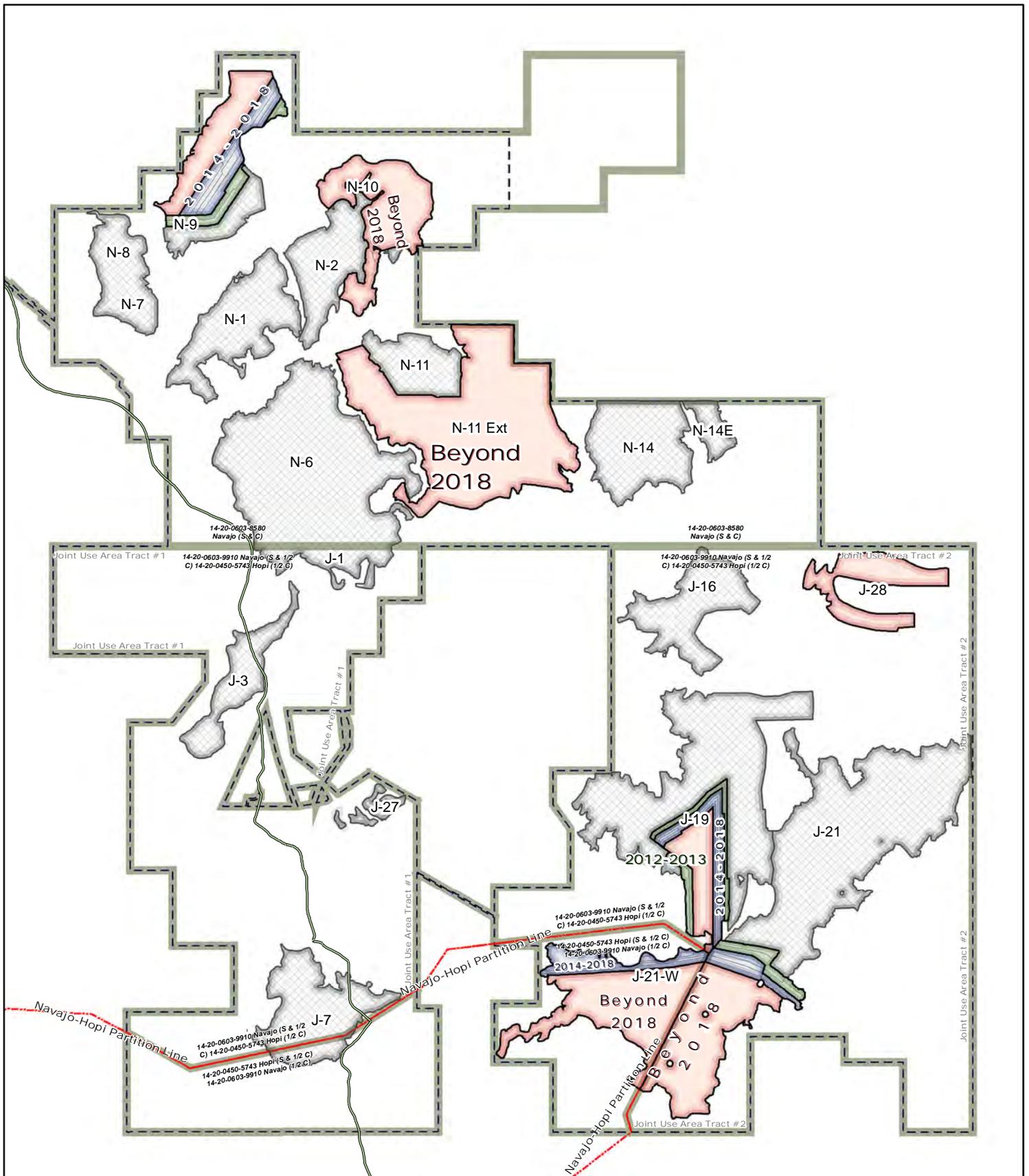
The Kayenta Mine was historically located on the Navajo lease area and the east portion of the former Joint Use Area (Figure 3). Coal produced at Kayenta Mine is transported approximately 83 miles via an electric railroad to the Navajo Generating Station (NGS) near Page, Arizona (Figure 4). The NGS is operated by the Salt River Project and consumes seven to eight million tons of coal per year.

The Black Mesa Mine historically consisted of the west side of the former Joint Use Area and a small portion of the exclusive Navajo lease area (Figure 3). The coal previously produced at the Black Mesa Mine was transported via slurry pipeline approximately 273 miles to the Mohave Generating Station (MGS) near Bullhead City, Arizona (Figure 4). The MGS was operated by the Southern California Edison Company and consumed approximately four to five million tons of coal annually through December 31, 2005; coal shipments to MGS thru the slurry pipeline cease on this date.

#### Mining Activities

Coal at the Kayenta Complex is mined by conventional strip mining methods. Overburden material covering the coal is removed primarily by draglines using a furrowing technique. The overburden is removed by digging a furrow or elongated pit to the first coal seam. The overburden is placed alongside the excavation. The coal is removed by shovels or front-end loaders and transported by haulage trucks to coal preparation facilities. Material between coal seams is removed by draglines, backhoes, dozers, or other excavation equipment and placed within or alongside the excavation or pit. When all the coal is removed, overburden from the next pit is placed in the parallel, open pit. This process is continued until all the coal has been removed from the given coal resource area (Figure 5).

At the preparation facilities, coal is dumped by the haulage trucks into hoppers. The coal is then sized and stored or shipped, depending on customer demand or coal quality requirements. There are four coal preparation areas at the Kayenta Complex (Figure 6). At the J28, N11, and N8 facility areas, after sizing, the coal is transported by conveyor up to 15 miles from the preparation facilities over the northwest face of the Mesa to storage silos located on the Black Mesa and Lake Powell Railroad. Coal is loaded from the silos into unit trains for transport to the NGS. At the former Black Mesa Mine, prepared coal was transported by conveyor a short distance to the Black Mesa Pipeline Company's slurry preparation plant. After processing, the coal was shipped in slurry form to the MGS; coal shipments thru the slurry pipeline cease as of December 31, 2005.



**FIGURE 3 - MINE PLAN AREAS  
PEABODY WESTERN COAL CO.**

1 inch = 9,000 feet

Produced by PWCC GIS, eb  
Date: Thursday, April 26, 2012

Path: T:\Projects\Permit\Mineplan 85210\Maps\Special Projects\Figure 3 - Mineplan LOM CH3.mxd

-  2012 - 2013 Permitted Project Mining
-  2014 - 2018 Permitted Project Mining
-  Permitted Project Mining
-  Areas Mined Out as of 1/1/2012
-  Coal Resource Area
-  Kayenta Mine Permit
-  PWCC Lease Line

Kayenta Complex  
PO Box 650  
Kayenta, Arizona 86033

