

CHAPTER 2

GENERAL DESCRIPTION OF THE
MINING LOCATION AND ACTIVITIES



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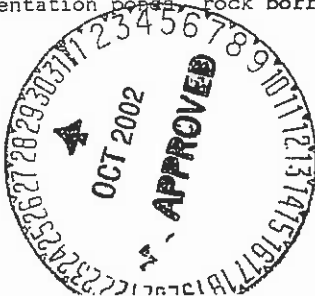
GENERAL DESCRIPTION OF THE MINING LOCATION AND ACTIVITIES

Location

The Black Mesa and Kayenta Mines are 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). No surface coal mining is planned in that portion of the leasehold, which lies within the Hopi Reservation.

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

The Black Mesa Mine consists of the west side of the former Joint Use Area and a small portion of the exclusive Navajo lease area (Figure 3). The coal produced at the Black Mesa Mine is transported via slurry pipeline approximately 273 miles to the Mohave Generating Station near Bullhead City, Arizona (Figure 4). The Mohave Generating Station is operated by the Southern California Edison Company and consumes approximately four to five million tons of coal annually.

Mining Activities

Coal on the Black Mesa 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, shovels, 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 three coal preparation areas at the Kayenta Mine and one preparation facility at the Black Mesa Mine (Figure 6). At the Kayenta Mine, 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 Navajo Generating Station. At the Black Mesa Mine, prepared coal is transported by conveyor a short distance to the Black Mesa Pipeline Company's slurry preparation plant. After processing, the coal is shipped in slurry form to the Mohave Generating Station.

PEABODY LEASE BOUNDARY



BLACK MESA MINE PLAN AREAS
KAYENTA MINE PLAN AREAS

01/28/05

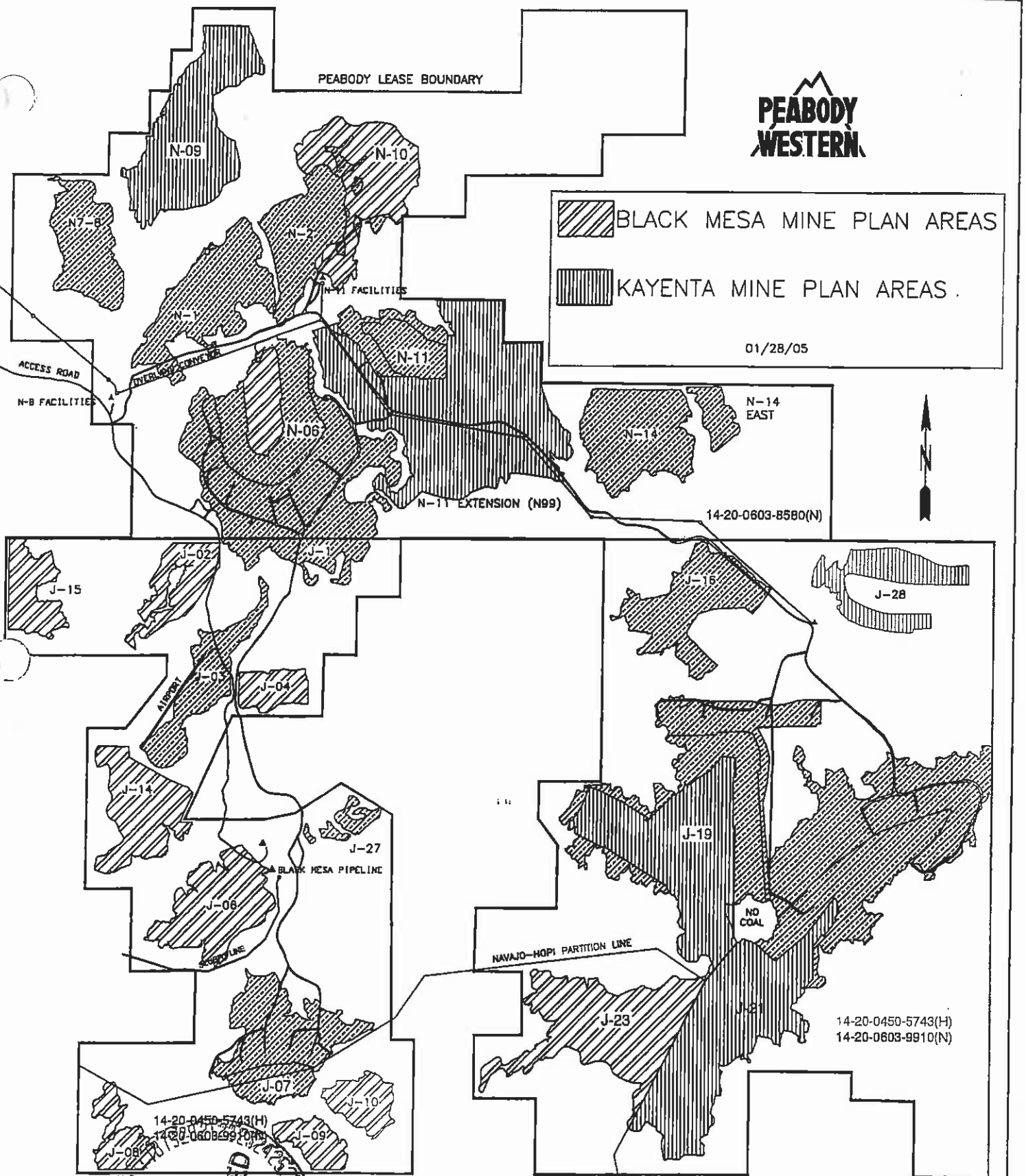


FIGURE 3
MINE PLAN AREAS

PEABODY WESTERN COAL COMPANY

AREAS FORECASTED TO BE MINED AS OF 1-1-2006

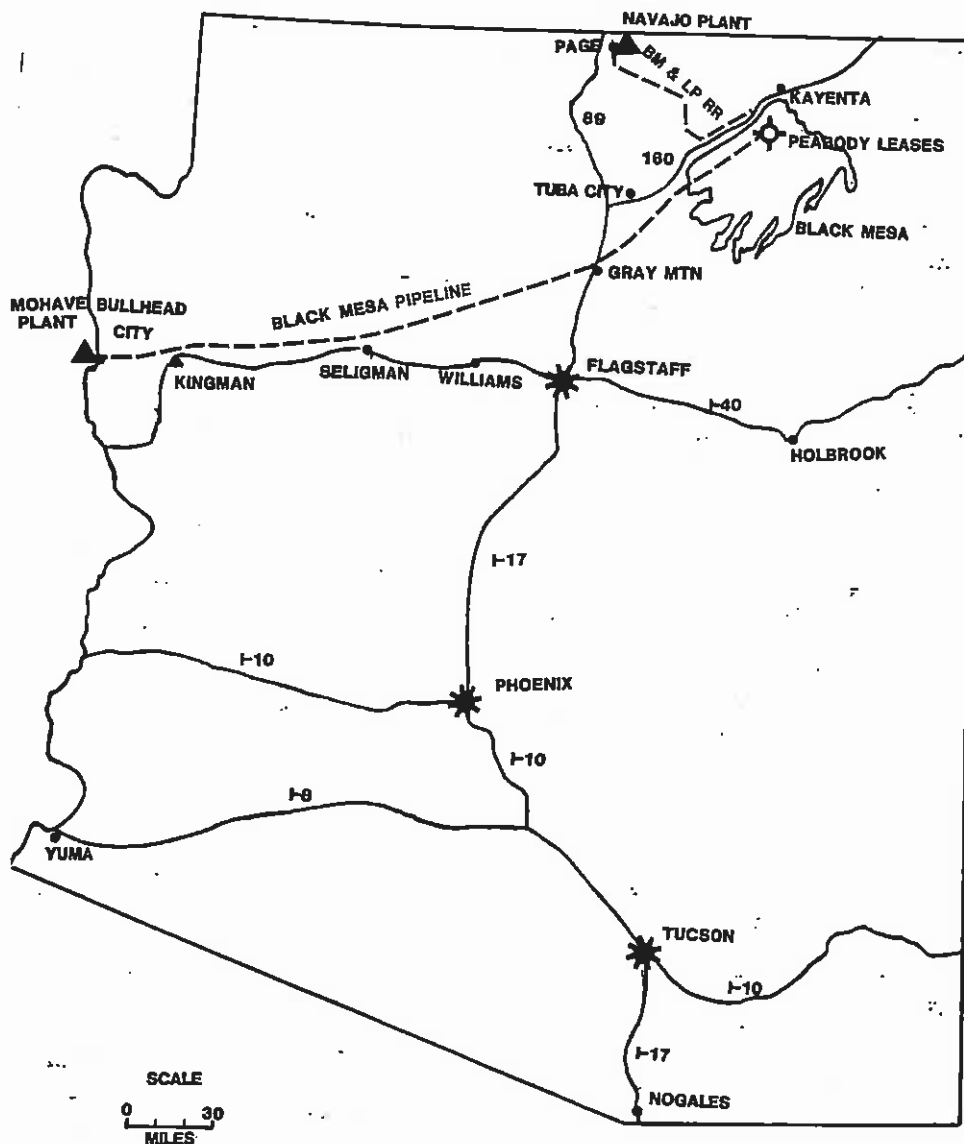


Figure 4
Coal Transportation Routes



CHAPTER 2

INDEX

| | <u>Page</u> |
|-------------------|-------------|
| Location | 1 |
| Mining Activities | 2 |

LIST OF FIGURES

| | <u>Page</u> |
|---|-------------|
| Figure 1. Location of Peabody's Black Mesa Leases | 3 |
| Figure 2. Black Mesa Leases | 4 |
| Figure 3. Reserve Dedication of the Black Mesa Leases | 5 |
| Figure 4. Coal Transportation Routes | 6 |
| Figure 5. Generalized Strip Mining Diagram | 7 |
| Figure 6. Major Facilities - Black Mesa Leases | 8 |

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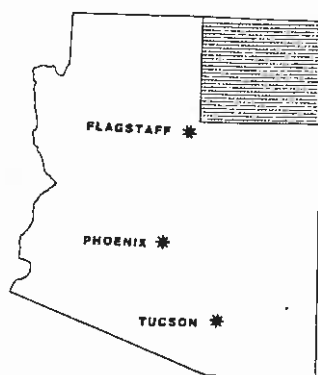
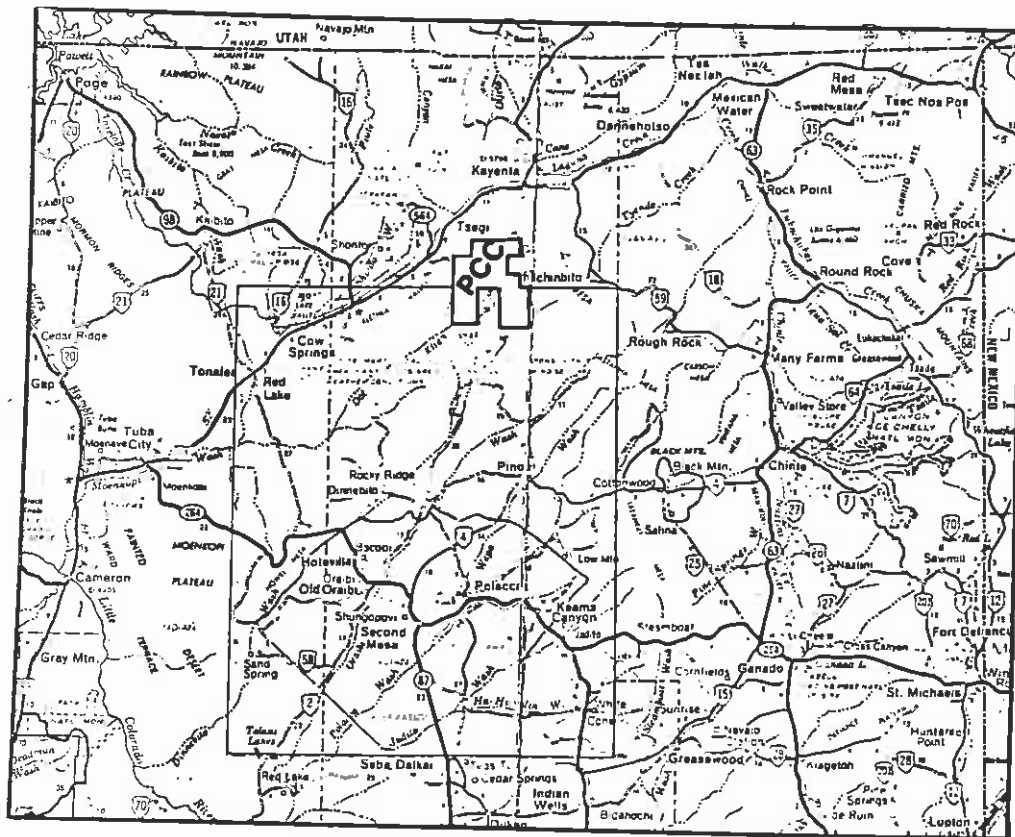


Figure 1
Location of Peabody's
Black Mesa Leases

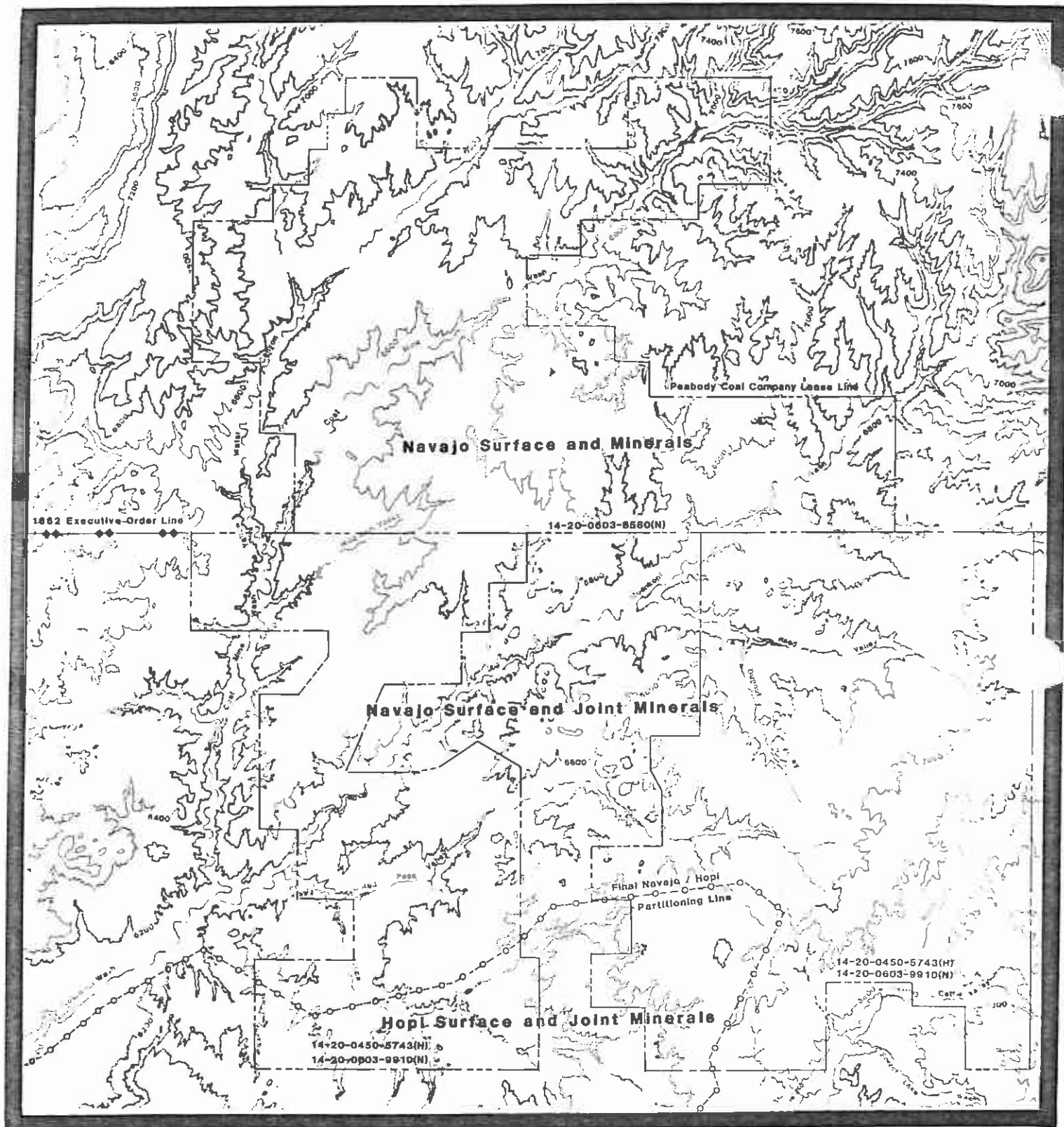


FIGURE 2
BLACK MESA LEASES
PEABODY COAL COMPANY

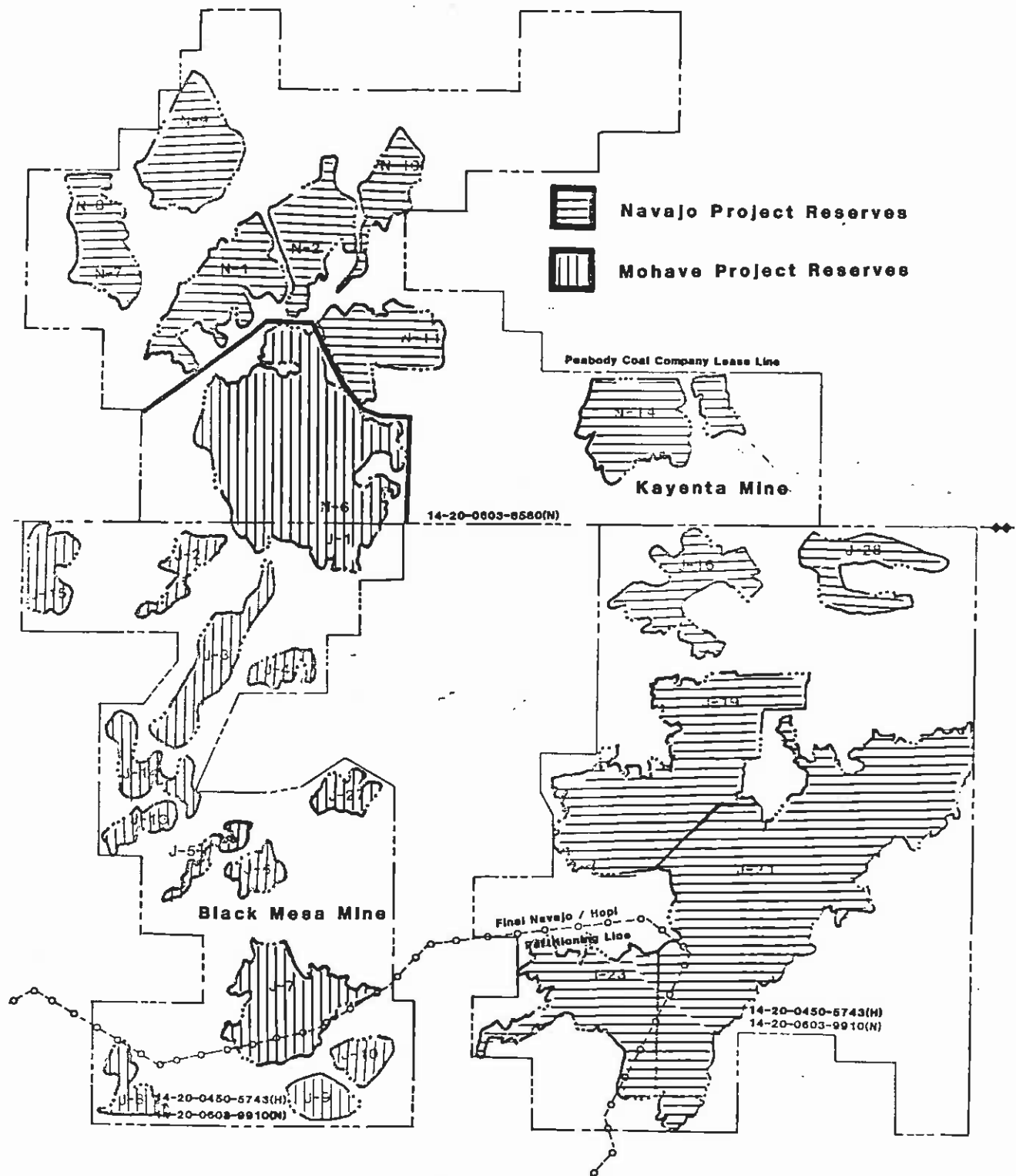


FIGURE 3
RESERVE DEDICATION OF THE BLACK MESA LEASES
PEABODY COAL COMPANY

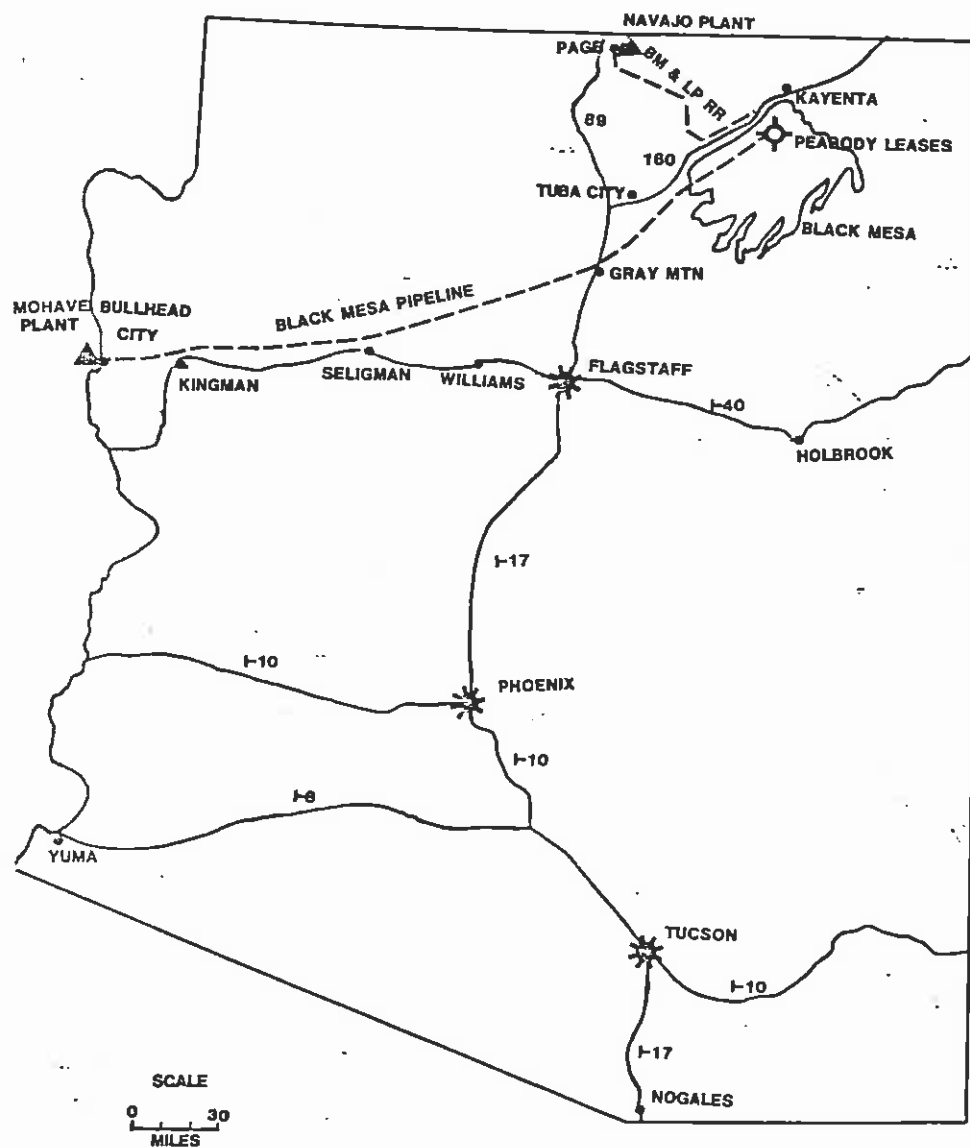
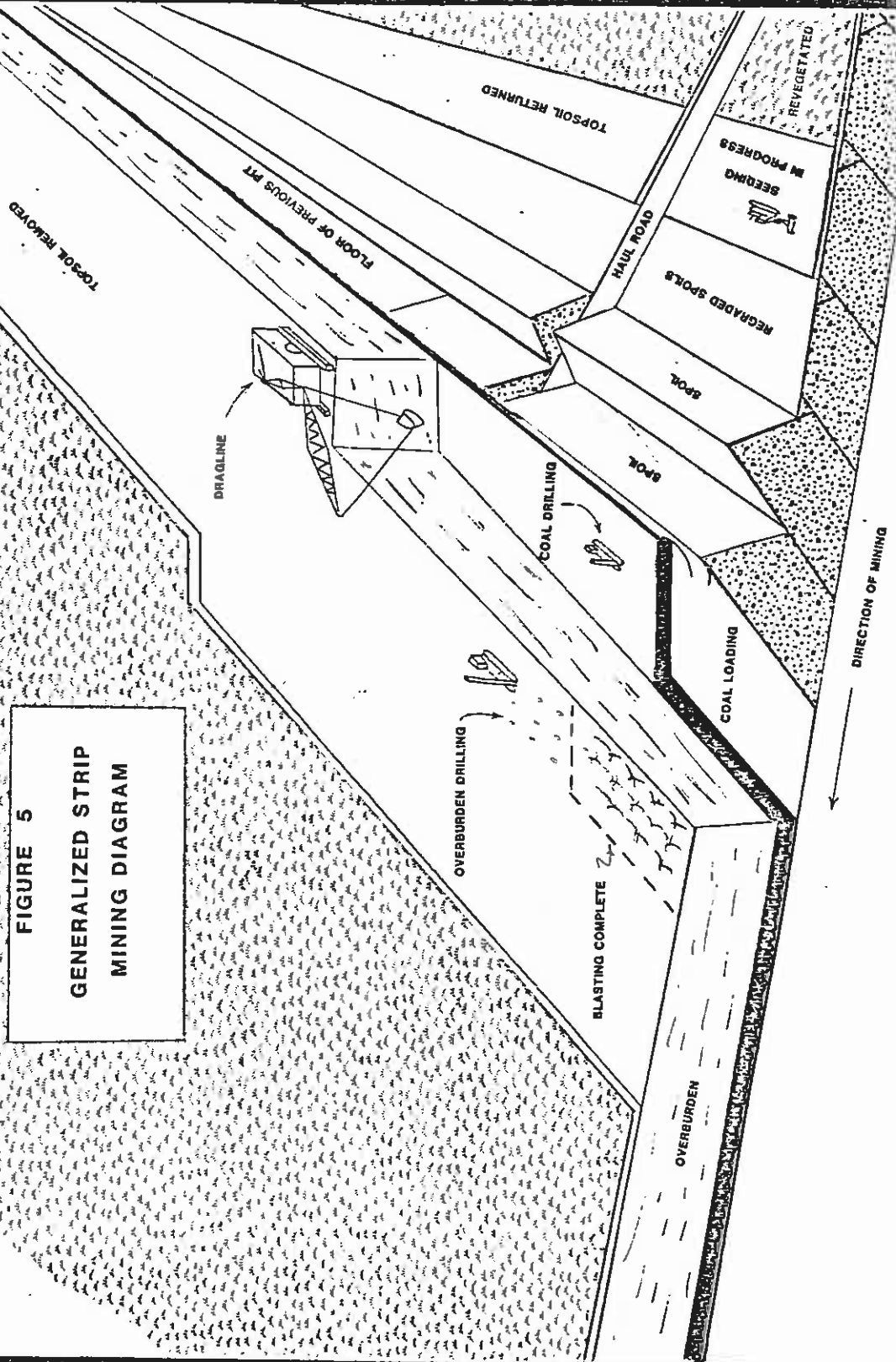


Figure 4
Coal Transportation Routes

FIGURE 5
GENERALIZED STRIP
MINING DIAGRAM



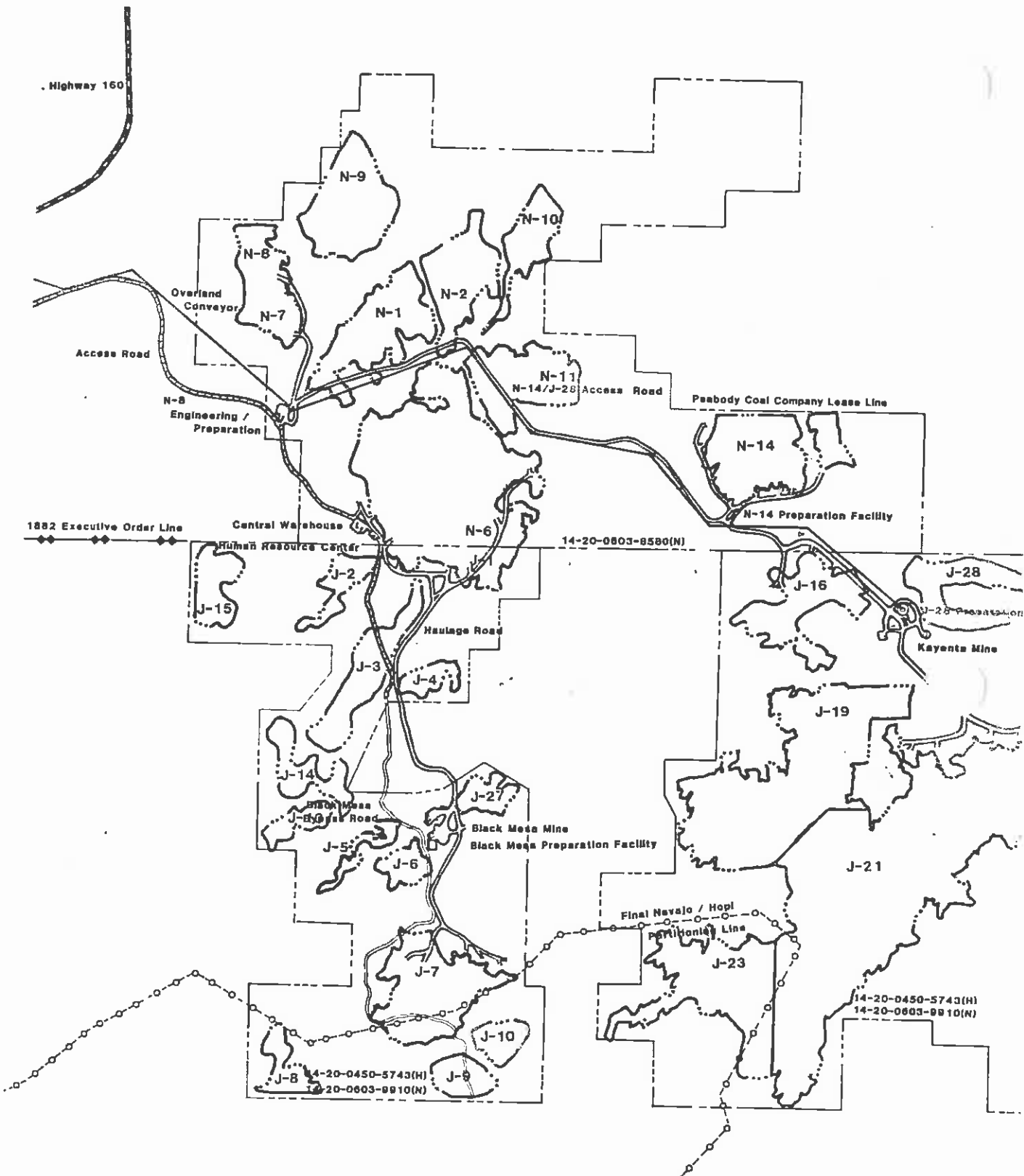


FIGURE 6
MAJOR FACILITIES
BLACK MESA LEASES
PEABODY COAL COMPANY

ATTACHMENT 3

BLAST MONITORING PLAN

Revised 08/19/94

BLAST MONITORING PLAN

The described plan herein, addresses the Revision Orders dated February 24, 1994 and August 10, 1994 pertaining to certain aspects of blasting. The plan will be implemented April 15, 1994 or upon approval by OSM, whichever is later, unless circumstances beyond PWCC's control such as equipment availability and resident consent preclude the ability to meet this date. In such an event, the OSM will be notified of delays and given a projected date of plan implementation contingent upon said delays.

PWCC will monitor all blasts using a three-directional particle velocity recording seismograph. PWCC will record each blast at the occupied dwelling closest to the blast. Each blast will be monitored for airblast. Because the dwellings in the vicinity of blasting do not have specific addresses, this revision application includes a map showing each dwelling where a blast will or may be monitored and the dwelling's relationship to blast areas. Blast and dwelling locations were determined in consultation with OSM.

The attached Blasting Monitoring Map, Drawing No. 94700, shows the dwellings at which monitoring will or may occur dependent upon the blasting location. Monitoring will be conducted at dwellings which PWCC has received permission from the resident, with either permanently installed or portable monitoring instruments.

Ground motion measurements will include the highest peak particle velocity and critical frequency for each direction of motion. If the permanent seismograph used to record those measurements is seismically triggered, it will be set at a trigger level of not greater than 0.50 inches per second. Seismically triggered portable seismographs will maintain a trigger level not greater than 0.05 inches per second. Airblast measurements will be recorded with the results given in decibels (dB). If the portable instrument used to record air blast is triggered by an airblast, the trigger level will be no greater than 129 dB. If the permanent instrument used to record airblast is triggered by

an airblast, the trigger level will be no greater than 132.6 dB. The maximum peak particle velocity must not exceed 0.75 inches per second and the airblast must not exceed 133 dB. Should false triggers occur, PWCC will request the OSM to adjust the trigger sensitivity.

Following implementation of the blast monitoring program, the seismographic measurement data (including the actual seismic wave form) and the airblast and blasting log data collected for each blast will be provided to both OSM's Albuquerque Field Office (OSM/AFO) and OSM's Western Support Center (OSM/WSC) within 15 days of the end of each bi-monthly reporting period. The bi-monthly reporting periods each month will be the 1st through the 15th and the 16th through the end of the month unless the beginning or end of the period falls on a weekend or federal holiday. The period will then begin or end on the next work day.

Except as provided immediately below, blasting will be restricted to the daytime hours between sunrise and sunset. PWCC may blast at times other than during daytime hours (unscheduled blasts) where required for public or operator health and safety and for emergency blasting actions. Within 24 hours of an unscheduled blast, PWCC will provide OSM/AFO and OSM/WSC with a detailed report explaining the reasons for the unscheduled blast, as well as the conditions of health and safety or emergency that required the blast.

This monitoring plan will be conducted for a period of one year after the date of implementation. At the end of the one-year period, OSM shall evaluate the monitoring data submitted by PWCC and will inform PWCC of whether the monitoring program should be continued, modified, or terminated. PWCC requests OSM evaluate the monitoring data and provide a report on a quarterly basis that summarizes the data, defines any non-compliance results, and provides justification for continuing this monitoring plan.