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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: BLACK MESA

ALTERNATE NAMES:
COW SPRINGS COAL MINE

NAVAJO COUNTY MILS NUMBER: 162A

LOCATION: TOWNSHIP 35 N RANGE 18 E SECTION 5 QUARTER W2
LATITUDE: N 36DEG 27MIN 35SEC LONGITUDE: W 110DEG 24MIN 15SEC
TOPO MAP NAME: GREAT SPRING - 7.5 MIN

CURRENT STATUS: PRODUCER

COMMODITY:
COAL BITUMINOUS

BIBLIOGRAPHY:

ADMMR BLACK MESA FILE
USAEC RME 91
USGS CRIB NO. US04015
ADMMR PEABODY COAL COMPANY FILE - OPERATOR
PHOTO FILE - P8
OFFICE OF SURFACE MNG RECLAMATION & ENFORCMENT
"PROPOSED PERMIT APPLI, BLACK MESA-KAYENTA
MINE, NAV & HOPI INDIAN RES., AZ"
NATIONS, J. D., SWIFT, R. I., AND HAVEN, H.H.
1998, ARIZONA COAL: IN ARIZONA GEOLOGY, ARIZ
GEOL SURVEY, VOL. 28, NO. 4, P 1-2
USGS PP1625B, NATIONAL ASSESSMENT COAL IN THE
COLORADO PLATEAU . . . , 2000

COW SPRINGS COAL MINE

FPK WR
5/15/69

Six miles of crooked, steep road shown on old highway map.
About $4\frac{1}{2}$ ft. seam of good coal at portal, in Mesa Verde
foundation. ^{formation} No sign of even fairly recent work except
bin half-full of coal.

See: ABM Bull. 180, p. 60 & 63

BLACK MESA COAL DEPOSIT

USGS Bull. 431-B, p. 145

Peabody Coal Company (file)

ABM Bull. 180, p. 62, 64, 67-69

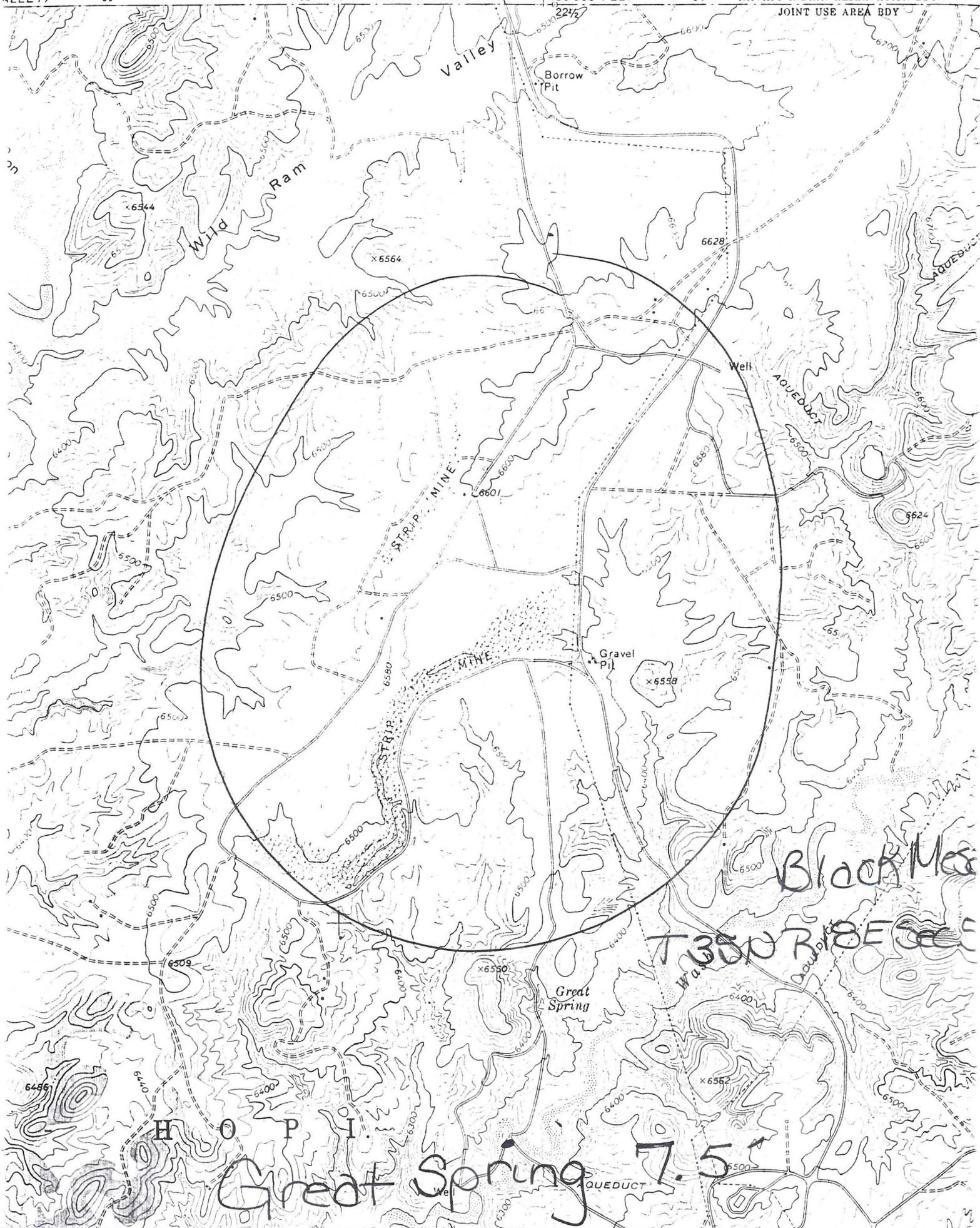
Coal Mining & Processing, February, 1971, p. 30
" " " May, 1973, p. 45, 46
" " " November, 1973, p. 22
" " " January, 1975, p. 53 (picture)

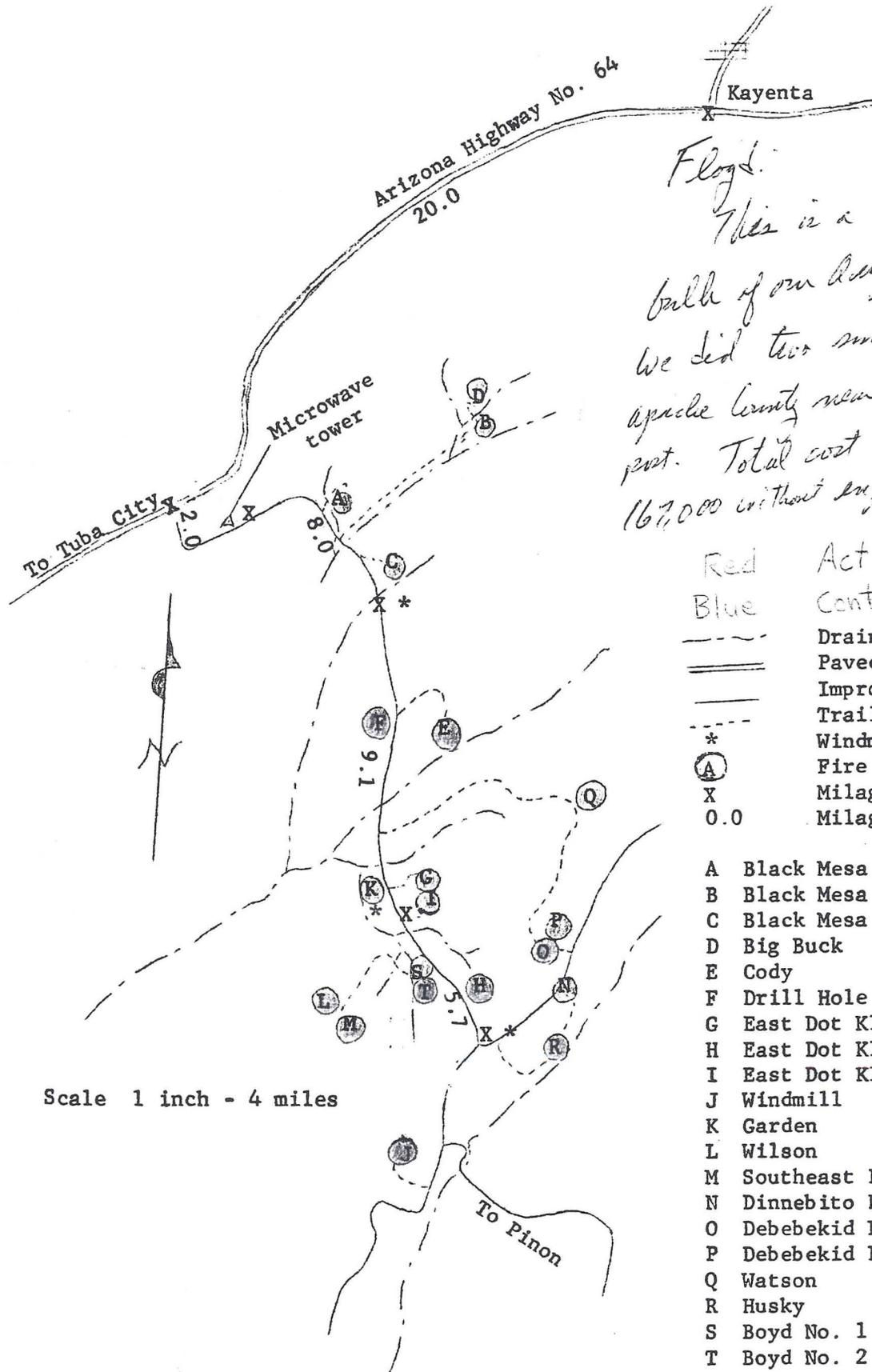
Skillings Mining Review, June 30, 1973
" " " March 9, 1974, p. 27

Mining Engineering, February, 1974, p. 85

Mining Congress Journal, March, 1974, p. 29
" " " Aug., 1974, p. 32 (reclamation)

ALLEY) 51 52 25' COW SPRINGS 29 MI. 8 MI. TO ARIZ. 160 430 000 FEET 54 NAVAJO INDIAN RESERVATION BDY JOINT USE AREA BDY





Floyd:
 This is a sketch of the
 bulk of our Arizona Projects.
 We did two small jobs in
 Apache County near Steamboat trading
 post. Total cost to date about
 167,000 without engineering or admin costs.

LOCATIONS OF BLACK MESA COAL CROP FIRES

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1992

Navajo County

PEABODY COAL COMPANY

Flagstaff Office

1300 S. Yale, Flagstaff, AZ 86001 - Phone 774-5253 - Employees: 80.

President Dennis L. Stevenson
General Supervisor, Operations Sil Perla
Director of Human Resources L. W. Bennett
Director of Engineering Frank Farnsworth
Division Materials Manager Merle Hendricks
Controller Rich Armstrong
Manager, Quality Control Charles J. Stenftenagel
Manager, Reclamation Wayne E. Hilgedick

Black Mesa Mine T35N R18E Sec. 5

P.O. Box 605, Kayenta, AZ 86033 - Phone 677-5040 - Employees: 400 - Surface coal mine - Located approximately 30 miles southwest of Kayenta.

Mine Superintendent Lewis Allan Gough
Assistant Superintendent Rick Contratta
Safety Supervisor Pete Craig

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1991

PEABODY COAL COMPANY

Flagstaff Office

1300 S. Yale, Flagstaff, AZ 86001 - Phone 774-5253.

President Dennis L. Stevenson
General Supervisor, Operations..... Sil Perla
Director of Human Resources L.W. Bennett
Director of Engineering Frank Farnsworth
Division Materials Manager Merle Hendricks
Controller Rich Armstrong
Manager, Quality Control Charles J. Stenftenagel
Manager, Reclamation Wayne E. Hilgedick

Black Mesa Mine T35N R18E Sec. 5

P.O. Box 605, Kayenta, AZ 86033 - Phone 677-5040 - Employees: 350
- Surface coal mine - Located approximately 30 miles southwest of Kayenta.

Mine Superintendent Lewis Allan Gough
Assistant Superintendent Lee Quarcelino
Safety Supervisor Barry Grass
Safety Supervisor Kieth Grass
Safety Supervisor Tony Benally

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1990

PEABODY COAL COMPANY

Flagstaff Office

1300 S. Yale, Flagstaff, AZ 86001 - Phone 774-5253.

President Dennis L. Stevenson

General Supervisor, Operations..... Sil Perla

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Director of Engineering Frank Farnsworth

Division Materials Manager Merle Hendricks

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Manager, Quality Control Charles J. Stenftenagel

Manager, Reclamation Wayne E. Hilgedick

Black Mesa Mine T35N R18E Sec. 5

P.O. Box 605, Kayenta, AZ 86033 - Phone 677-5040 - Employees: 350

- Surface coal mine - Located approximately 30 miles southwest of Kayenta.

Mine Superintendent Lewis Allan Gough

Assistant Superintendent Lee Quarcelino

Safety Supervisor Barry Grass

Safety Supervisor Kieth Grass

Safety Supervisor Tony Benally

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1988

PEABODY COAL COMPANY

Flagstaff Office

1300 S. Yale, Flagstaff 86001 - Phone 774-5253.

President Dennis L. Stevenson
General Supervisor, Operations..... Sil Perla
Director of Human Resources L.W. Bennett
Director of Engineering Frank Farnsworth
Division Materials Manager Merle Hendricks
Controller Rich Armstrong
Manager, Quality Control Charles J. Stenftenagel
Manager, Reclamation Wayne E. Hilgedick

Black Mesa Mine

T35N R18E Sec. 5

P.O. Box 605, Kayenta 86033 - Phone 677-5240 - Employees 362 - Surface coal mine - Located approximately 30 miles southwest of Kayenta.

Mine Superintendent Lewis Allan Gough
Assistant Superintendent Lee Quarcelino
Safety Supervisor Jack R. Gibbs
Safety Supervisor Delbert J. Mariano, Sr.
Safety Supervisor Ruth Williams

VIS5.1

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

1. Information from: "Nate" at the mine
Company: Peabody Coal Company
2. Mine: Black Mesa
3. ADMMR Mine File: Black Mesa Mine
4. County: Navajo MILS Number: 162A
5. Summary of information received, comments, etc.:

Nate reported that the combined production of coal from Peabody's Black Mesa and Kayenta mines for 1991 was 13,202,861 short tons. This quantity is their largest ever annual production from the two mines.

Date: July 31, 1992 Engineer: Diane Bain

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

Information from: Leonard Swatell, Peabody Coal Co.

Address: 1300 S. Yale, Flagstaff, AZ 86001

Phone: 774-5253

Mine: Black Mesa Mine

Date: June 27, 1989

Engineer: Ken A. Phillips

Summary of information received:

The average stripping ratio for the Black Mesa Mine is 4.7:1 expressed as (cubic yards of waste): (tons of coal). This number is available for public release.

Executive Summary

Stewardship > Arizona Activities > Publications > Executive Summary

Hydrogeologic Studies Performed Related to the N Aquifer Prepared by GeoTrans, Inc. Westminster, CO

In the Black Mesa basin in northeastern Arizona, the N Aquifer spans approximately 7,500 square miles - an area roughly the size of Delaware - and contains over 400 million acre-feet of water. The aquifer is a vast groundwater resource stretching across Arizona, Utah, New Mexico and Colorado. It consists of the Navajo Sandstone, Kayenta and Moenave Formations, and the Wingate Formation (**Figure 1**). The N Aquifer is a valuable resource for the Navajo Nation and the Hopi Tribe because of the purity and quantity of its waters.

Peabody Western Coal (Peabody), a subsidiary of Peabody Energy, operates adjacent surface coal mines on Arizona's Black Mesa, a 3.1 million-acre topographic highland on the Navajo and Hopi reservations (**Figure 2**), and in the north central portion of Black Mesa basin. The mines are operated through tribal lease agreements and produce approximately 13 million tons of coal annually for power plants serving 4.5 million Southwest households.

From the Black Mesa Mine, coal is transported to the Mohave Generating Station in Laughlin, Nevada, via a 273-mile coal-water pipeline. Coal from the Kayenta Mine is transported via electric rail 83 miles to the Navajo Generating Station near Page, Arizona. Water used for the Black Mesa pipeline and other mine activities is pumped from eight deep wells located on the Peabody leasehold that are completed primarily in the N Aquifer. Since 1969, withdrawals from these wells have ranged from 575 to 4,744 acre-feet per year and have averaged approximately 3,800 acre-feet.

N Aquifer groundwater is also withdrawn by the Hopi Tribe and Navajo Nation. Tribal usage has increased from 618 acre-feet per year in 1970 to over 2,800 acre-feet per year in 1996. Tribal communities use groundwater from the N Aquifer and an overlying aquifer called the D Aquifer as their primary source of water for domestic, industrial, agricultural and ceremonial purposes. In addition, the tribes use a limited amount of groundwater for livestock watering, although this use is relatively small.

For the past 50 years, numerous studies have been conducted to understand the hydrogeology of the Black Mesa basin as well as the long-term effects of pumping on well water levels, water quality, spring discharge, and stream flow. (**Tables 1 and 2**). These studies have been and continue to be performed by the tribes, governmental agencies, academia, consultants, Peabody, and others interested in the groundwater of the Black Mesa basin.

The U.S. Geological Survey (USGS) identified the hydrogeologic framework of the Black Mesa basin from their early studies, which spanned from the late 1940's to 1969. The Navajo, Hopi and Peabody have sponsored cooperative efforts through the USGS and others, and individual efforts to collect basic data such as pumping rates, water levels in wells, and stream flow measurements. All of these studies have been synthesized into numerical models, which are the only available tools to distinguish the observed or measured impacts among individual municipal, industrial or other pumping stresses.

The U.S. Office of Surface Mining Reclamation and Enforcement (OSMRE) relied upon a model developed by the USGS in 1988 (see below) to prepare the Cumulative Hydrologic Impact Assessment (OSMRE, 1988) and Final Environmental Impact Statement (OSM EIS - 25, June 1990) for the Black Mesa and Kayenta mines.

The first groundwater model of the N Aquifer was developed by the USGS in 1983 (Eychaner,

1983). Soon thereafter, it was improved by the USGS and re-released in 1988 (Brown and Eychaner, 1988). The USGS and OSMRE continue to estimate impacts from pumping on the N Aquifer using this tool.

Concurrent with the re-development of the USGS's model, Peabody developed another numerical representation of the flow system (GeoTrans, 1987), using the same computer code, MODFLOW, developed by and used for the USGS's work. Both models found that impacts from Peabody's pumping were primarily limited to the central portion of the basin and that impacts on surface flows were negligible.

A cooperative study funded by the Navajo Nation, the Hopi Tribe, and Peabody found that the USGS's approach was appropriate and reasonable, as were their conclusions (S. S. Papadopoulos and Associates, SSPA, 1993). Though SSPA further concluded that additional studies were not needed, investigations of pumping impacts continued.

In 1997, the USGS used carbon-14 dating of N Aquifer groundwater to suggest that recharge, an important component of the aquifer's water balance, had been overestimated (Lopes and Hoffman, 1997). Zhu (2000) used the Peabody model (GeoTrans, 1987) and a larger carbon-14 data set to prove the original, higher, estimate of recharge was still supportable.

Peabody looked still further at the issue of recharge, examining the uncertainty surrounding recharge values thought to be appropriate for use in models of the N Aquifer. First, the numerical representation of the groundwater flow system was substantially improved by explicitly including, in three dimensions, all of the individual rock units that comprise the N Aquifer. In previous models, these had been lumped into a single two-dimensional unit. The overlying D Aquifer and the intervening, low-permeability layer were also included for the first time. Peabody then developed calibrated models for both high and low estimates of recharge. Each of these models is better able to match the measured water levels and drawdowns than all previous modeling efforts (Peabody, 1999).

The results from each of the three-dimensional models were found to support previous conclusions that Peabody's water use will not have any long-term, significant, or irreversible impacts to the N Aquifer or other water users. These findings are further confirmed by the previous models (Brown and Eychaner, 1988; and GeoTrans, 1987), and with the cooperative review performed by S.S. Papadopoulos and Associates (1993).

Table 1.

N-Aquifer Studies Performed by Peabody from 1986 through 1999

- GROUNDWATER -

Modeling

- Design and implementation of a 2D flow model simulating withdrawal scenarios through time (1987)
- Uncertainty analyses of both the USGS's and Peabody's 2D models (1994)
- Estimation of recharge using transport model coupled to USGS's 2D model and ^{14}C data (1998)
- Design and implementation of a 3D flow model simulating withdrawal scenarios through time (1999)
- Evaluation of the effect of uncertainty related to recharge on model predictions of pumping impacts (1999)

Water Chemistry

- Assessment of water quality in wells, springs, and surface water for the Black Mesa Area (1993)
- N-aquifer spring and groundwater dating using ^{14}C analyses (1995)
- Major ion analyses of spring and ground water in the Black Mesa Area for the D and

N aquifers (1993)

- Isotopic analyses of spring and groundwater in the Black Mesa Area for the D and N aquifers (1995)

Hydrologic Data

- Measurement of hydraulic conductivity of the N Aquifer from pumping tests at 37 wells (1966, 1969, 1976, 1987)
- Monitoring of pumping rates for Peabody's wells (1968 - present)
- Determination of flow paths in the N aquifer using chemistry, precipitation, and recharge data (1993)
- Measurements of hydraulic conductivity and porosity of the N Aquifer from laboratory analyses of outcrop samples (1993)
- Tree-ring analyses to evaluate changes in climate, recharge, and streamflow over time (1993, 1994, 1997)
- Development of a comprehensive database for all scientific disciplines regarding the hydrogeology of the D and N aquifers of Black Mesa Basin (1999)
- GIS evaluation of factors affecting recharge rates (1999)

- GEOLOGY -

- Rock outcrop sampling of N and D-aquifer formations on the Black Mesa Area (1993)
- Petrographic analysis of selected rock samples to determine aquifer characteristics (1993)
- Analysis of $\delta^{13}\text{C}$ in selected rock samples for age dating (1993)
- Tri-axial cell stress testing on Navajo Sandstone samples to determine N-aquifer compressibility and address aquifer collapse issues (1993)
- Geologic mapping along Laguna Creek (1996, 1999)
- Development of a three-dimensional framework model for the D and N aquifers (1999)

- SURFACE WATER -

- Measurements of streamflow along Laguna Creek to note variability and gaining and losing stretches (1994 - 1996)

Return to document above.

Table 2.

N-Aquifer Studies Performed by the USGS and others.

- GROUNDWATER -

Modeling

- The USGS designs and implements a 2D flow model, simulating withdrawal scenarios through time (1983)
- The USGS updates and improves their 2D model (1988)
- S. S. Papadopoulos & Assoc. evaluates USGS model for approach and validity (1993)
- The USGS annually updates Tribal and Peabody pumping their 2D model (1989 - present)

Water Chemistry

- The USGS's monitoring program assesses water quality in wells, springs, and surface water for the Black Mesa Area (1971 - present)
- The USGS estimates recharge to the N-aquifer using ^{14}C analyses of groundwater (1997)
- Wickham analyzes the geochemistry of surface water and groundwater interactions using major-iron and ^{14}C analyses of N-aquifer waters (1992)

Hydrologic Data

- The USGS estimates aquifer parameters including hydraulic conductivity and storage of the N Aquifer from pumping tests (1969)
- The USGS's monitoring program measures water levels in up to six non-pumping wells on Black Mesa (1971 through present)
- The USGS measures surface flow rates (baseflow and storm events) along several washes on Black Mesa (1971 through present)
- The USGS and others install flow meters and monitor groundwater use from wells in Black Mesa (1971 through present)
- S. S. Papadopoulos & Assoc. develops an updated database for the hydrogeology of the N Aquifer in Black Mesa Basin

- GEOLOGY -

- The USGS in cooperation with the Bureau of Indian Affairs deciphers the basic hydrogeologic framework of the four-corners region, including Black Mesa Basin (late 1940's through 1969)
- Arizona Bureau of Mines publishes well data including those for Black Mesa
- Arizona Oil & Gas Conservation Commission (AOGCC) publishes interpretations of regional geophysical magnetic and gravity data (1979)
- AOGCC publishes basic geologic data including those from the Black Mesa area (1963, 1972, 1975, 1981)

- IMPACT ASSESSMENTS -

- Cumulative Hydrologic Impact Assessment of the Peabody Coal Company Black Mesa/Kayenta Mines prepared by the Office of Surface Mining Reclamation and Enforcement Western Field Operations, January 1988.
- Final Environmental Impact Statement for the proposed permit application, Black Mesa-Kayenta Mine, Navajo and Hopi Indian reservation, Arizona published in June 1990.

Return to document above.

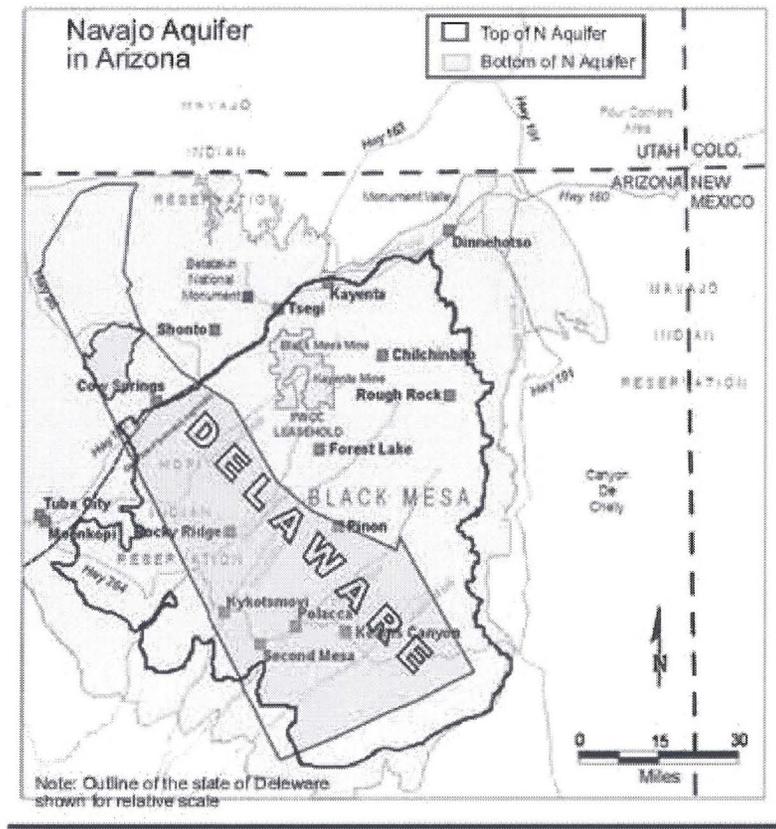
Arizona Activities | Mine Operations | Navajo Aquifer | Mohave Extension | Support Mohave | Compliance Record | Publications

Navajo Aquifer

Stewardship > Arizona Activities > Navajo Aquifer

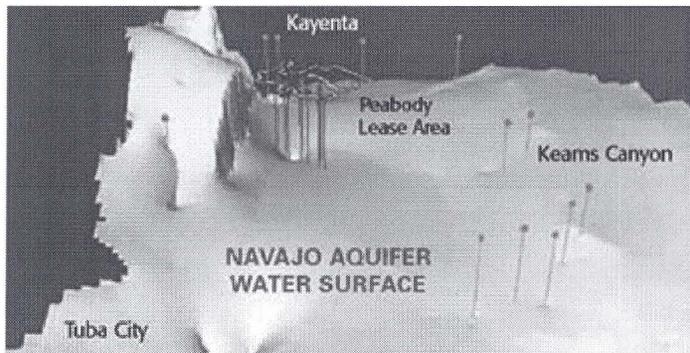
Within the Black Mesa basin, the Navajo Aquifer spans an area the size of Delaware and holds an estimated 400 million acre-feet of water, making it 16 times larger than Arizona's Lake Powell. It is a key tribal water source for industrial and municipal use, annually supplying approximately 4,500 acre-feet of water used principally to convey coal to the Mohave power plant in addition to about 3,000 acre-feet for community use.

Comprised of porous rocks and sediments, the aquifer is a huge groundwater basin, providing storage and serving as a transmitter, allowing water to flow through its sandstone pores to springs, streams and wells. Replenished naturally through the hydrologic cycle, the Navajo Aquifer is estimated to recharge 13,000 to 16,000 acre-feet each year by the U.S. Office of Surface Mining.



STUDY RESULTS

The Navajo Aquifer is among the most thoroughly studied aquifers in the nation. For more than three decades, numerous studies have been performed to understand the hydrogeology of the Black Mesa basin as well as the long-term effects of municipal and industrial water use.



Eleven major public and private studies show that the operations will use less than one-tenth of 1 percent of the water stored in the aquifer, which would be similar to removing a cup of water from a 55-gallon drum.

The most sophisticated study performed to analyze water flow in aquifer systems was the 1999

three-dimensional study (3-D), which, for the first time, created a model that independently characterized the seven geologic layers comprising the Navajo Aquifer system. The study analyzed the Dakota, Morrison and Entrada formations within the D-Aquifer; the Carmel formation, which separates the two aquifers; and the Navajo, Kayenta and Wingate formations of the N-Aquifer. The model also incorporated an additional 10 years of data and used more sophisticated software for analyses.

The 3-D study supports earlier studies that conclude mining will use a tiny fraction of water stored in the aquifer. It also reaffirms conclusions that the potential impacts to springs and streams are too small to be measured.

ALTERNATIVE SUPPLIES

Even while the science shows that there will be no significant impacts to the Navajo Aquifer or to other water users caused by mining, Peabody respects cultural concerns associated with using the aquifer and is working with the Hopi Tribe, the Navajo Nation and the Mohave plant owners to develop an alternative water source to convey Black Mesa coal to the Mohave Station. Because studies show that conveying coal by water is the most viable way to transport the resource, the partners are working to identify a water solution that is technically feasible and environmentally friendly.

Consider that the U.S. Department of the Interior directed a study to evaluate alternative transportation methods in 1990. The study examined rail, surface water and groundwater options that included use of water from the Colorado River, Lake Powell and the D and Northwest Aquifers. Rail was rejected as "environmentally intrusive." And the other water sources each had their own challenges, including limited capacity, usage and water rights issues.

In the past 2 years, Peabody, the tribes and the Mohave partners have investigated more than a half-dozen alternatives using groundwater, surface water and reclaimed water sources. Following this analysis, the partners are collectively focusing on developing the Coconino Aquifer to transport coal from Black Mesa to Mohave Station. The C Aquifer is the largest water source in the Lower Colorado River Basin and spans more than 27,000 square miles in Arizona. The plan would provide water to transport coal and could also potentially help build tribal water infrastructure. The parties are engaged in intensive discussions to make the new water source a reality.

Continued operation of the Mohave Station is in the public interest, providing low-cost electricity, hundreds of jobs and a stable revenue source for the Hopi and Navajo.

Arizona Activities | Mine Operations | Mohave Extension | Support Mohave | Compliance Record | Publications

Aquifer Studies

Stewardship > Arizona Activities > Publications > Aquifer Studies

In the past 30 years, government and private experts have performed 11 major studies to characterize the Navajo Aquifer and examine the impacts of industrial and municipal water use. These studies confirm that long-term water use will not pose any significant or permanent impacts to the aquifer or other water users and that the aquifer will significantly recover when the pumping ends. Following is a list of major studies.

- 1999** **A Three-Dimensional Numeric Model of the N and D Aquifers**
HIS-GeoTrans, Inc.
Westminster, Colorado
Waterstone Inc.
Boulder, Colorado
- 1997** **The Responses of the N Aquifer to Paleoclimatic Changes During Late Pleistocene and Holocene, Northeastern Arizona**
HIS GeoTrans, Inc.
Boulder, Colorado
- 1993** **Navajo Aquifer Water Study Database Documentation**
Prepared for the Hopi Tribe, the Navajo Nation and Peabody Western
S.S. Papadopoulos & Associates Inc.
Bethesda, Maryland
- 1993** **Investigation of the N- and D-Aquifer Geochemistry and Flow Characteristics using Major Ion and Isotopic Chemistry, Petrography, Rock Stress Analyses and Dendrochronology in the Black Mesa Area; Arizona**
Prepared for Peabody Western
GeoTrans, Inc.
Boulder, Colorado
- 1991** **Water Use Study for Arizona**
Prepared for Peabody Western
GeoTrans, Inc.
Boulder, Colorado
- 1990** **Final Environmental Impact Statement Proposed Permit Application, Black Mesa-Kayenta Mine, Navajo and Hopi Indian Reservations, Arizona**
U.S. Department of the Interior
Office of Surface Mining Reclamation and Enforcement
- 1989** **Cumulative Hydrologic Impact Assessment for the Black Mesa-Kayenta Mines**
U.S. Department of the Interior Office of Surface Mining Reclamation and Enforcement
- 1988** **Simulation of Five Ground Water Withdrawal Projections for the Black Mesa Area, Navajo and Hopi Indian Reservations, Arizona**
Water Resources Investigations Report, 88-4000, 51 p.
J.G. Brown and J.H. Eychaner
U.S. Geological Survey
- 1987** **A Two-Dimensional, Finite Difference Flow Model Simulating the Effects of Withdrawals to the N Aquifer, Black Mesa Arizona**
GeoTrans, Inc.
Boulder Colorado
- 1983** **Geohydrology and the Effects of Water Use in the Black Mesa Area, Navajo and Hopi Indian Reservations, Arizona**

Water Supply Paper 2201, 26 p.

Eychaner, J.H.

U.S. Geological Survey

1972

Environmental Impact Statement

Permit Application, Black Mesa-Kayenta Mine, Navajo and Hopi Indian Reservations, Arizona

U.S. Department of the Interior

Office of Surface Mining Reclamation and Enforcement

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Mohave Extension

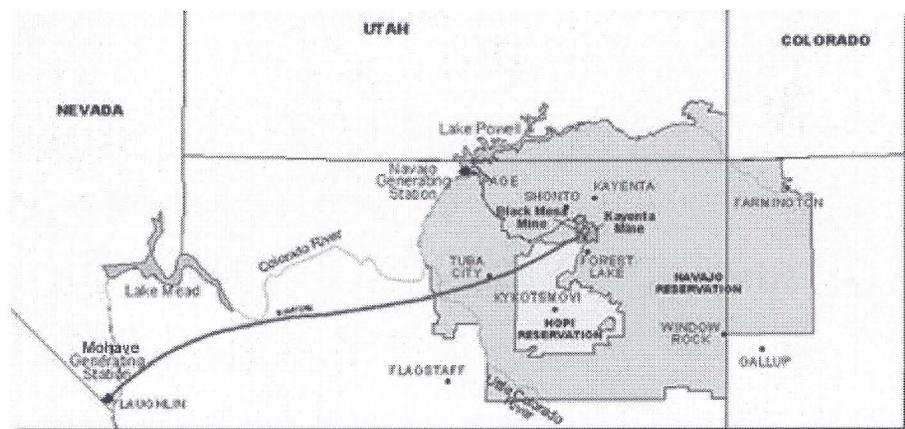
Stewardship > Arizona Activities > Mohave Extension

Continued operation of the Black Mesa Mine and the Mohave Station is critically important to Southwest families who rely on a secure, low-cost supply of electricity and to the Hopi Tribe and the Navajo Nation who rely on coal mining for jobs and revenue. Extending Mohave's operations for 20 years would ensure a reliable supply of low-cost electricity for 1.5 million Southwest families, secure 600 jobs and preserve \$2 billion in economic benefits for tribal communities.

The Black Mesa Mine began shipping coal to Mohave Station in 1970, based on a coal supply agreement that is effective through 2005. Permission to operate is provided through lease agreements with the Hopi and Navajo that are effective as long as the operations have viable coal supply contracts. Black Mesa Mine employs nearly 240 workers. About 95 percent of the work force is Native American. Employees earn wages that are seven times higher than the per capita income on reservation lands, and the mining activities annually inject about \$86 million into tribal communities through royalties, taxes, wages, vendor contracts and other fees.

Among the top 10 lowest cost providers of electricity in the Southwest, the Mohave Station generates 1,580 megawatts of electricity or enough energy for families in Arizona, Nevada and California. The plant is operated by majority owner Southern California Edison (SCE). Additional owners include Salt River Project, Nevada Power and the Los Angeles Department of Water and Power.

Both the Black Mesa Mine and the Mohave Station have a strong and improving environmental profile. Mohave, which already uses low-sulfur coal, will be installing added emission controls for use beyond 2006. And the Black Mesa Mine would access a lower-quality water source that would be used to convey coal from the mine to the power plant. Additional emission controls planned for Mohave Station would reduce sulfur dioxide emissions by 85 percent, nitrogen oxides by 15 percent and particulates by 99.98 percent. Completion of the emission control upgrade is part of a larger decision-making process tied to the plant's 20-year operating extension.

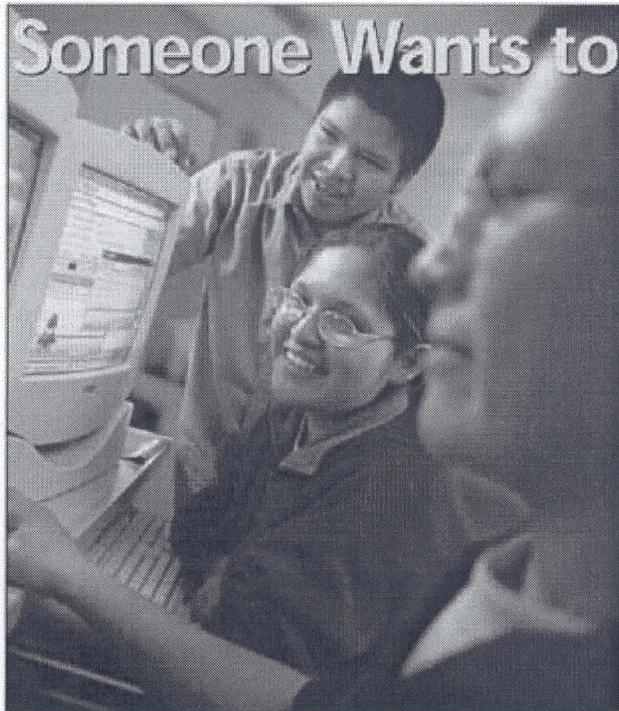


Black Mesa Mine conveys coal 273 miles to the Mohave Generation Station near Laughlin, Nev., through an underground coal water-pipeline that is unseen and unobtrusive. Out of respect for cultural concerns associated with using the Navajo Aquifer, Peabody is working with the Hopi Tribe, the Navajo Nation and the power plant owners to pursue development of an alternative water source to convey coal to the Mohave Station.

Arizona Activities | Mine Operations | Navajo Aquifer | Support Mohave | Compliance Record | Publications

Support Mohave

Stewardship > Arizona Activities > Support Mohave



Pull the Plug

Dozens of kids from Forest Lake are exploring the wonders of the Internet, thanks to support from the nearby Black Mesa and Kayenta mines. Coal from Black Mesa provides jobs for their parents, revenue for essential tribal services and affordable energy.

But this bright future is at risk. California regulators are considering pulling the plug on the Mohave Generating Station. Closing Mohave will also shut down the Black Mesa Mine, the plant's only source of fuel. At risk are:

- \$6 billion in economic benefits for the region
- 600 skilled mine, pipeline and power plant jobs
- Low-cost electricity for a million families

Our kids are our future. And, electricity from the Black Mesa Mine and Mohave Station will help make their future bright. Keep Mohave plugged in – for their benefit and yours.

Express your support by writing to Navajo Nation President Joe Shirley, P.O. Box 8000, Window Rock, AZ 86515, Hopi Tribe Chairman Wayne Taylor, P.O. Box 123, Kykotsmovi, AZ, 86039. To learn more, visit www.PeabodyEnergy.com.

Continued operation of the Mohave Station is important to our energy future. Express your support by writing to your governor, your legislator, the Navajo Nation or The Hopi Tribe.

The Honorable Janet Napolitano
Governor of Arizona
1700 W. Washington
Phoenix, AZ 85007

The Honorable Wayne Taylor
Chairman and CEO
The Hopi Tribe
P.O. Box 123
Kykotsmovi, AZ 86039

The Honorable Joe Shirley
President
The Navajo Nation
P.O. Box 3390
Window Rock, AZ 86515

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Prepared in cooperation with the Arizona Department of Water Resources and Bureau of Indian Affairs

Black Mesa (A)

In 1968, Peabody Coal Company began strip-mining operations on land leased from the Navajo and Hopi Tribes on Black Mesa (fig. 1). Of the 11 to 13 million tons of coal that are extracted each year, an average of about 5 million tons are transported as slurry by a 273-mile-long pipeline from the coal-lease area west to the Mohave Generating Station near Laughlin, Nevada. Transporting the coal in slurry form consumes, on average, about 3,800 acre-ft of water annually. The slurry water is provided through a network of 8 wells that tap the confined parts of the D and N aquifers underlying Black Mesa. Most of the slurry water is pumped from the confined part of the N aquifer which also is the primary source of water for municipal users within the 5,400-square-mile Black Mesa area.

The Navajo Nation and Hopi Tribe became concerned about the long-term effects of industrial withdrawals from the N aquifer on the availability and quality of water supplies for domestic and municipal purposes. These concerns led to an ongoing investigation of the water resources of the Black Mesa area begun in 1971 by the U.S. Geological Survey (USGS) in cooperation with the Arizona Department of Water Resources (ADWR) and the Bureau of Indian Affairs (BIA).

Hydrogeology

Three rock formations that are hydraulically connected compose the N aquifer—the Navajo Sandstone, the Kayenta Formation, and the Lukachukai Member¹ of the Wingate Sandstone. The N aquifer is unconfined in parts of the study area that generally correspond to areas of ground-water recharge (fig. 2; Eychaner, 1983). In the Black Mesa area, the N aquifer is separated from the overlying D aquifer by a leaky confining rock layer that is predominantly siltstone and massive mudstone (fig. 3).

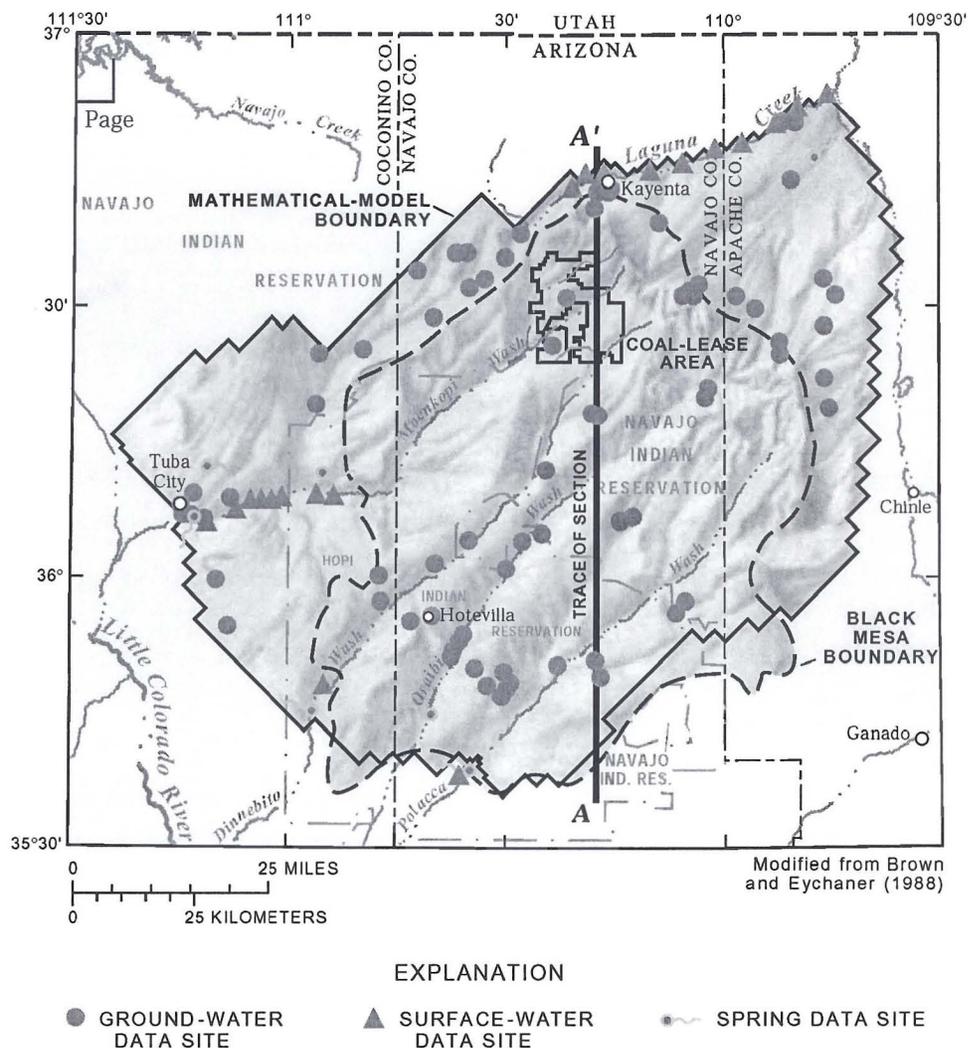


Figure 1. Study area and data-collection network.

Data-Collection Activities

Data-collection activities include continuous and periodic measurements of ground water and surface water at about 100 sites in the Black Mesa area (fig. 1). Ground-water data from wells completed in the N aquifer include annual pumpage from municipal and industrial well systems, annual water levels from selected municipal and stock wells, water levels from continuous-record observation wells,

and water chemistry from selected municipal and industrial well sites. Discharge and water-chemistry data are collected from selected springs that issue from the N aquifer.

Surface-water data are collected at streamflow-gaging stations and include continuous-stage data and bimonthly stage and discharge measurements. Miscellaneous discharge data also have been collected at selected sites during seepage investigations.

¹Of former usage, formally abandoned by Dubiel (1989).

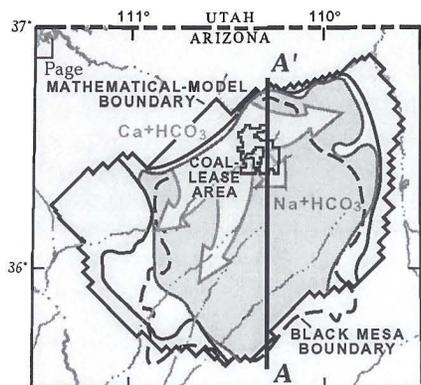
Ground-Water Withdrawal

Water is withdrawn from the unconfined part of the N aquifer for municipal use and from the confined part of the aquifer for industrial and municipal use. Eight wells at the coal-lease area are for industrial use. The BIA, Navajo Tribal Utility Authority, and Hopi Tribe operate about 70 municipal wells throughout the Black Mesa area.

The present and future effects of ground-water withdrawals on water levels are analyzed using a finite-difference ground-water flow model developed by Eychaner (1983) and recalibrated by Brown and Eychaner (1988). Measured water levels are routinely compared to simulated water levels to test the reliability of the model as a predictive tool and to estimate how much of the water-level decline is the result of industrial or municipal pumping.

Surface-Water Discharge

Outflow from the N aquifer occurs mainly as surface flow in Moenkopi Wash and Laguna Creek and as springs near the boundaries of the aquifer (Davis and others, 1963). Stage and discharge data are collected at the continuous-



EXPLANATION

- | | |
|---------------|---------------------------|
| RECHARGE AREA | LEAKY CONFINED CONDITIONS |
|---------------|---------------------------|

Figure 2. Ground-water chemistry—calcium bicarbonate ($\text{Ca}+\text{HCO}_3$) water changes to a sodium bicarbonate ($\text{Na}+\text{HCO}_3$) water.

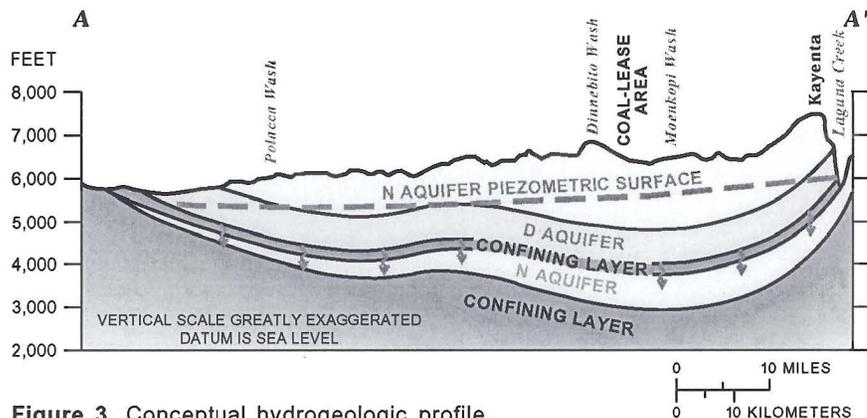


Figure 3. Conceptual hydrogeologic profile.

record gaging stations at Moenkopi, Dinnebito, and Polacca Washes, and at Laguna Creek. Continuous-record gaging stations at Dinnebito and Polacca Washes monitor outflow from two prominent seepage areas along the western and southern boundaries of the aquifer. Discharge data are collected at selected springs and miscellaneous measurement sites along Moenkopi Wash and Laguna Creek.

Water Chemistry

In general, water in the N aquifer is a calcium bicarbonate type in the upgradient or recharge part of the study area north and northwest of Black Mesa and a sodium bicarbonate type elsewhere throughout Black Mesa and surrounding areas (fig. 2). As water moves from the recharge area under Black Mesa toward discharge areas to the west, southwest, and northeast, ion exchange along the flow path generally converts calcium-bicarbonate type water to sodium-bicarbonate type water (Wickham, 1992).

Water from the N aquifer is analyzed for selected chemical constituents to determine if declining hydraulic heads are inducing vertical leakage from the overlying D aquifer (fig. 3). On the average, the concentration of dissolved solids in water from the D aquifer is about 7 times greater than that of water from the N aquifer, concentration of chloride ions is about 11 times greater, and the concentration of sulfate ions is about 30 times greater. Any increase in the leakage rate as a result of pumping from the N aquifer probably would

become evident as an increase in concentrations of dissolved solids, chloride, and sulfate in the most heavily pumped wells (Eychaner, 1983).

— Gregory R. Littin

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- Wickham, Matthew, 1992, The geochemistry of surface water and groundwater interactions for selected Black Mesa drainages, Little Colorado River basin, Arizona: Tucson, University of Arizona unpublished master's thesis, 249 p.

For more information contact:

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Tucson, Arizona 85719-5035
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<http://az.water.usgs.gov>

Peabody Coal Co. mined coal on Black Mesa and is the only active mine operation in the County. FTJ QR 4-5-71

To Peabody Coal Co., Black Mesa operation. Interviewed Mr. Coombs, Mine supt. He said they have 107 employees, 87 days pay, of which 79% are Indians and 20 salaried employees of which 29% are Indian. Indian work record according to Mr. Coombs is good. FTJ WR 5-17-71

The Peabody Coal Co. operation on Black Mesa was the only active mine in the county. FTJ Annual Report 8-19-71

Mike Naccarato, mine superintendent. per JHJ 7/73

Thomas Lynch, Navajo Minerals Adm., said that the Black Mesa Mine is in Sec. 4,5,8&9, T35N R18E and the Kayenta mine is in Sec. 4,8,9,16&17, T36N R18E. GW 3/2/76

RRB WR 10/30/81: Dennis Dawson, Manager of Environmental Compliance, Peabody Coal Co., took me on a tour of the Black Mesa and Kayenta strip mines. This is the typical strip mine operation. The top soil is removed and stockpiled, then the overburden, averaging about 100' thick is blasted and removed to a mined out area with draglines, the coal is loaded into trucks with electric shovels and front end loaders, the overburden from the next pass is placed over mined out area and contoured, the top soil is then spread and replanted. Part of the coal goes overland by belt to the unit train loading bins near Highway 160 for shipment to Page. The rest is ground and slurried and pumped to Bullhead City.

RRB WR 8/16/85: Visited the Flagstaff office of Peabody Coal and talked to Bonnie Dillon who reports that the Black Mesa Mine is shut down due to the explosion at the power plant at Laughlin, Nevada. That facility is the sole market for the Black Mesa Mine.

Levitt Drilling Co. of Wyoming is drilling a large area north of and in the disputed section of the Hopi reservation for Peabody. Has drilled 380 holes so far - averaging about 200 ft. in depth. A 16 ft. seam has been cut. Amount of overburden is greater than hoped for about 120 feet so far, and would require high tonnage with big equipment. The Levitt Co. has been drilling with 2 rigs for a couple of years. Peabody hopes to have enough to interest West Coast power generators. FPK - Memo 8-30-62

Fisher Contracting Co. has only drilled 3 holes on their coal lease in the southwest corner of the Black Mesa area, and west of Oraibi. FPK - Memo 9-30-62

Peabody Coal, Kayenta - have 4 drills exploring on Black Mesa 30 miles south of Kayenta. 4 engineers and geologist working. 4 townships under lease. FTJ WR 9-17-65

Peabody continues exploration as well as other companies in Black Mesa area. FTJ QR 7-8-66

Active Mine List Oct. 1966 - Exploration - Ken Kaster - Peabody Coal Co. - Kayenta
Active Mine List Oct. 1967 - Exploration

Interview with Bryan Archer, geologist for Peabody Coal Co. They have 4 drill rigs and have completed three producing water wells. The operation is expected to go on stream in 1970. Chuck Turner is office manager. FTJ WR 5-17-68

Peabody Coal Co. continues development of their coal deposit in the Black Mesa area. FTJ Annual Report 7-1-68

Active Mine List Oct. 1968 - Exploration

Peabody Coal continued developing coal deposit on Black Mesa. FTJ QR 12-31-68

Called Peabody Coal Co. office in Phoenix, 265-5163, and was informed by young lady that Black Mesa Pipe Line Inc., 610 S. Main Street, Los Angeles, California, 90014 is working for them at Kayenta with John Monfort in charge. 4-23-69

Active Mine List April 1969 - Exploration - John Monfort in charge
Active Mine List Oct. 1969 - Exploration - Wm. Barnett, Mine Supt., Kayenta

The only active mining activity was on Black Mesa south of Kayenta by Peabody Coal Co. during this quarter. FTJ QR 4-3-70

Active Mine List May 1970 - 10 men - Douglas Cook, Mine Mgr. - Peabody Coal Co.
Active Mine List Oct. 1970 - 100 men - Harold Coombs, Mine Supt. - Peabody Coal Co., Kayenta

The only mining activity was on Black Mesa southwest of Kayenta where coal is mined and beneficiated by Peabody Coal Co. & Black Mesa Pipe Line Inc. FTJ QR 1-13-71

Kayenta Mine (file)

Navajo County

Black Mesa Mine (file)

Navajo County

James (Jim) G. Schlenvogt, Engineering and Reclamation Manager, Peabody Western Coal Company, PO Box 605, Kayenta, Arizona 86003, phone (928) 677-5089 presented a program on *Operations and Reclamation at Peabody's Arizona Coal Mines* to the Maricopa Section SME, Thursday, March 21, 2002. He handed out extensive operations literature and program notes which will be included in the ADMMR mine files and I took a lot of notes that are summarized below. (Ken A. Phillips with Nyal Niemuth)

COAL AND ELECTRICAL ENERGY GENERATION

- Coal is one of the cheapest sources of energy for the generation of electricity with a cost of about \$1.00 to \$1.20 per million BTU, nuclear is about \$1.20 to \$1.30 per million BTU, and others such as natural gas and petroleum are much higher
- Coal supplies more than half the US electricity
 - 51% from coal
 - 20% from nuclear
 - 15% from natural gas
 - 8% from hydroelectric
 - 6% from "other" solar, wind, biomass, geothermal, and diesel oil

PEABODY

- Peabody is largest US coal mining company
- Peabody produces 16% of US coal production
- All of Peabody's production is for steam coal except the production from one small West Virginia mine still producing metallurgical coal for the iron and steel industry
- 40% of Peabody's production is from surface mines and 60% is from underground mines
- Peabody's US coal reserves are 9.3 billion tons

PEABODY WESTERN at BLACK MESA

- Peabody Western is the largest private employer of Native Americans. The an average salary is over \$41,000 annually (although a video shown said it was \$53,000)
- Peabody Western's reserves on Black Mesa are over 500 million tons
- Peabody Western at Black Mesa pays \$45,000,000 in royalties to the Navajos and Hopis each year.
 - 40% of the Navajo Nation's income
 - 80% of the Hopi's income
- Peabody Western at Black Mesa pays \$35,000,000 in taxes
- Peabody Western has 662 employees at their operations on Black Mesa: 236 at the Black Mesa Mine, 400 at the Kayenta Mine, and 26 at the central office.
- Over 90% of the employees are Native Americans, many are now third generation Peabody employees.
- 60 of the employees are involved in reclamation
- The coal contains slightly less than 1 lb of sulfur per 1 million BTU or about 0.6% S

- Although the exact price is confidential, he reported the value of the coal FOB the mine is between \$20 and \$25 per ton.
- Mined land is reclaimed by backfilling with overburden, contouring and covering with top soil and planting in permanent pasture for grazing.
- Reclaimed land is held for 10 years to assure establishment of forage before releasing it to the Navajos or Hopis for grazing
- Current reclamation bonds are \$97 million

BLACK MESA MINE

- First leased in 1966
- Black Mesa was developed first on the west side of the "U" shaped leasehold and started in 1970
- 236 employees
- 150 acres have been stripped and reclaimed
- Currently producing from 2 pits
- Current production is 4.5 to 5 million tons per year
- Black Mesa Mine coal is crushed to minus 0.5", screened and then slurry pumped through an 18" pipeline to the Southern California Edison's Mohave Generating Station at Laughlin, Nevada
- About 3,000 acre-feet of water per year are used for the pipeline
- Total water use for both mines is about 4,000 acre-feet yearly (but even at this consumption level the coal mine complex is not among the top 100 water users in Arizona)
- The water is pumped from 3500 foot-deep wells in the Navajo Aquifer which are geologically separated from the shallow aquifers used by the local population and the mines' wells are sealed as they traverse through the upper aquifers
- The Navajo Aquifer contains 10,000,000 acre-feet of water. Over the projected 35 year life of the mine approximately 1.25% of that water will be used.
- The current mine plan and coal sales contract for the Black Mesa Mine ends in 2005. Peabody Western, Southern California Edison, and the slurry pipeline company are planning a 20 year extension that will require a nearly \$1 billion recapitalization. It will involve permit and lease extensions for the coal mine, pipeline improvements for the slurry pipeline, and SO₂ scrubbers for the power plant.

KAYENTA MINE

- First leased in 1966
- Production is 8 million tons per year from 3 pits
- Kayenta Mine was developed on the east side of the "U" shaped leasehold and started in 1972
- 300-350 acres have been mined and reclaimed
- Mined coal is transported over a 17 mile conveyor to a railroad loading station
- Coal is then hauled 83 miles by rail to the Navajo Generating station operated by Salt River Project.
- The Kayenta mine workforce recently ended one of the longest accident free coal mine worker industry periods of over 1,700,000 hours without a lost time accident. This accident free stretch recently ended with a lost time accident
- Draglines are used to handle overburden and interburden.
- The two mines use 6 six draglines, the largest having a 100 cubic yard capacity.
- 20 million tons of topsoil and 80 million of overburden and interburden are handled annually.

**Information Summary by ADMMR Engineers – Ken Phillips and Nyal Niemuth
Jim Schlenvogt, P.E., engineering and environmental engineer for
Peabody Western Coal Company's Kayenta Mine
Maricopa SME Program April 21, 2002**

Facts and Figures - 40% of the United States' coal production comes from open pits mines, the other 60% is from underground mines.

Peabody became a publicly owned company in 2001 whose NYSE trading symbol is BTU. Peabody's coal reserves total 9.3 billion tons.

Lease - Peabody leased a U-shaped area containing the Black Mesa coal deposits in 1966.. The mine's contributes \$45 million per year, 80% of the Hopi budget, and 40% of the Navajo budget. Kayenta mine has 3 active pit areas and has been in production since 1973. Black Mesa has 2 active pit areas. Peabody is currently trying to re-capitalize the Black Mesa mine for another 20 years. About 500 million tons of coal remains.

Employment – Productivity has climbed due to two factors. The introduction of bigger truck/shovel fleets and the workers have improved. The mines employ 90% Native American workers, many of whom now are the 3rd generation miners and are better educated and more widely speak English and who bring better education (some with college) and skills to the job. Average wage is 53,000 per year. Black Mesa has 236 employees and Kayenta 400 with an additional 26 in the office. The Arizona Black Mesa and Kayenta mines recently worked 1.7 million hours without a lost time accident. About 55 people are involved with permitting and reclamation.

Water- The mines use 4,000 acre-feet of water per year, 3,500 goes into the Black Mesa coal slurry pipeline. Eight deep wells supply the water. Water usage by the pipeline is currently about 3,000 acre feet with a 1:1 mix. The water is used again at the Laughlin Power plant for cooling. Total water usage represents less than 0.1% of Arizona water used per year. Less than 0.1% of the total water in the Navajo aquifer will be used over the 35 year life of the mines.

Mining and the Coal - The mines use 6 draglines - the largest has a 100 cubic yard bucket, 2 with 75 yard buckets, 2 with 36 yard buckets, and 1 with a 29 yard bucket. Overburden/waste is moved at the rate of 80(?) million yards per year.

It takes less than a minute to fill a train car and less than an hour to load an entire train. Under complex geologic conditions, coal is mined from multiple seams and splits of seams ranging in thickness from three to 18 feet. Transportation is a key. If there were additional corridors the coal could be provided to other markets as the coal is of high quality. It contains only 1 pounds of sulfur per 1 million BTU's of coal. Prices fob the mines are about \$20-25 per ton. Coal from as far away as the Powder River Basin is now making its way into Arizona electric power plant markets. The mines (or just one?) supply enough power to supply 3.5 million homes.

An easily accessible place to see the mine operations turn off Highway 160 at the Black Mesa Trading Post and in about 6 miles can view mining operations.

Land use and reclamation - Over the life of the lease only 25,000 acres of the total 65,000-acre area will be disturbed. Total land disturbance is less than 1% of the tribe's land.

At the tribes request 95% of the land is reclaimed as grasslands. Future use is planned to be grazing for cattle and sheep. The remaining land is reclaimed with native plants, mostly shrubs and trees. The land is held for 10 years and then is released to the tribes to use. There have been problems with the Indians suing the OSM after the reclaimed lands are released and overgrazing. Progress is being made through education and improved rotation of the grazing herds.

The mine has a pre-SMCRA law area. After the law was passed in 1982 bonding was required. An EIS was completed about 1990. The total amount of bonds held is \$45 million. Kayenta's share of the bond is about \$19 million.

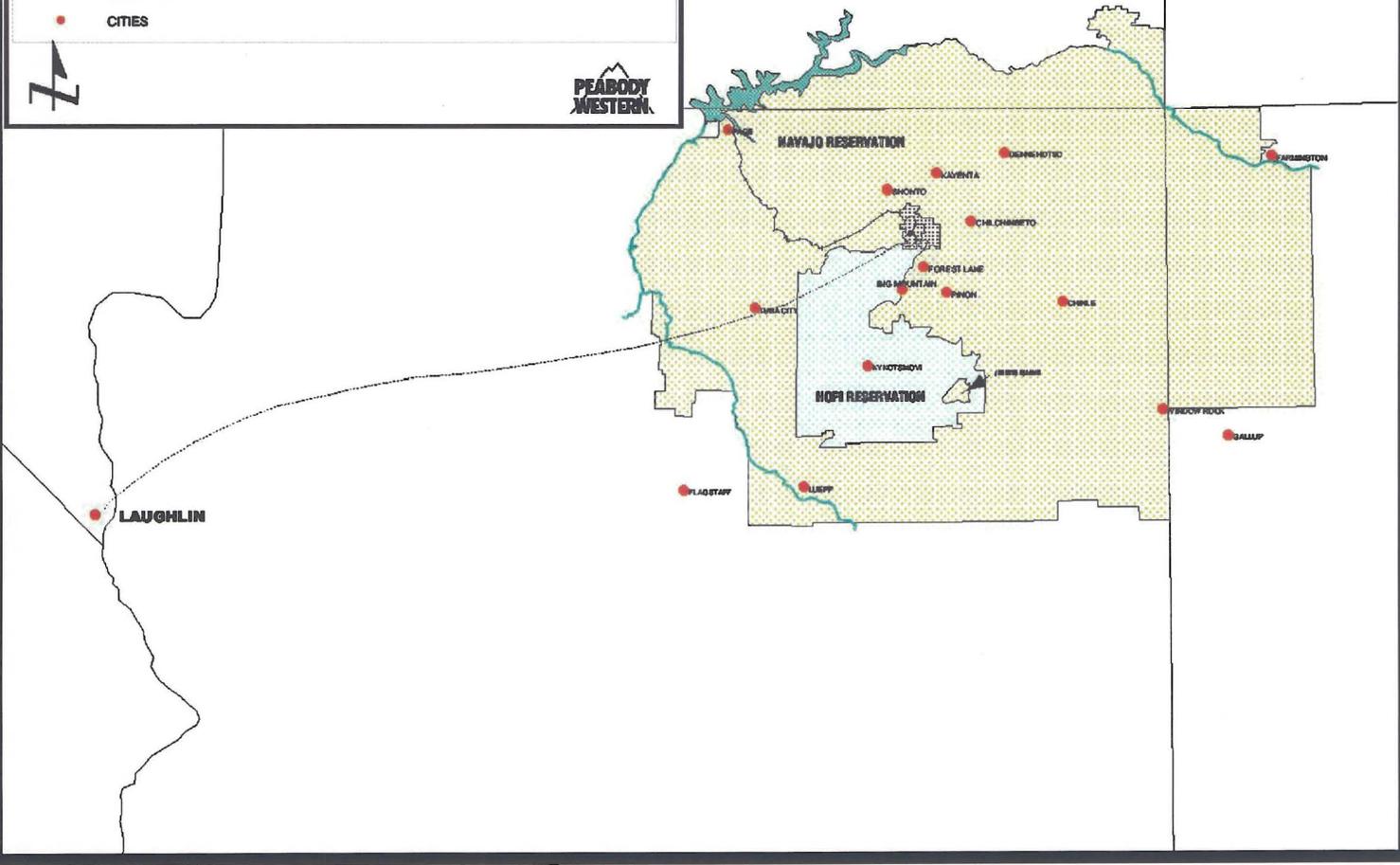
Also see handouts 1) Four Corner - coal lease boundary map, pipeline and train route map (8.5x11) 2) Peabody Energy at a Glance, 3) Kayenta Mine Operations and Environmental Report, 4) A Quarter Century on Black Mesa

DRAFT COPY

FOUR CORNER

Map By: PWCC Plot Date: Wednesday September 05, 2001

- | | | |
|--|---|--|
|  SLURRY LINE |  RIVER | RESERVATION BOUNDARIES |
|  RAIL LINE |  LEASE LINE |  HOPI RESERVATION |
|  PWCC LEASE LINE |  POWELL LAKE |  NAVAJO RESERVATION |
|  STATE LINE | |  WESTERN STATES |
|  CITIES | | |





Peabody Energy at a Glance

Peabody Energy (NYSE: BTU) is the world's largest private-sector coal company. Its coal products fuel more than 9 percent of all electricity in the United States and more than 2 percent of all electricity in the world. For the year ended December 31, 2000, Peabody Energy generated total revenues of \$2.35 billion.

CUSTOMERS: Peabody provides products and services to more than 290 electric generating and industrial plants in the United States, as well as customers in 11 other countries.

MINING OPERATIONS

Mines by type

Surface	21
Underground	<u>13</u>
Total	34

Tons sold by state (millions)

	<u>FY 2001</u>
Arizona	13.0
Colorado	1.6
Kentucky	9.2
Montana	1.4
New Mexico	5.3
West Virginia	17.7
Wyoming	97.3
Black Beauty*	21.9
COALTRADE	<u>9.0</u>
Peabody Energy	176.4

*Indiana and Illinois

Tons sold by market (millions)

FY 2001

		<u>Tons</u>	<u>%</u>
United States			
Domestic	Electric utilities	166.4	94.3
	Industrial/retail	4.7	2.7
Export	Steam & metallurgical coal	<u>5.3</u>	<u>3.0</u>
	Total	176.4	100.0

Tons sold by sulfur content

United States	Low (1% sulfur or less)	140.0	79.4
	High (above 1% sulfur)	<u>36.4</u>	<u>20.6</u>
	Total	176.4	100.0

SALES AND MARKETING

Peabody COALSALES Company and Peabody COALTRADE sell coal produced by Peabody Energy's diverse portfolio of operations, broker coal sales of other coal producers, both as principal and agent, trade coal and emissions allowances, and provide transportation-related services. The companies also restructure third-party coal supply agreements by acquiring a customer's right to receive coal from another coal company under a coal supply agreement, resell that coal, and supply that customer with coal from our own operations.

TRANSFORMATION

	<u>1990</u>	<u>2000</u>	<u>% Improvement</u>
Sales Volume (million tons)	93.0	176.4	90
U.S. Market Share	9.1%	16.3%	79
Low Sulfur Sales Volume (million tons)	52.7	140.0	166
Total Coal Reserves (billion tons)	7.0	9.3	33
Low Sulfur Reserves (billion tons)	2.5	4.4	76
Safety (incidents per 200,000 hours)	16.1	3.9	76
Productivity (tons per miner shift)	33.5	101.5	203
Average Cost Per Ton Sold	\$19.25	\$12.13	37
Employees (approximate)	10,200	6,000	41

FOR MORE INFORMATION . . .

Visit Peabody's web site at www.peabodyenergy.com.



Fact Sheet

ARIZONA OPERATING UNIT

Peabody Energy's two Arizona surface mines are located on American Indian lands known as Black Mesa, about 20 miles southwest of Kayenta. The Black Mesa and Kayenta mines have operated more than three decades, creating local jobs, providing tribal revenue and encouraging economic development in reservation communities. The mines produce about 13 million tons of coal each year from a large reserve leased from the Navajo Nation and the Hopi Tribe.

Mining occurs under complex geological conditions, with coal extracted from multiple seams and splits of seams ranging in size from three to 18 feet. Black Mesa's low-sulfur coal has a high heating value of approximately 10,700 British thermal units (Btu) per pound.

Each year, royalties, taxes and business payments generated from the mining operations provide the tribes with more than \$45 million in revenue, which equates to about 80 percent of the Hopi's budget and nearly 40 percent of the Navajo's annual general budget. Mining operations provide nearly 640 jobs on reservation lands. More than 90 percent of the Black Mesa work force is American Indian, making Peabody one of the nation's largest private employers of tribal members. The company's payroll and benefits exceeded \$51 million last year, and the typical coal miner's wage topped \$45,000. This is eight times higher than the per capita income for the Navajo Nation.

Black Mesa Mine was opened in 1970 and shipped 4.7 million tons of steam coal during the year ended December 31, 2000. The mine employs about 240 workers, sells coal under a long-term contract that runs through 2005 and has options for up to 15 years of operations. Its coal is crushed and transported by conveyor to an independent company, the Black Mesa Pipeline Inc. There the coal is ground into a powder-like substance and mixed with water to form a coal-water mixture that flows through an underground pipeline 273 miles to the Mohave Generating Station near Laughlin, Nev.

Kayenta Mine is adjacent to the Black Mesa Mine and began operating in 1973. The mine shipped 8 million tons of steam coal during the year ended December 31, 2000. The mine employs approximately 400 workers and sells coal under a long-term contract with Salt River Project that is effective through 2011 and has options for up to 15 years of extensions. The coal is crushed, then carried via conveyor 17 miles to storage silos, where it is loaded on an electric train and transported 83 miles to the Navajo Generating Station near Page, Ariz.

The Arizona Operating Unit is part of St. Louis-based Peabody Energy, the world's largest coal company. Its coal products fuel more than 9 percent of all U.S. electricity generation and more than 2 percent of worldwide electricity generation.

Participants in the Mohave and Navajo Generating Stations

Mohave Generating Station Participants

56% Southern California Edison Company (The Operating Agent)

20% Department of Water and Power of the City of Los Angeles

14% Nevada Power Company

10% Salt River Project Agricultural Improvement and Power District

Navajo Generating Station Participants

46.0% Salt River Project Agricultural Improvement and Power District
(The Operating Agent)

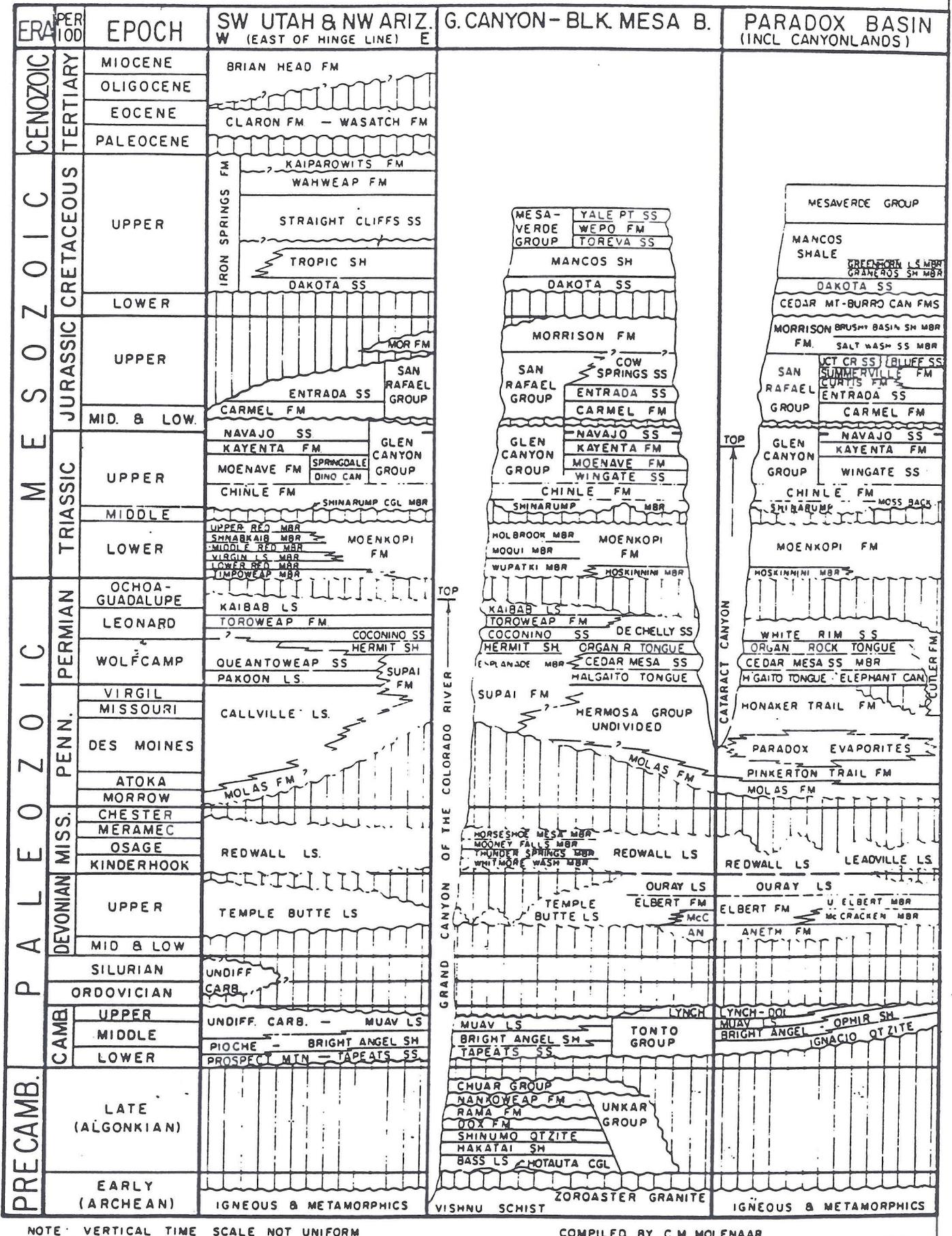
21.2% Department of Water and Power of the City of Los Angeles

14.0% Arizona Public Service Company

11.3% Nevada Power Company

7.5% Tucson Gas and Electric Company

NOMENCLATURE CHART OF THE CANYONLANDS & ADJACENT AREAS



NOTE: VERTICAL TIME SCALE NOT UNIFORM

COMPILED BY C.M. MOLENAAR

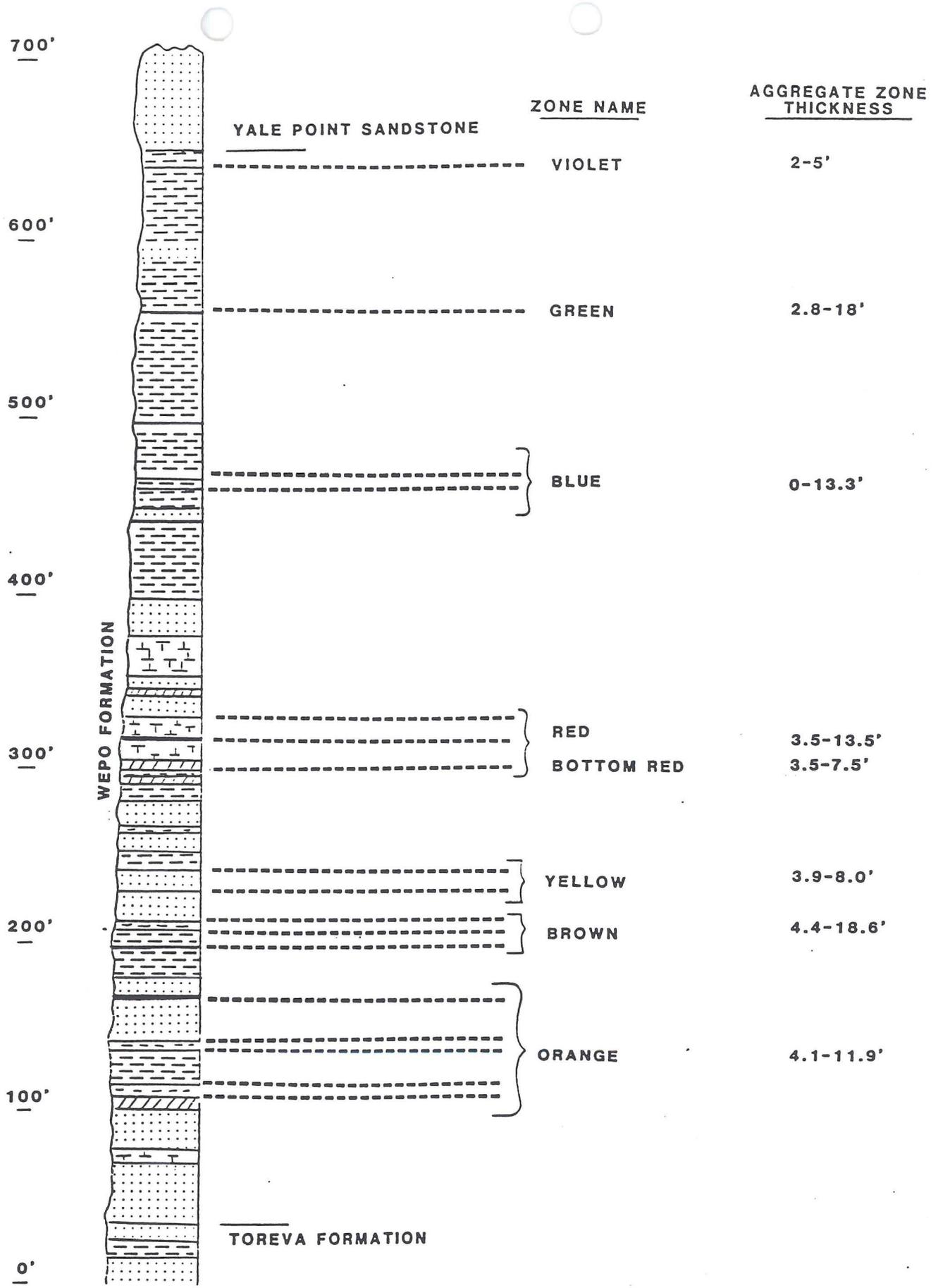


FIGURE 6
 IDEALIZED STRATIGRAPHIC SECTION OF THE WEPO FORMATION
 BLACK MESA, ARIZONA

Major Equipment List for Kayenta Mine*

Primary Excavation Equipment

Draglines: Bucyrus-Erie, (1) Model 2570-W, (1) Model 1260-W
Marion, (1) Model 8750, (1) Model 8200

Shovels: Bucyrus-Erie, (2) Model 295B

Major Support Equipment

Blasthole Drills: (1) Ingersoll-Rand DM25SP, (1) Ingersoll-Rand Model DMH,
(1) Ingersoll-Rand DML, (2) Drill Tech D55SP
(1) Ingersoll-Rand DM252SP

Haulage Trucks: Bryan (2) 150-ton, bottom-dump
Caterpillar 789, (6) 250-tons, bottom-dump
Caterpillar 785, (4) 150-ton end-dump

Dozers: Caterpillar, (2) Model D-6, (1) Model D-9, (11) Model D-10,
(6) Model D-11
Caterpillar, (2) Model 690

Scrapers: Caterpillar, (3) Model 631

Loaders: Caterpillar, (6) Model 992, (4) Model 910

Motor Graders: Caterpillar, (3) Model 16

Water Trucks: (3) Off-Highway Water Trucks

* As of January 4, 2002

Revised 01/25/02

Major Equipment List For Black Mesa Mine*

Primary Excavation Equipment

Draglines: Marion, (1) Model 8750, (1) Model 7800

Major Support Equipment

Blasthole Drills: Drilltech, (1) Model D55SP2L, (1) Model D245S
Ingersoll-Rand, (1) Model DM25SP, (1) Model DM35SP,
(1) Model DM50E, (1) Model DM3

Haulage Trucks: (6) 150-ton, bottom-dump
Caterpillar 789, (2) 250-tons, bottom-dump
Caterpillar 785, (3) 150-tons, end-dump
Rimpull, (2) 250-ton, bottom-dump

Dozers: Caterpillar, (2) Model D-9, (6) Model D-10, (4) Model D-11
Caterpillar, (1) Model 690
Clark, (1) Model 380

Scrapers: Caterpillar, (3) Model 631
Caterpillar, (1) Model 637

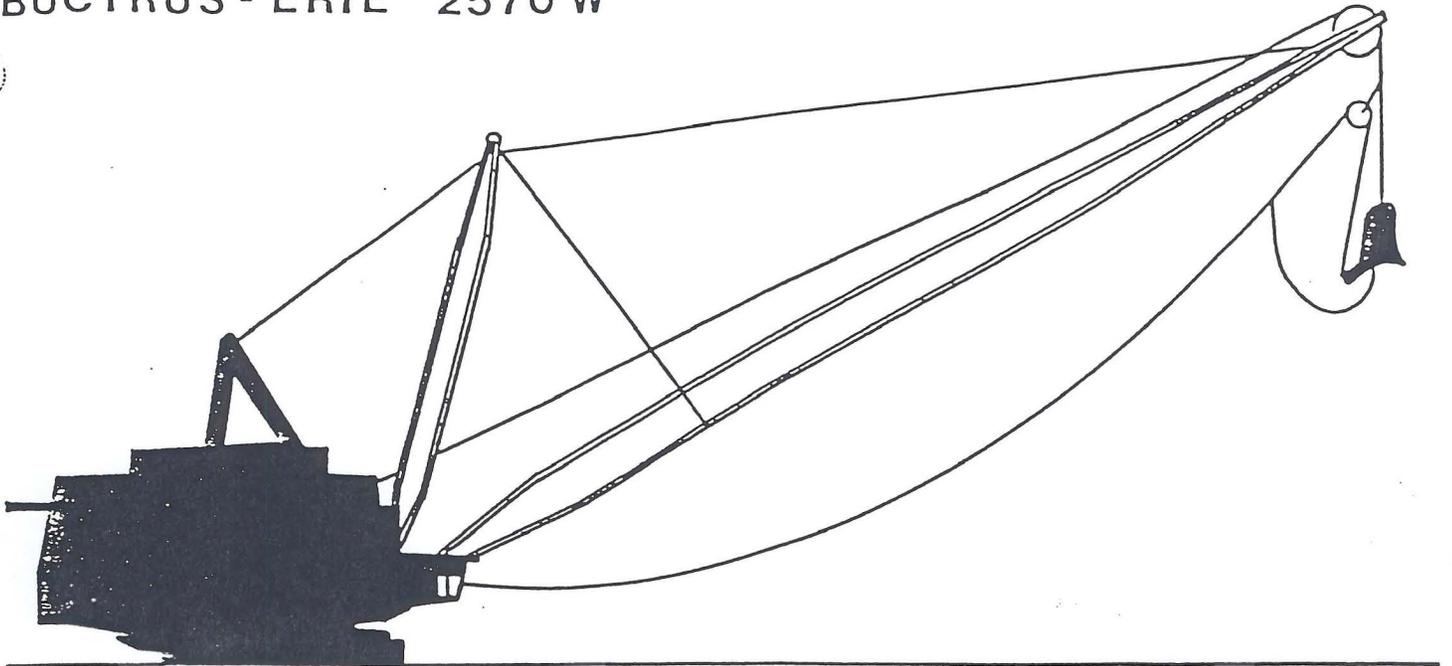
Loaders: Caterpillar, (1) Model 916, (5) Model 992

Motor Graders: Caterpillar, (4) Model 16

Water Trucks: (3) Off-Highway Water Trucks

*As of February 28, 2000

BUCYRUS - ERIE 2570 W



2570 WALKING DRAGLINE SPECIFICATIONS

WEIGHTS:

NET WEIGHT*, DOMESTIC, APPROX. (WITH BUCKET + 80' BASE) LBS.....	10,430,000
WORKING WEIGHT, APPROX. (WITH BUCKET) LBS.....	11,180,000
BALLAST WEIGHT (FURNISHED BY PURCHASER) LBS.....	750,000
* ADD 90,000 LBS. FOR BLOCKING ON CARS WHEN ESTIMATING DOMESTIC FREIGHT.	

ELECTRICAL EQUIPMENT:

HOIST MOTORS (BLOWN).....	EIGHT 500 HP
DRAG MOTORS (BLOWN).....	SIX 500 HP
SWING MOTORS (BLOWN).....	FOUR 625/1250 HP
WALKING MOTORS (BLOWN).....	FOUR 500/1000 HP
ALL ABOVE MOTORS RATED AT 75° CONTINUOUS AND AT 230/460V.	
MT SET DRIVES: FOUR 2,500 HP SYNCHRONOUS MOTORS	

WORKING DIMENSIONS

A CLEARANCE RADIUS, FT.-IN.....	80-0
B OPERATING RADIUS, FT.....	343
C BOOM FOOT RADIUS, FT.-IN.....	30-0
D CLEARANCE HEIGHT, FT.-IN.....	14-0
E BOOM FOOT HEIGHT, FT.-IN.....	16-0
F DUMPING CLEARANCE, FT.-IN.....	70-0
G BOOM POINT HEIGHT, FT.....	204
H DIGGING DEPTH, FT.....	160
J POINT SHEAVE PITCH DIAMETER, IN.....	144
BUCKET SIZE.....	90 C.Y.
BOOM LENGTH, FT.....	360
BOOM ANGLE.....	31.50°
MAX. SUSPENDED LOAD (TONS).....	225

BASE:

OUTSIDE DIAMETER, FT.-IN.....	80-0
BEARING AREA, SQ. FT.....	5026
CIRCLE RAIL DIAMETER, FT.-IN.....	54-0

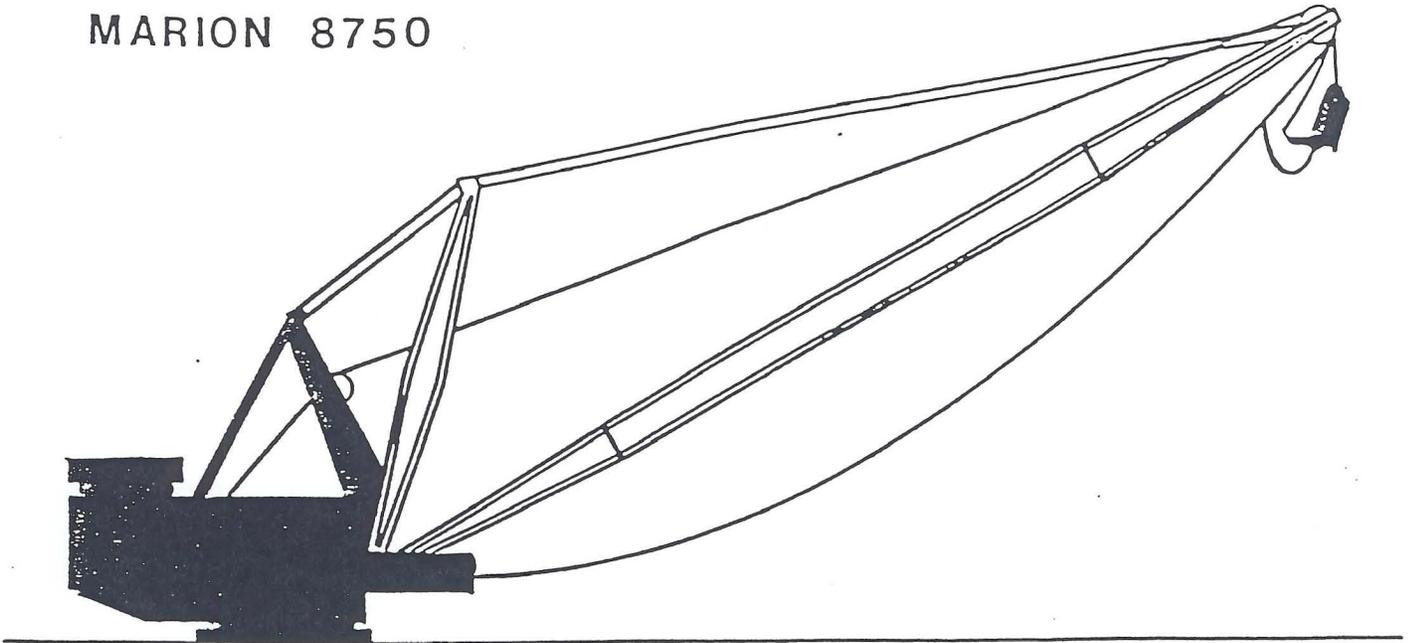
WALKING MOUNTING:

SHOE WIDTH AND LENGTH, FT.....	14x72
COMBINED BEARING AREA, SQ. FT.....	2016
OVERALL WIDTH OVER SHOES, FT.-IN.....	110-6
LENGTH OF STEP, APPROX. FT.-IN.....	8-6
WALKING SPEED, APPROX. MPH.....	0.15

FIGURE 2

BUCYRUS-ERIE 2570 W

MARION 8750



8750 WALKING DRAGLINE SPECIFICATIONS

WEIGHTS

DOMESTIC SHIPPING WEIGHT (INC. BUCKET) LBS.....	9,200,000
WORKING WEIGHTS, LBS.....	9,800,000
BALLAST (FURNISHED BY PURCHASER), LBS.....	600,000

DIMENSIONS

BOOM LENGTH.....	300'-0"
A - BOOM ANGLE, APPROX.....	35-1/2°
B - DUMPING RADIUS.....	272'-6"
C - DUMPING HEIGHT.....	140'-0"
D - DEPTH.....	150'-0"
MAXIMUM ALLOWABLE LOAD, LBS.....	427,000
BUCKET SIZE.....	84 CU. YD.

BASE

E - OUTSIDE DIAMETER - NOMINAL.....	70'-0"
BEARING AREA - EFFECTIVE, SQ. FT.....	3,848
RAIL CIRCLE - MEAN DIA.....	55'-0"

ELECTRICAL EQUIPMENT

HOIST MOTORS, EIGHT, 1000 HP EACH @ 460 V., TOTAL HP....	8,000
DRAG MOTORS, SIX, 1000 HP EACH @ 460 V., TOTAL HP....	6,000
SWING MOTORS, FOUR, 1000 HP EACH @ 460 V., TOTAL HP....	4,000
PROPEL MOTORS, FOUR, 600 HP EACH @ 460 V., TOTAL HP....	2,400
AC DRIVING MOTORS, TOTAL HP.....	10,250

ROTATING FRAME

J - WIDTH @ REAR END.....	80'-0"
K - LENGTH.....	109'-0"
L - CLEARANCE RADIUS - REAR END.....	77'-0"
M - CLEARANCE UNDER FRAME.....	15'-10"
N - CENTER ROTATION TO BOOM FOOT.....	24'-0"
P - GROUND TO BOOM FOOT.....	21'-4"

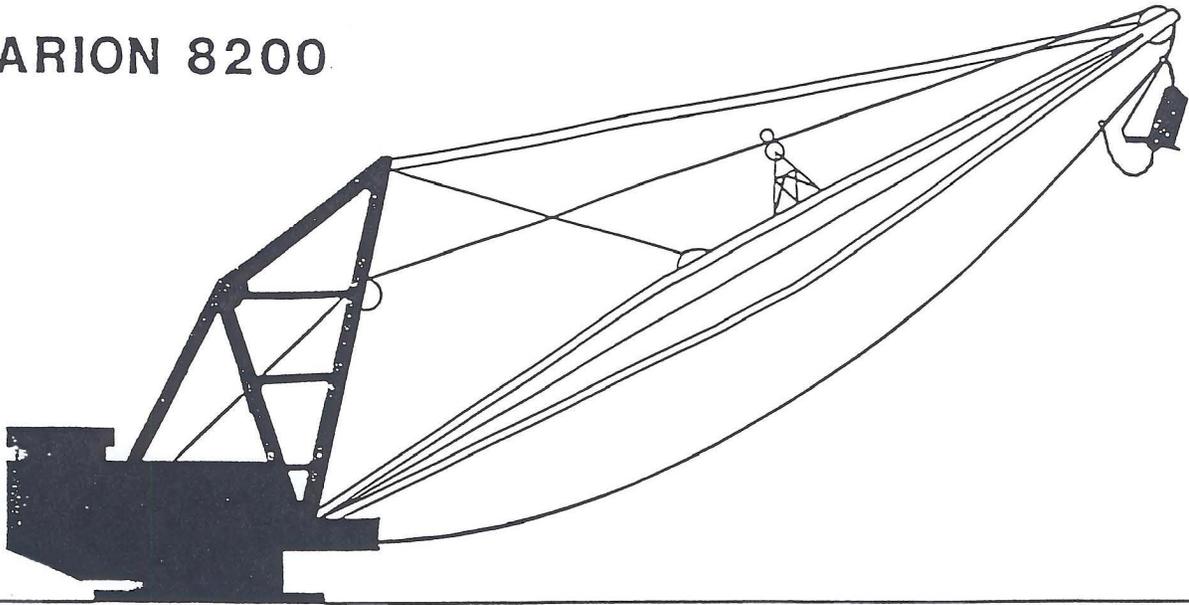
WALKING TRACTION

F - WIDTH OF SHOE.....	13'-6"
G - LENGTH OF SHOE.....	65'-0"
H - WIDTH OVER BOTH SHOES.....	101'-0"
BEARING AREA OF BOTH SHOES, SQ. FT.....	1,750
LENGTH OF STEP - APPROX.....	7'-0"
WALKING SPEED - APPROX., MPH.....	0.14

FIGURE 3

MARION 8750

MARION 8200



8200 WALKING DRAGLINE SPECIFICATIONS

DIMENSIONS

Boom Length.....	325'-0"
Boom Point Sheave, Pitch Diameter.....	120"
Boom Angle, Approx.....	35°
Dumping Radius.....	292'-0"
Dumping Height.....	135'-0"
Depth.....	160'-0"
Maximum Allowable Load, lbs.....	360,000

BASE

Outside Diameter - Nominal.....	68'-0"
Bearing Area - Effective, sq. ft.....	3630
Bearing Pressure, psi.....	15.9
Rail Circle - Mean Diameter.....	46'-6"

WALKING TRACTION

Width of Shoe.....	13'-6"
Length of Shoe.....	68'-0"
Width Over Both Shoes.....	98'-0"
Bearing Area of Both Shoes, sq. ft.....	1690
Length of Step - Approx.....	6'-0"

ROTATING FRAME

Width @ Rear End.....	67'-4"
Length.....	91'-0"
Clearance Radius - Rear End.....	68'-0"
Clearance Under Frame.....	11'-0"
Center Rotation to Boom Foot.....	21'-6"
Ground to Boom Foot.....	15'-1"

ELECTRICAL EQUIPMENT

Hoist Motors, Four, 1300 hp each @ 475 V. Total hp.....	5200
Drag Motors, Four, 1300 hp each @ 475 V. Total hp.....	5200
Swing Motors, Standard, Four, 800 hp each @ 475 V. Total hp.....	3200
Propel Motors, Two, 1045 hp each @ 475 V. Total hp.....	2090
AC Driving Motors, Total hp.....	7000

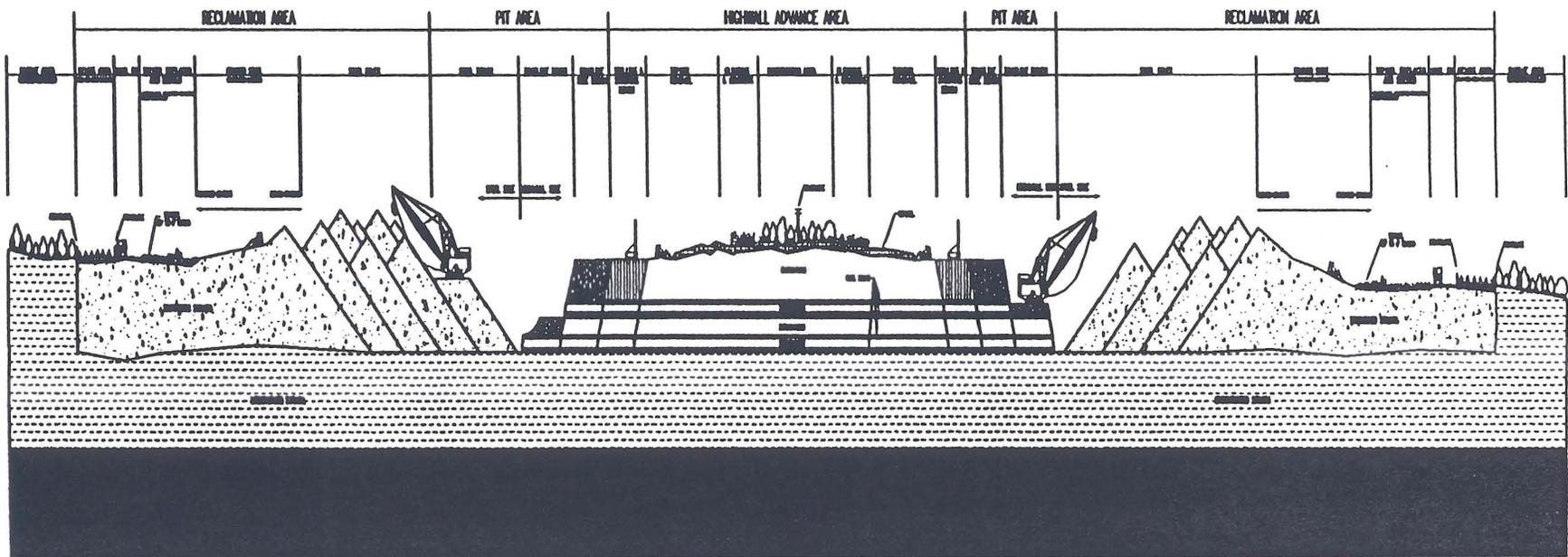
WEIGHTS

Domestic Shipping Weight, (inc. Bucket), lbs.....	6,600,000
Working Weight, lbs.....	7,750,000
Ballast (Furnished by Purchaser), lbs.....	1,150,000

FIGURE 4

MARION 8200

MINING AND RECLAMATION ACTIVITIES DIAGRAM



TYPICAL MINING AND
RECLAMATION ACTIVITIES DIAGRAM
KAYENTA MINE
AND HIGHHILL ADVANCE AREA

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

NOT TO SCALE

Coal-Field Summaries

Arizona

Black Mesa Coal Field

Location

Black Mesa is located in northeast Arizona within Apache, Coconino, and Navajo Counties and is entirely within the Navajo and Hopi Indian Reservations.

Stratigraphy

Early work on the stratigraphy was by Gregory (1917), and the preliminary coal geology work was by Campbell and Gregory (1911) and Repenning and Page (1956). Biostratigraphic relationships were studied by Peterson and Kirk (1977). The stratigraphic nomenclature and thickness of units are from Eaton and others (1987); depositional environments are from Eaton and others (1987) and Franczyk (1988).

Table. Stratigraphy—Black Mesa coal field.

Stratigraphic units	Depositional environment	Thickness (ft)
Yale Point Sandstone	nearshore marine	0-300
Wepo Formation	coastal plain; major coal	300-750
Rough Rock Sandstone	nearshore marine/tidal	0-60
Toreva Formation	nearshore marine; coastal plain, minor coal; fluvial	100-300
Mancos Shale	marine shale	600
Dakota Sandstone	fluvial; nearshore marine; minor coal	45-100

Coal Deposits

Coal is present in the Dakota, Toreva, and Wepo Formations. Extensive work on the coal deposits was completed by Williams (1951) as summarized in Peirce and others (1970). Carr (1991) studied the depositional environments of the Wepo coals. Eight coal zones are mined from the Wepo and are between 4 and 30 ft thick (Moore, 1977; Fellows, 1998).

Coal Quality

Most of the coal in all three formations is high-volatile bituminous C, although some samples in the Dakota are subbituminous C or, in higher ash samples, lignite (Peirce and others, 1970). Proximate/ultimate analyses were compiled by Peirce and others (1970, table 1, p. 20: analysis of 11 coals from the Dakota show ash contents between 10.0 and 30.74 percent, sulfur contents between 0.7 and 2.29 percent, and heating values between 5,119 and 10,550 Btu/lb; analysis of 7 coals from the Toreva show ash contents between 8.8 and 19.0 percent, sulfur contents between 0.9 and 1.3 percent, and heating values between 9,807 and 11,200 Btu/lb; analysis of 11 coals in the Wepo show an ash content between 3.4 and 8.7 percent, sulfur contents between 0.4 and 0.9 percent, and heating values of between 10,450 and 12,060 Btu/lb). The table below is compiled from seven analyses from Wepo coals collected at the Kayenta and Black Mesa mines (Moore, 1977).

Table. Coal in Wepo Formation.

[Values reported on an as-received basis]

Ash content (percent)	Sulfur content (percent)	Heating value (Btu/lb)
4.7-9.1	0.3-0.5	9,490-11,560

Resources

Original resource estimates for the Dakota, Toreva, and Wepo are 9.6, 6, and 5.65 billion short tons, respectively (Peirce and others, 1970, p. 27). All estimates are from beds greater than 1 ft thick and down to a maximum depth of 1,700 ft of overburden (this minimum thickness is assumed from discussion in Peirce and others, 1970, p. 26-34). Strippable coal in the Wepo equals about 800 million short tons in areas with less than 130 ft of overburden (Peirce and others, 1970).

Production History

Ten small underground mines have produced about 300,000 short tons of coal since the early 1900's (Pierce and others, 1970). The Kayenta and Black Mesa surface mines have been active since the early 1970's and produced about 12 million short tons of coal in 1995.

References

- Campbell, M.R., and Gregory, H.E., 1911, The Black Mesa coal field, Arizona, *in* Campbell, M.R., ed., Contributions to Economic Geology 1909, Part II. Mineral Fuels: U.S. Geological Survey Bulletin 431, p. 229-238.
- Carr, D.A., 1991, Facies and depositional environments of the coal-bearing upper carbonaceous member of the Wepo Formation (Upper Cretaceous), northeastern Black Mesa, Arizona, *in* Nations, J.D., and Eaton, J.G., eds., Stratigraphy, Depositional Environments, and Sedimentary Tectonics of the Western Margin, Cretaceous Western Interior Seaway: Geological Society of America Special Paper 260, p. 167-188.
- Eaton, J.G., Kirkland, J.I., Gustason, E.R., Nations, J.D., Franczyk, K.J., Ryer, T.A., and Carr, D.A., 1987, Stratigraphy, correlation, and tectonic setting of Late Cretaceous rocks in the Kaiparowits and Black Mesa basin, *in* Davis, G.H., and Vanden Dolder, E.M., eds., Geologic Diversity of Arizona and its Margins; Excursions to Choice Areas, Geological Society of America 100th Annual Meeting Field Trip Guidebook: Arizona Bureau of Geology and Mineral Technology Special Paper 5, p. 113-125.
- Gregory, H.E., 1917, Geology of the Navajo country—A reconnaissance of parts of Arizona, New Mexico, and Utah: U.S. Geological Survey Professional Paper 93, 161 p.
- Franczyk, K.J., 1988, Stratigraphic revision and depositional environments of the Upper Cretaceous Toreva Formation in the northern Black Mesa area, Navajo and Apache Counties, Arizona: U.S. Geological Survey Bulletin 1685, 32 p.
- Fellows, L.D., 1998, Coal geology of Arizona, *in* Keystone Coal, p. 573.
- Moore, R.T., 1977, Chemical analyses of coal samples from the Black Mesa field, Arizona: The Arizona Bureau of Mines Circular 18, 14 p.
- Peirce, H.W., Keith, S.B., and Wilt, J.C., 1970, Coal, oil, natural gas, helium, and uranium in Arizona: The Arizona Bureau of Mines Bulletin 182, 289 p.
- Peterson, F., and Kirk, A.R., 1977, Correlation of Cretaceous rocks in the San Juan, Black Mesa, Kaiparowits and Henry Basins, southern Colorado Plateau, *in* Fassett, J.E., ed., Guidebook of San Juan Basin III in northwestern New Mexico: New Mexico Geological Society Guidebook, 28th Field Conference, p. 167-178.

Repenning, C.A., and Page, H.G., 1956, Late Cretaceous stratigraphy of Black Mesa, Navajo and Hopi Indian Reservations, Arizona: American Association of Petroleum Geologists, v. 40, p. 255-294.

Williams, G.A., 1951, The coal deposits and Cretaceous stratigraphy of the western part of Black Mesa: Tucson, University of Arizona, unpub. Ph.D. dissertation, 307 p.

BLACK MESA MINE

Handwritten initials and signature



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

ROSE MOFFORD, GOVERNOR
RANDOLPH WOOD, DIRECTOR

JOINT NOTICE OF PROPOSED ACTION

by the

U. S. Environmental Protection Agency
Region 9 (W-5-1)
75 Hawthorne Street
San Francisco, CA 94105

State of Arizona
Department of Environmental Quality
2005 North Central Avenue-Room 202
Phoenix, AZ 85004

Telephone: (415) 774-1923

Telephone: (602) 257-2270

On Modification of a National
Pollutant Discharge Elimination
System (NPDES) Permit to Discharge
Pollutants to Waters of the
United States

On Request for Certification
for Compliance with Applicable
Effluent Limitations and
Appropriate Requirements of the
State of Arizona

Public Notice No. 1-91-AZ

January 7, 1991

The Environmental Protection Agency (EPA), Region 9, San Francisco, California, and the Arizona Department of Environmental Quality (ADEQ) are jointly issuing the following notice of proposed action under the Clean Water Act.

On June 1, 1988, the Regional Administrator, Region IX, Environmental Protection Agency, issued a National Pollutant Discharge Elimination System (NPDES) permit to the following discharger:

Peabody Coal Company
1300 South Yale
Flagstaff, Arizona 86001
NPDES Permit No. AZ0022179

The permittee operates the Black Mesa and Kayenta Coal Mines in Navajo County on the Hopi and Navajo Indian Reservations. The permitted discharges are from impoundments designed to catch surface runoff water. The discharges are to various washes and canyons tributary to the Little Colorado River. The present permit will expire October 12, 1993.

The proposed modification consists of adding three discharge points. These new discharge points are numbered 156, 157 and 158. The remainder of the permit does not change.

The Department of Environmental Quality is An Equal Opportunity Affirmative Action Employer.

Only those conditions which we propose to modify are reopened. All other requirements of the existing permit remain in effect for its duration. Persons wishing to comment upon or object to the proposed modification(s), or request a public hearing pursuant to 40 CFR 124.11 should submit their comments or requests in writing within 30 days from the date of this notice, either in person or by mail to:

U. S. Environmental Protection Agency, Region IX
Grants and Permits Administration Branch, W-5-1
Attn: L. Silva
75 Hawthorne Street
San Francisco, California 94105

Telephone: (415) 774-1923

The Administrative Record, which includes the NPDES permit, draft modifications, fact sheet or statement of basis, comments received, and other relevant documents, is available for review and may be obtained by calling or writing to the above address, or:

State of Arizona
Department of Environmental Quality
Attn: Wayne H. Palsma - Room 202
2005 North Central Avenue
Phoenix, Arizona 85004

Telephone: (602) 257-2270

All comments or objections received within 30 days from the date of this notice, will be retained and considered in the formulation of the final determinations regarding the permit modification(s). When public interest warrants, the Regional Administrator may grant an extension of the 30-day comment period for the submittal of comments or objections. If written comments indicate a significant degree of public interest in a proposed modification, the Regional Administrator shall hold a public hearing in accordance with 40 CFR 124.12. A public notice of such hearing will be issued at least 30 days prior to the hearing date. A request for a public hearing must be in writing and state the nature of the issues proposed to be raised in the hearing.

If no public hearing is held, and the final determinations of the Regional Administrator, after consideration of all comments and objections, are substantially unchanged from the tentative determinations, the Regional Administrator shall forward a notice of the final determination to the permittee and to any person who has submitted written comments regarding the permit modification.

If no public hearing is held, and the final determinations of the Regional Administrator are substantially changed from the tentative determinations, the Regional Administrator will give public notice of such determinations. The Regional Administrator shall forward a copy of the notice and a copy of the final determination to the permittee and to any person who has submitted written comments regarding the permit modification.

The Arizona Department of Environmental Quality is considering a request to certify the discharge as affected by the permit modification described above, pursuant to Section 401 of the Clean Water Act. The certification will set forth any effluent limitations and monitoring requirements necessary, if any, to assure compliance with any applicable effluent limitations and other limitations, under Sections 301 and 302 of the Clean Water Act, standard of performance under Section 306 of the Act, or prohibition, effluent standard, or pretreatment standard under Section 307 of the Act, and any other appropriate requirement of State law. No permit modification will be issued if certification is denied by the State.

Persons wishing to comment upon or object to certification by the Arizona Department of Environmental Quality or request a public hearing should submit their comments or requests in writing within 30 days from the date of this notice, either in person or by mail, to the State agency address shown above. The permit modification(s) will become effective 33 days following the date they are mailed, unless a request for an evidentiary hearing is granted. Requests for an evidentiary hearing must be filed within 33 days following the receipt of the final determinations and must meet the requirements of 40 CFR 124.74. All written requests for evidentiary hearing should be addressed to the Regional Administrator, Environmental Protection Agency, Region IX, Attn: Permits Record Coordinator (W-5-1), 215 Fremont Street, San Francisco, California 94105.

If the Regional Administrator grants a request for an evidentiary hearing, public notice of such hearing will be given. Any person may submit a request to be admitted as a party within 30 days after the publication date of the public notice of an evidentiary hearing. If no evidentiary hearing is requested, the permit modification will be issued or denied, as appropriate, and this action will be final.

Please bring the foregoing notice to the attention of all persons who you know would be interested in this matter.



9 Lib Black Mesa/Kayenta Mine
United States Department of the Interior

OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202



In Reply Refer To:

September 21, 1989

Mr. John Jette
Arizona Department of Mines and Mineral
Mineral Building, Fairgrounds
Phoenix, Arizona 85007

Dear Interested Party/Governmental Agency:

Pursuant to Section 513 of the Surface Mining Control and Reclamation Act (SMCRA) and Regulation 30 CFR 773.13(a)(3), the Office of Surface Mining Reclamation and Enforcement (OSM) hereby issues a notice that on August 4, 1989, a permit renewal application for the Black Mesa\Kayenta mine (Permit number AZ-0002A) J-21 North Area was submitted by Peabody Coal Company (PCC) and deemed administratively complete on September 18, 1989.

The applicant proposes to continue mining and reclamation activities within the J-21 North mining area at the Kayenta mine located in Navajo County, Arizona and encompassing approximately 4375 acres in parts of Township 35 North, Range 19 East, Sections 1 through 4, 10 through 12, 13 through 15 and 22, and Township 36 North, Range 19 East, Sections 33, 34, 35 and 36 of U.S. Geological Survey 7.5-minute quadrangle maps: Cliff Rose Hill, Arizona and Yucca Hill, Arizona.

Copies of the application are available for public inspection during normal business hours at the following locations:

Bureau of Indian Affairs
Western Navajo Agency
P.O. Box 127
Tuba City, Arizona 86045

Bureau of Indian Affairs
Hopi Agency
P.O. Box 158
Keams Canyon, Arizona 86034

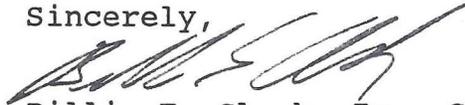
Bureau of Indian Affairs
Navajo Area Office
P.O. Box M
Window Rock, Arizona 86515

Office of Surface Mining Reclamation and Enforcement
1020 15th Street - Brooks Towers
Denver, Colorado 80202

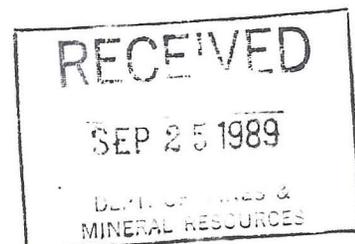
As required by 30 CFR 773.13(b), written comments, objections or requests for an informal conference on the renewal application may be submitted to the Federal Programs Division, Western Field Operations, Office of Surface Mining Reclamation and Enforcement, Brooks Towers, 1020 15th Street, Denver, Colorado 80202 by the public entities to whom this permit renewal is provided. Written comments, objections, or requests for an informal conference must be filed at Western Field Operations within 30 days of the last publication of the newspaper notice required by 30 CFR 773.13(a). The notice is to be published at least once a week for four (4) consecutive weeks in the Arizona Daily Sun. Publication will begin on or about September 22, 1989. Comments should be made with respect to the effects of the proposed mining and reclamation activities on the environment within your agency's area of responsibility.

If you have any questions regarding OSM's processing of this permit renewal application, please contact Jerry D. Gavette at (303) 844-2938.

Sincerely,



Billie E. Clark, Jr., Chief
Federal & Indian Permitting Branch





BLACK MESA (A)
KAYENTA (P)

Rec'd 1/2/90 file

United States Department of the Interior

OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202



In Reply Refer To:

December 29, 1989

Mr. John Jette
Arizona Department of Mines and Mineral
Mineral Building, Fairgrounds
Phoenix, Arizona 85007

Dear Mr. Jette:

This is to notify you that the United States Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSM), in accordance with the Federal Program for Indian Lands, has approved Peabody Coal Company's permit renewal application for renewal of OSM Permit AZ-0002A J-21 North Area at the Black Mesa-Kayenta mine.

Notification of this decision is pursuant to 30 CFR 773.19(b). Peabody Coal Company was notified of the decision, by letter, on December 21, 1989.

The J-21 North Area contains 4375 acres and is located within all or parts of:

Arizona Principal Meridian:
Township 35 North, Range 19 East:
Sections 1 through 4, 10 through 12, 13 through 15 and 22.
Township 36 North, Range 19 East:
Sections 33, 34, 35 and 36.

For information or clarification concerning the renewal of the J-21 North Area Permit AZ-0002A, please contact me at (303) 844-2938.

Sincerely,

Jerry D. Gavette
Senior Project Manager
Federal & Indian Permitting Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street
San Francisco, Ca. 94105

FACT SHEET

For the Proposed NPDES Permit Modification to
NPDES Permit No. AZ0022179
Peabody Coal Company
1300 South Yale
Flagstaff, AZ 86001

The Peabody Coal Company operates the Black Mesa and Kayenta Coal Mines located on Navajo and Hopi Indian Lands in northeast Arizona. Water retention ponds have been constructed pursuant to the Surface Mining Control and Reclamation Act of 1977 (PL 95-87) to control surface runoff water. The National Pollutant Discharge Elimination System (NPDES) permit issued to Peabody Coal Company on June 15, 1983 covers discharges from these ponds.

The proposed discharge modifications would allow discharges from these ponds due to non-precipitation induced events such as pond dewatering. The existing permit only allows for discharges due to precipitation-induced overflows. This modification is requested by Peabody Coal Company to allow it to comply with requirements of the U.S. Office of Surface Mining.

Additionally, modifications have been made to correct typographical errors, delete several outfalls which no longer have the potential to discharge, and add new outfalls and those proposed through 1990.

Modifications and additions have also been made to this permit to update the General Conditions applicable to all NPDES permits contained in 40 CFR 122, and to modify the reporting frequency.

In the past, the State of Arizona has provided certification, pursuant to §401 of the Clean Water Act (CWA), of permit condition compliance with State Water Quality Standards. However, State of Arizona §401 certification is not required for permits issued to discharges on Indian Lands since State Water Quality Standards do not apply on Indian Lands. The "EPA Policy for the Administration of Environmental Programs on Indian Reservations" (Nov. 8, 1984) outlines the relationship between EPA and the Tribes. The Agency will work directly with Indian Tribal governments on a one-to-one basis, rather than as subdivisions of other governmental units. This conforms to the Federal Indian Policy of Jan. 24, 1983.

The modifications to the effluent discharge limits contained in Part I.A.2., I.A.3., and I.A.4. of the existing permit have been made in accordance with the final rule changes for the Coal Mining Point Source Category, 40 CFR 434. Limits and monitoring requirements have been added for non-precipitation induced discharges and include discharge limits for Total Iron, Total Suspended Solids, pH, Oil & Grease, and monitoring of Flow. Discharge limits and monitoring requirements for precipitation induced discharges are essentially unchanged from the existing permit. All discharge limits include those required in 40 CFR 434 or the existing permit, whichever are more stringent.

During the review process concerns were raised relative to the proposed Total Iron and Total Suspended Solids limits for non-precipitation induced discharges. This resulted from data which suggests natural concentrations of iron in the soil and adsorbed on suspended sediment is very high relative to the proposed daily limit of 7.0 mg/l Total Iron, and the natural concentration of suspended solids in precipitation induced flows in area watercourses are very high. These observations suggested the proposed effluent limits for Total Iron and Total Suspended Solids will be difficult to meet.

The proposed Total Iron and Total Suspended Solids limits are based on final rule changes for the Coal Mining Point Source Category, 40 CFR 434. These regulations resulted from a Settlement Agreement between the U.S. Environmental Protection Agency (EPA) and the National Coal Association (NCA), the Commonwealth of Pennsylvania, and the West Virginia Mountain Streams Monitors, Inc.. The storage ponds as designed allow for substantial runoff water retention. The suspended solids levels required for pond dewatering should be easily achievable with adequate management practices. The Total Iron limit should thus also be achievable assuming most iron is adsorbed on the suspended solid particle.

Comments or objections to this proposed modification which are received within thirty (30) days of the date of public notice will be retained and considered in the formulation of the final determinations regarding the permit modification. If written comments indicate a significant degree of public interest in this proposed modification, the Regional Administrator shall hold a public hearing in accordance with 40 CFR 124.12. A request for public hearing must be in writing and state the nature of the issues proposed to be raised in the hearing.

Persons wishing to comment upon, or object to the proposed modifications, or to request a public hearing pursuant to 40 CFR 124.11, should submit their comments or requests to:

U.S. EPA, Region 9
Permits and Pretreatment Section (W-5-1)
Attn: Thomas A. Dame
215 Fremont Street
San Francisco, CA 94105

Telephone: (415) 974-8299

PEABODY COAL COMPANY

SUBSIDIARY OF KENNECOTT COPPER CORPORATION

301 NORTH MEMORIAL DRIVE · ST. LOUIS, MISSOURI 63102

TELEPHONE (314) 436-3400

342-3400

T. C. MULLINS
PRESIDENT

December 4, 1970

TO ALL INTERESTED PARTIES:

The enclosed report describes the role of Peabody Coal Company in the economic development of Black Mesa. I am sending you a copy because I believe you share my interest in this important part of the Navajo and Hopi nations in Northeastern Arizona.

This report explains our mining operations and how they will affect a small part of the mesa over the next 35 years, a period when we will be supplying coal to meet the power needs of the Southwest. It relates the economic benefits to the Indians, how their water supply is protected, and how the land will be reclaimed after mining is completed.

Peabody's operations on Black Mesa are governed by the terms of leases signed after lengthy negotiations with the Navajo and Hopi tribes. We believe the leases fully promote and protect the interests of both the tribes and the company.

In "Mining Coal on Black Mesa", we have attempted to answer questions which have come up during the time we have been busy developing the mine. We intend to continue reporting to the public as our operations move along. This will be done both directly and through the Colorado Plateau Environmental Advisory Council, a new organization formed to safeguard the environmental interests of a vast area which includes Black Mesa.

If you have questions which are not answered by these efforts, I hope you will get in touch with me. My colleagues and I encourage the fullest public understanding of our activities on Black Mesa.

Sincerely yours,



T. C. Mullins
President

Enclosure

Public Notice Mailing List
Peabody Coal Company NPDES Permit Modification
Permit No. AZ0022179

Salt River Project
P.O. Box 1980
Phoenix, AZ 85001

Southeast AZ Gov. Org.
P.O. Box 204
Bisbee, AZ 85603
Attn: Ken Zehentner

AZ Center for Law in
the Public Interest
32 N. Tucson Blvd.
Tucson, AZ 85716

Mr. Robert Postle
Division of Mining, Reclamation
and Enforcement
HOPI Tribe
P.O. Box 123
Kykotsmovi, AZ 86039

AZ Dept. of Mineral Res.
Mineral Bldg., Fairgrounds
Phoenix, AZ 85007

Northern AZ Council of Gov
P.O. Box 57
Flagstaff, AZ 86002
Attn: William L. Towler

AZ Dept. of Health Services
Attn: Water Permits Unit
Room 300
2005 North Central Ave.
Phoenix, AZ 85004

Mr. Masud Zamon, Director
Dept. of Water Management
NAVAJO Nation
P.O. Box 308
Window Rock, AZ 86515

AZ Dept. of Fish & Game
2222 W. Greenway
Phoenix, AZ 85023
Attn: Scott Reger, Phd.

USDA Forest Service
Soil & Water Staff Unit
217 Gold Ave. SW
Albuquerque, NM 87102
Attn: Gerhart Nelson

Gov's Comm. on AZ Env.
1655 W. Jackson
Phoenix, AZ 85007
Attn: Alicia Ray, Ex. Dir.

OEPAD/ Economic
1700 W. Washington, 4th Floor
Phoenix, AZ 85007

BLM, AZ State Office
2400 Valley Bank Center
Phoenix, AZ 85703
Attn: Andrea Nygren (920)

Water Resources Research Center
A.E. Douglas Bldg. 102
Tucson, AZ 85721
Attn: Sol Resnick, Dir.

Bureau of Water Quality
Northern Regional Office
2501 N. 4th. St.
Flagstaff, AZ 86001

Office of Surface Mining,
Reclamation, and Enforcement
Federal Program Division
1020 15th. St.
Denver, CO 80202
Attn: Melvin Shilling, Chief

Peabody Coal Company
1300 South Yale
Flagstaff, AZ 86001
Attn: Gary Melvin

U.S. Fish and Wildlife Service
2934 W. Fairmount Ave.
Phoenix, AZ 85017
Attn: Field Supervisor

Mr. Charles Freteluco
Rt. 1 Box 665
Flagstaff, AZ 86001

Mr. Richard A. DuBey
Attorney at Law
Suite 3110
Bank of California Center
Seattle, WA 98164



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street
San Francisco, Ca. 94105

Certified Mail: 007796651

26 MAY 1987

Gary L. Melvin
Senior Manager
Peabody Coal Company
1300 South Yale
Flagstaff, AZ 86001

Dear Mr. Melvin:

Enclosed is a copy of the draft permit, public notice and statement of basis of our proposed action on your application to modify a National Pollutant Discharge Elimination System (NPDES) permit for:

Peabody Coal Company
Flagstaff, AZ 86001
NPDES Permit No. AZ0022179

The public notice comment period will be from May 26, 1987 to June 26, 1987. Comments on the proposed action, or a request for a public hearing pursuant to 40 CFR 124.12, may be submitted to this office within 30 days following the date of this public notice. Comments or requests for public hearings should be sent to the above address, attention: Patrick Chan, Permits Record Controller (W-5-1).

If the Regional Administrator finds a significant degree of public interest exists with respect to the proposed permit, a public hearing shall be held. If no hearing is held, we expect to forward the permit containing the final determinations of the Regional Administrator shortly after the close of the 30-day comment period.

If you have any questions regarding the technical nature of the draft permit, please call Thomas Dame at (415) 974-8299.

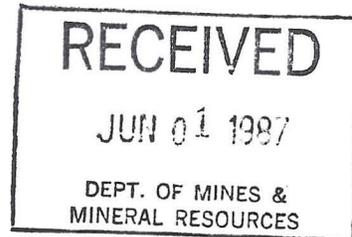
If you have any question regarding the administrative procedures of the permit issuance process, please call Vickey Choy at (415) 974-8300.

Sincerely,

Kenneth D. Greenberg, Chief
Permits and Pretreatment Section

Enclosures

cc: See attached mailing list



0 1 JUN 1988

NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency
Region 9 (W-5-1)
215 Fremont Street
San Francisco, CA 94105
Telephone: (415) 974-8299

On Application for a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants to Waters of the United States.

The Environmental Protection Agency (EPA), Region 9, San Francisco, California is issuing the following notice of proposed action under the Clean Water Act.

The Environmental Protection Agency, San Francisco, California, has received a complete application for a National Pollutant Discharge Elimination System (NPDES) Permit and has prepared a tentative determination regarding the permit.

On the basis of a preliminary review of the requirements of the Clean Water Act, as amended, and implementing regulations, the Regional Administrator, Environmental Protection Agency, Region 9, proposes to issue an NPDES permit to discharge to the following applicant, subject to certain effluent limitations and special conditions:

Peabody Coal Company
1300 South Yale
Flagstaff, AZ ~~86001~~
NPDES Permit No. AZ0022179

The permittee operates the Black Mesa and Kayenta Coal Mines in Navajo County, on the Hopi and Navajo Indian Reservations. The permitted discharges are from impoundments designed to catch surface runoff water. The discharges are to various washes and canyons tributary to the Little Colorado River. The draft permit does not differ significantly from the current NPDES permit.

The ADMINISTRATIVE RECORD for the DRAFT PERMIT, which includes the APPLICATION, DRAFT PERMIT, STATEMENT OF BASIS, and all data sent by the applicant may be viewed Monday through Friday from 9:00 A.M. until 4:00 P.M. at the EPA address below. A copy of these documents may be obtained by calling Patrick Chan, Permit Records Controller, at (415) 974-9526 or by writing to:

U.S. Environmental Protection Agency, Region 9
Attn: Patrick Chan, (W-5-1)
215 Fremont Street
San Francisco, CA 94105

All comments upon or objections to the DRAFT PERMIT and requests for a PUBLIC HEARING, pursuant to 40 CFR 124.12, must be sent or delivered in writing to Patrick Chan, at the address shown above, within 30 days of the date of this notice. An extension of the 30 day comment period may be granted if the request for an extension adequately explains why more time is required to prepare comments.

Request for a PUBLIC HEARING must state the nature of the issues proposed to be raised in the hearing. Pursuant to 40 CFR 124.12, the Regional Administrator shall hold a PUBLIC HEARING if he finds, on the basis of requests, a significant degree of public interest in the DRAFT PERMIT. If the Regional Administrator decides to hold a public hearing, a public notice of the date, time and place of the hearing will be made at least 30 days prior to the hearing. Any person may provide written or oral statements and data pertaining to this DRAFT PERMIT at the public hearing.

If this DRAFT PERMIT becomes final, and there are no appeals, discharge from and operation of the identified facility may proceed or continue, subject to the conditions of the permit and other applicable permit and legal requirements.

A final decision to set the conditions and to issue the FINAL PERMIT, or to deny the APPLICATION for the permit, shall be made after all comments have been considered. Notice of the final decision shall be sent to each person who has sent or delivered written comments or requested notice of the final permit decision. The decision will become effective 30 days from the date of issuance unless:

1. a later effective date is specified in the decision; or
2. an evidentiary hearing is requested pursuant to 40 CFR 124.74. Any person may send or deliver, in writing, a request for an evidentiary hearing. Requests for an evidentiary hearing must state each legal or factual question alleged to be at issue, and its relevance to the permit decision. If the request is sent or delivered by a person other than the applicant, the person will simultaneously send a copy of the request to the applicant. A request for an evidentiary hearing must be sent or delivered to Patrick Chan at the address shown above within 33 days following the mailing of the final decision. If an evidentiary hearing is granted, applicable provisions of the permit will be stayed pending the outcome of the hearing; or
3. there are not comments requesting a change to the DRAFT PERMIT, in which case the final decision shall become effective immediately upon issuance.

Please bring the foregoing to the attention of all persons you know would be interested in this matter.

Date: 01 JUN 1988



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street
San Francisco, Ca. 94105

May 10, 1988

Fact Sheet

Peabody Coal Company
Black Mesa and Kayenta Coal Mines
NPDES Permit No. AZ0022179

Facility Description

The Peabody Coal Company operates the Black Mesa and Kayenta Coal Mines located on Navajo and Hopi Indian Lands in northeast Arizona. The lease area currently contains seven working open pits and produces approximately 12 million tons of coal annually. Water retention ponds have been constructed pursuant to the Surface Mining Control and Reclamation Act of 1977 (SMCRA), to control surface runoff water. These impoundments must maintain adequate capacity to contain without discharge the surface runoff from a 10-year 24-hour storm event.

Water Quality Standards

Pursuant to the Water Quality Act of 1987 (WQA) and the "EPA Policy for the Administration of Environmental Programs on Indian Reservations" (November 8, 1984), EPA will work directly with Indian Tribal governments on a one-to-one basis, rather than as subdivisions of other governmental units. This conforms with the Federal Indian Policy of January 24, 1983. Regulations pertaining to amendments to the Clean Water Act (CWA) under the WQA are currently being developed by EPA. In the absence of regulations regarding development of tribal water quality standards, state water quality standards will be protected until such regulations are promulgated and tribal standards are developed.

By the tributary rule, state water quality standards applicable to discharge from this facility are those for the Little Colorado River below Lyman Reservoir. In addition to the general standards applicable to all surface waters, protected uses for this segment are: Aquatic and Wildlife including cold water fishery, Domestic Water Source, Full Body Contact, Agricultural Irrigation, and Agricultural Livestock Watering.

Rationale for Permit Limits

Potential discharges from the three types of impoundments at this facility have been placed into three categories relating to the cause of discharge. These categories are: discharges resulting from lagoon dewatering (or discharges not resulting from a precipitation event), discharges resulting from a precipitation event less than or equal to a 10-year 24-hour storm, discharges resulting from a precipitation event greater than a 10-year 24-hour storm. Lagoon dewatering is required to maintain adequate capacity to comply with SMCRA regulations.

Effluent limits for Total Iron, Total Suspended Solids, and Settleable Solids are based on the effluent limitations guidelines for the Coal Mining Point Source Category at 40 CFR 434. pH limits are water quality based. Additional limits on Oil & Grease, BOD₅, and Fecal Coliform are based on Best Professional Judgement (BPJ) to protect the beneficial uses of the receiving water.

Additional Issues

Evidence of water seepage from the earthen impoundments constructed at this facility was noted during an EPA inspection on April 30, 1987. Extensive analysis of the water from such seepages was subsequently required by EPA in order to adequately characterize its quality. The seepage fluctuates substantially depending on weather conditions and the level of water impounded, and would be exceedingly difficult to monitor. Any attempt to stop such seepage would require major construction, with significant impact on the environment in the vicinity of the impoundments. The water quality analysis, and comparison with comparable existing water quality data from undisturbed areas on the lease area, indicate that the seepage water quality is indistinguishable from alluvial water quality upstream of any mine related disturbances. In some cases it is difficult to positively identify the origin of the seepage as the impoundment, rather than a naturally occurring spring. On the basis of this information, while it is clearly within EPA authority to place limits on seepage from the impoundments, EPA is not currently going to place such limits on impoundment seepage from this facility. This determination is based on extensive site specific information, and does not constitute EPA policy with regard to seepage from impoundments of any type.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street

San Francisco, Ca. 94105

NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency
Region 9 (W-5-1)
215 Fremont Street
San Francisco, CA 94105

Telephone: (415) 974-8299

26 MAY 1987

On application for a Modification to a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants to Waters of the United States: The Environmental Protection Agency (EPA), Region 9, San Francisco, California is issuing the following notice of proposed action under the Clean Water Act (CWA).

The EPA, Region 9, San Francisco, California, has received a request for a modification to a National Pollutant Discharge Elimination System (NPDES) permit and has prepared a tentative determination regarding the permit.

On the basis of preliminary review of the requirements of the CWA, as amended, and the implementing regulations, the Regional Administrator, Region 9, EPA, proposes to modify the NPDES permit issued to the following discharger, subject to certain effluent limitations and special conditions:

Peabody Coal Company
1300 South Yale
Flagstaff, Arizona 86001
NPDES Permit No. AZ0022179

On June 15, 1983 the Regional Administrator, Region 9, EPA, issued a NPDES permit to Peabody Coal Company. The applicant operates the pollution control facilities located at the Black Mesa and Kayenta Mines in Navajo County, State of Arizona. The existing discharges are to various washes and canyons tributary to the Little Colorado River. The permit, as issued, expires May 31, 1988.

The proposed modification consists of changing the existing permit to allow Peabody Coal Company to dewater their retention ponds. This change is required to comply with regulations relating to surface water control of the U.S. Office of Surface Mining. Discharge outfalls have also been added and those no longer used have been deleted. General Conditions applicable to all NPDES permits have also been updated and included in these modifications.

Only those conditions which we propose to modify are reopened. All other requirements of the existing permit remain in effect for its duration. Persons wishing to comment upon, or object to the proposed modification, or request a public hearing pursuant to 40 CFR 124.11, should submit their comments or requests in writing within thirty (30) days from the date of this notice, either in person or by mail to:

U.S. Environmental Protection Agency, Region 9
Permits and Pretreatment Section (W-5-1)
Attn: Thomas A. Dame
215 Fremont Street
San Francisco, CA 94105

Telephone: (415) 974-8299

The Administrative Record, which includes the NPDES permit, the Draft Modifications, the fact sheet or statement of basis, comments received, and other relevant documents, is available for review and may be obtained by calling or writing to the above address.

All comments or objections received within thirty (30) days from the date of this notice, will be retained and considered in the formulation of the final determinations regarding the permit modifications. When public interest warrants, the Regional Administrator may grant an extension of the thirty (30) day comment period for the submittal of comments or objections. If written comments indicate a significant degree of public interest in a proposed modification, the Regional Administrator shall hold a public hearing in accordance with 40 CFR 124.12. A public notice of such hearing will be issued at least thirty (30) days prior to the hearing date. A request for a public hearing must be in writing and state the nature of the issues proposed to be raised in the hearing.

If no public hearing is held, and the final determinations of the Regional Administrator, after consideration of all comments and objections, are substantially unchanged from the tentative determinations, the Regional Administrator shall forward a notice of the final determination to the permittee and to any person who has submitted written comments regarding the permit modification.

If no public hearing is held, and the final determinations of the Regional Administrator are substantially changed from the tentative determinations, the Regional Administrator will give public notice of such determinations. The Regional Administrator shall forward a copy of the notice and a copy of the final determination to the permittee and to any person who has submitted written comments regarding the permit modification.

The permit modifications will become effective thirty-three (33) days following the date they are mailed, unless a request for an evidentiary hearing is granted. Requests for an evidentiary hearing must be filed within thirty-three (33) days following the receipt of the final determinations and must meet the requirements of 40 CFR 124.74. All written requests for an evidentiary hearing should be addressed to the Regional Administrator, Environmental Protection Agency, Region 9, Attn: NPDES Permits Clerk, W-5-1, 215 Fremont Street, San Francisco, California, 94105.

If the Regional Administrator grants a request for an evidentiary hearing, public notice of such hearing will be given. Any person may submit a request to be admitted as a party within thirty (30) days after the publication date of the public notice of an evidentiary hearing. If no evidentiary hearing is requested, the permit modification will be issued or denied, as appropriate, and this action will be final.

Please bring the foregoing notice to the attention of all persons who you know would be interested in this matter.

Date: May 26, 1987.



Black Mesa Mine 1A
Indian Reservation
Navajo County

14
[Handwritten initials]

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

FIFE SYMINGTON, GOVERNOR
EDWARD Z. FOX, DIRECTOR



JOINT NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency
Region IX, W-5
75 Hawthorne Street
San Francisco, CA 94105

State of Arizona
Dept. of Environmental Quality
P. O. Box 600
Phoenix, AZ 85001-0600

Telephone: (415) 744-1905

Telephone: (602) 207-4665

On Modification of a National
Pollutant Discharge Elimination
System (NPDES) Permit to Discharge
Pollutants to Waters of the United
States

On Request for Certification
for Compliance with Applicable
Effluent Limitations and
Appropriate Requirements of the
State of Arizona

Public Notice No. 14-92-AZ

September 7, 1992

The Environmental Protection Agency (EPA), Region IX, San Francisco, California, and the Arizona Department of Environmental Quality (ADEQ) are jointly issuing the following notice of proposed action under the Clean Water Act (CWA).

On October 12, 1988, the Regional Administrator, Region IX, Environmental Protection Agency, issued a National Pollutant Discharge Elimination System (NPDES) permit to the following discharger:

Peabody Coal Company
Black Mesa Mine Area
1300 South Yale
Flagstaff, Arizona 86001
NPDES Permit No. AZ0022179

The permittee operates the Black Mesa and Kayenta Coal Mines in Navajo County, on the Hopi and Navajo Indian Reservations. The permitted discharges are from impoundments designed to catch surface runoff water. The discharges are to various washes and canyons tributary to the Little Colorado River. The Little Colorado River has protected uses of Aquatic and Wildlife (warm water fishery), Full Body Contact, Domestic Water Supply, Fish Consumption, Agriculture Irrigation and Agriculture Livestock Watering.

The Department of Environmental Quality is An Equal Opportunity Affirmative Action Employer.

This proposed modification deletes several discharge points. Due to ongoing operations at the mines, these discharge points have been eliminated. Only those conditions which we propose to modify are reopened. All other requirements of the existing permit remain in effect for its duration.

Persons wishing to comment upon or object to the proposed modification(s), or request a public hearing pursuant to 40 CFR 124.11 should submit their comments or requests in writing within 30 days from the date of this notice, either in person or by mail to

U. S. Environmental Protection Agency, Region IX
Grants and Permits Administration Branch, W-5-1
Attn: Terry Oda
75 Hawthorne Street
San Francisco, California 94105

Telephone (415) 744-1922

The Administrative Record, which includes the NPDES permit, draft modification(s), fact sheet or statement of basis, comments received, and other relevant documents, is available for review and may be obtained by calling or writing to the above address, or:

State of Arizona
Department of Environmental Quality
Attn: Wayne H. Palsma
P. O. Box 600
Phoenix, Arizona 85001-0600

Telephone: (602) 207-4665

All comments or objections received within 30 days from the date of this notice will be retained and considered in the formulation of the final determinations regarding the permit modification(s). When public interest warrants, the Regional Administrator may grant an extension of the 30-day comment period for the submittal of comments or objections. If written comments indicate a significant degree of public interest in a proposed modification, the Regional Administrator shall hold a public hearing in accordance with 40 CFR 124.12. A public notice of such hearing will be issued at least 30 days prior to the hearing date. A request for a public hearing must be in writing and state the nature of the issues proposed to be raised in the hearing.

If no public hearing is held, and the final determinations of the Regional Administrator, after consideration of all comments and objections, are substantially unchanged from the tentative determinations, the Regional Administrator shall forward a notice of the final determination to the permittee and to any person who has submitted written comments regarding the permit modification.

If no public hearing is held, and the final determinations of the Regional Administrator are substantially changed from the tentative determinations, the Regional Administrator will give public notice of such determinations. The Regional Administrator shall forward a copy of the notice and a copy of the final determination to the permittee and to any person who has submitted written comments regarding the permit modification.

The Arizona Department of Environmental Quality is considering a request to certify the discharge as affected by the permit modification described above, pursuant to Section 401 of the Clean Water Act. The certification will set forth any effluent limitations and monitoring requirements necessary, if any, to assure compliance with any applicable effluent limitations and other limitations, under Sections 301 and 302 of the Clean Water Act, standard of performance under Section 306 of the Act, or prohibition, effluent standard, or pretreatment standard under Section 307 of the Act, and any other appropriate requirement of State law. No permit modification will be issued if certification is denied by the State.

Persons wishing to comment upon or object to certification by the Arizona Department of Environmental Quality or request a public hearing should submit their comments or requests in writing within 30 days from the date of this notice, either in person or by mail, to the State agency address shown above. The permit modification(s) will become effective 33 days following the date they are mailed, unless a request for an evidentiary hearing is granted. Requests for an evidentiary hearing must be filed within 33 days following the receipt of the final determinations and must meet the requirements of 40 CFR 124.74. All written requests for evidentiary hearing should be addressed to the Regional Administrator; Environmental Protection Agency, Region IX; Attn: Permits Record Coordinator, W-5; 75 Hawthorn Street; San Francisco, California 94105.

If the Regional Administrator grants a request for an evidentiary hearing, public notice of such hearing will be given. Any person may submit a request to be admitted as a party within 30 days after the publication date of the public notice of an evidentiary hearing. If no evidentiary hearing is requested, the permit modification will be issued or denied, as appropriate, and this action will be final.

Please bring the foregoing notice to the attention of all persons who you know would be interested in his matter.

Fact Sheet

ECONOMIC IMPACT OF ARIZONA LOCATIONS*

TRIBAL PAYMENTS

Coal Royalties - Navajo Tribe	\$ 24,408,000
Coal Royalties - Hopi Tribe	9,028,000
Water Royalties - Navajo Tribe	1,429,000
Water Royalties - Hopi Tribe	1,429,000
Possessory Interest Tax - Navajo Tribe	1,845,000
Business Activity Tax - Navajo Tribe	2,228,000
Contributions	409,000

SUBTOTAL \$ 40,776,000

STATE AND COUNTY TAXES

Ad Valorem on Personal Property	\$ 5,957,000
Sales Taxes on Coal Sales	11,029,000
Sales and Use Taxes on Purchases	1,060,000
Other	87,000

SUBTOTAL \$ 18,133,000

WAGES AND FRINGES \$ 52,272,000

PURCHASES OF MATERIALS AND SERVICES \$ 76,829,000

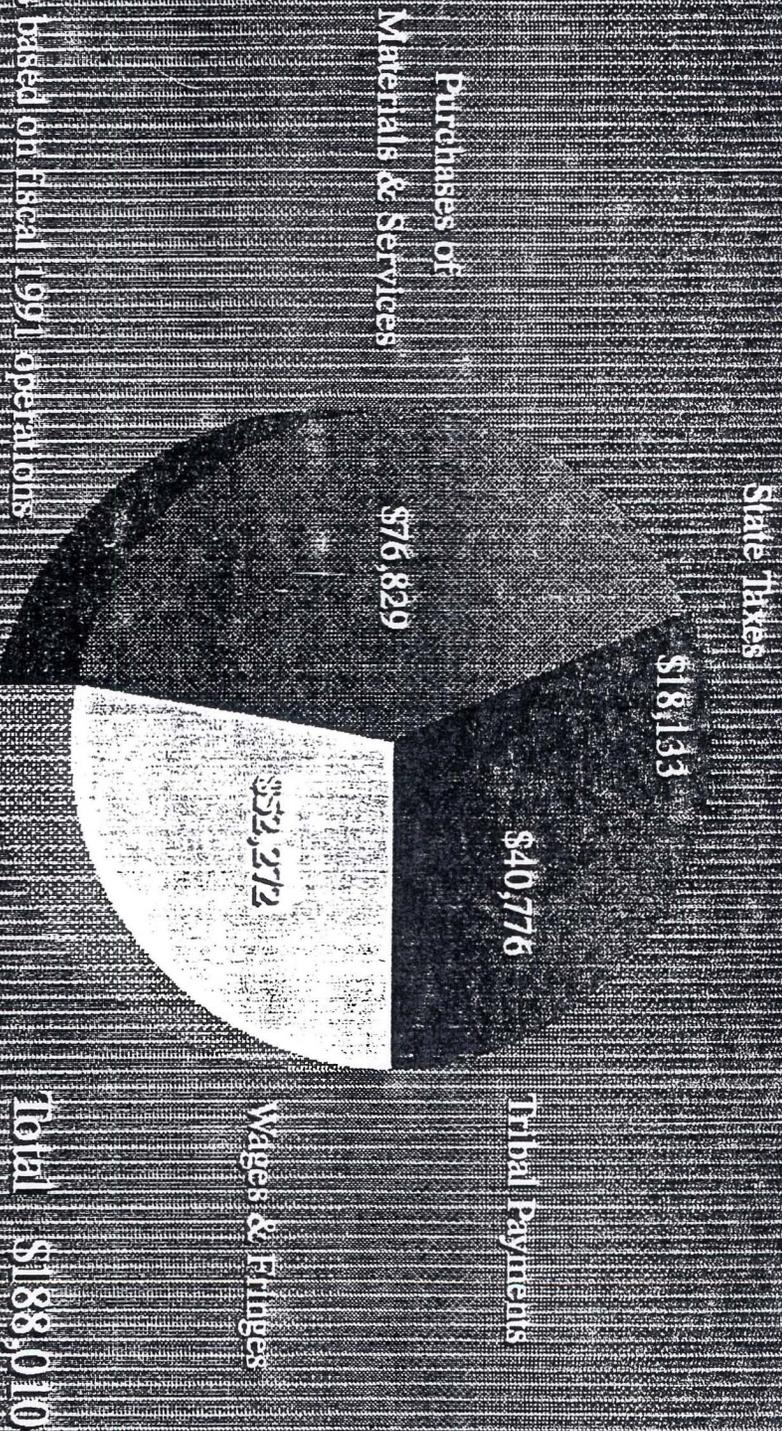
TOTAL \$188,010,000

*Fiscal Year 1991

PEABODY WESTERN

ANNUAL ECONOMIC IMPACT OF ARIZONA LOCATIONS*

(In Thousands)



*Costs based on fiscal 1991 operations

NATIVE AMERICAN EMPLOYMENT

CURRENT EMPLOYMENT

	Native American	Total	Percent Native American
Black Mesa Mine	315	339	92.9
Kayenta Mine	507	547	92.7
Mesa Central Warehouse	7	8	87.5
Total	829	894	92.7

Peabody Western is the nation's largest private employer of Native Americans

EMPLOYEMENT TRENDS

Represented Employees

	January 1989	January 1990	January 1991	January 1992
Black Mesa Mine	96.0	97.6	98.2	98.2
Kayenta Mine	95.6	96.5	97.3	98.1
Average	95.8	97.1	97.8	98.2

2.4% Average Increase

Salaried Employees

	January 1989	January 1990	January 1991	January 1992
Black Mesa Mine	56.7	60.3	66.2	72.8
Kayenta Mine	60.9	62.5	69.0	67.0
Mesa Central Whse.	81.8	80.0	88.9	88.9
Average	66.5	67.6	74.7	76.2

9.8% Average Increase

Total Workforce

	January 1989	January 1990	January 1991	January 1992
Black Mesa Mine	88.7	90.4	91.5	92.9
Kayenta Mine	89.8	90.7	91.8	92.1
Mesa Central Whse.	81.8	80.0	88.9	88.9
Average	86.8	87.0	90.7	91.3

4.5% Average Increase



BLACK MESA (??)
K-MSB

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

Certified Mail: 007796761

24 MAY 1988

Kenneth R. Moore, President
Peabody Coal Company
1300 South Yale
Flagstaff, AZ 86001

Dear Mr. Moore:

Enclosed is a copy of the draft permit, statement of basis and public notice of our proposed action on your application for a National Pollutant Discharge Elimination System (NPDES) permit for:

Peabody Coal Company
Black Mesa and Kayenta Coal Mines
Navajo County, Arizona
NPDES Permit No. AZ0022179

The public comment period is from June 1, 1988 to July 1, 1988. Comments on the proposed action, or a request for a public hearing pursuant to 40 CFR 124.12, may be submitted to this office within 30 days following the date of this public notice.

If the Regional Administrator finds a significant degree of public interest exists with respect to the proposed permit, a public hearing shall be held. If no hearing is held, we expect to forward the permit containing the final determinations of the Regional Administrator shortly after the close of the 30-day comment period.

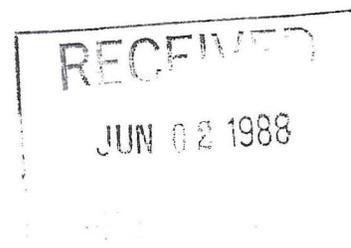
If you have any questions regarding the draft permit, please call Jon Hangartner of my staff at (415) 974-8299.

Sincerely,

Kenneth D. Greenberg, Chief
Permits Issuance Section

Enclosure

cc: See attached mailing list



Public Notice Mailing List
Peabody Coal Company, Arizona
NPDES Permit No. AZ0022179

Kenneth R. Moore
President
Peabody Coal Manager
1300 South Yale
Flagstaff, AZ 86001

Gary Melvin
Senior Manager ~~Company~~
Peabody Coal ~~Manager~~
1300 South Yale
Flagstaff, AZ 86001

Stanley Honanie, Vice Chairman
P.O. Box 123
Kykotsmovi, AZ 86039

Jerry Honawa,
Resource Committee
Hopi Tribe
P.O. Box 123
Kykotsmovi, AZ 86039

T.A. Cochoyuma, Manager
Water Resources Div.
Hopi Tribe
P.O. Box 123
Kykotsmovi, AZ 86039

Robert Postle
Division of Mining, Reclamation
and Enforcement
Hopi Tribe
P.O. Box 123
Kykotsmovi, AZ 86039

Richard A. Du Bey, attorney
Bank of California Center
900 Fourth Ave., Suite 3110
Seattle, WA 98164

Masud Zamon, Director
Dept. of Water Management
Navajo Nation
P.O. Box 308
Window Rock, AZ 86515

Butch Dowell, Director
Navajo Area Indian Health
Service
P.O. Box G
Window Rock, AZ 86515

Arizona Dept. of Environmental
Quality
Attn: Water Permits Unit, Room 202
2005 North Central Ave.
Phoenix, AZ 85004

Arizona Dept. of Environmental
Quality
Northern Regional Office
2501 North 4th Street
Flagstaff, AZ 86001

AZ Dept. of Fish and Game
2222 W. Greenway
Phoenix, AZ 85004

Bureau of Land Management
Att: Andrea Nygren
2400 Valley Bank Center
Phoenix, AZ 85703

Gov's Committee on AZ Environ.
Attn: Alicia Ray, Ex. Dir.
1655 W. Jackson
Phoenix, AZ 85007

Navajo County Health Dept.
Courthouse
P.O. Box 427
Holbrook, AZ 86015

AZ Center for Law in the Public
Interest
32 N. Tucson Blvd.
Tucson, AZ 85716

US Fish & Wildlife Service
Ecology Service
3616 W. Thomas, Suite 6
Phoenix, AZ 85019

Office of Surface Mining,
Reclamation, and Enforcement
Attn: Melvin Shilling, Chief
Federal Program Div.
1020 15th St.
Denver, CO 80202

Charles Fretelucio
Rt. 1, Box 665
Flagstaff, AZ 86001

OEPAD/ AZ Dept. of Commerce
1700 W. Washington, 4th Floor
Phoenix, AZ 85007

Water Resources Research Cent
Attn: Sol Resnick, Dir.
A.E. Douglas Bldg. 102
Tucson, AZ 85721

AZ Dept. of Water Resources
99 E. Virginia
Phoenix, AZ 85004

Salt River Project
P.O. Box 52025
Phoenix, AZ 85072-2025

Northern AZ Assn. of Govs
P.O. Box 57
Flagstaff, AZ 86002

Arizona Land Department
1624 W. Adams St., Room 421
Phoenix, AZ 85007

✓ AZ Dept. of Mineral Resources
Mineral Bldg., Fairground
Phoenix, AZ 85007

USDA Forest Service
Soil and Water Staff Unit
Attn: Gerhart Nelson
217 Gold Ave., SW
Albuquerque, NM 87102

Permit No. AZ0022179

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et seq., the "Act),

Peabody Coal Company
Black Mesa Mine Area
1300 South Yale
Flagstaff, AZ 86001

is authorized to discharge stormwater runoff from the retention ponds located throughout the mine lease area, at the outfalls listed in Appendix A hereof, in accordance with effluent limitations, monitoring requirements and other conditions set forth herein, and in the attached 12 pages of EPA Region 9 "Standard Federal NPDES Permit Conditions," dated January 29, 1988.

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,
(five years after effective date).

Signed this day of

For the Regional Administrator

DRAFT

Director, Water Management Division

A. Effluent Limitations and Monitoring Requirements

1. During the period beginning from the effective date of this permit, and lasting until its expiration, the permittee shall not discharge process wastewater pollutants to receiving waters except from those discharge points identified in Appendix A and in accordance with the effluent limits contained in paragraphs I.A.2, I.A.3, and I.A.4.
2. Discharges resulting from lagoon dewatering (or discharges not resulting from precipitation events) shall be monitored and limited to not cause water quality standard violations in the receiving waters or as follows, whichever is more stringent:
 - a. Discharges from active mining areas, reclaimed areas and roads, explosive storage areas, and well rehabilitation activities; Discharge Outfall Numbers 001 through 093, and 140 through 151:

Effluent Characteristic	Limit		Monitoring	
	Daily Max.	Monthly Average	Frequency	Sample Type
Flow	**	**	continuous ¹	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/week	discrete
Iron, Total	7.0 mg/l	3.5 mg/l	once/week	discrete
Total Suspended Solids (TSS)	70.0 mg/l	35.0 mg/l	once/week	discrete

- b. Discharges from preparation areas, shops, material storage facilities, and coal transportation facilities; Outfall Numbers 094 through 138, and Number 152:

Effluent Characteristic	Limit		Monitoring	
	Daily Max.	Monthly Average	Frequency	Sample Type
Flow	**	**	continuous ¹	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/week	discrete
Iron, Total	7.0 mg/l	3.5 mg/l	once/week	discrete
TSS	70.0 mg/l	35.0 mg/l	once/week	discrete
Oil & Grease	15 mg/l		once/week	discrete

- c. Discharge of sanitary wastewaters; Outfall Number 139:

Effluent Characteristic	Limit		Monitoring	
	Daily Max.	Monthly Average	Frequency	Sample Type
Flow	**	**	continuous ¹	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/week	discrete
Iron, Total	7.0 mg/l	3.5 mg/l	once/week	discrete
TSS	70.0 mg/l	35.0 mg/l	once/week	discrete
Oil & Grease	15 mg/l		once/week	discrete
BOD ₅	30 mg/l		once/week	discrete
Fecal Coliform	1000/100ml		once/week	discrete

¹To determine total flow for each dewatering activity.

3. Discharges resulting from a rainfall event less than or equal to a 10-year, 24-hour precipitation event (1.80 inches within a 24 hour period):

a. Discharges from active mining areas, reclaimed areas and roads, explosive storage areas, and well rehabilitation activities; Discharge Outfall Numbers 001 through 093, and 140 through 151:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily Max.</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete
Settleable Solids (SS)	0.5 mg/l*		once/day	discrete

b. Discharges from preparation areas, shops, material storage facilities, and coal transportation facilities; Outfall Numbers 094 through 138, and Number 152:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily Max.</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete
Settleable Solids (SS)	0.5 mg/l*		once/day	discrete
Oil & Grease	15 mg/l		once/day	discrete

c. Discharge of sanitary wastewaters; Outfall Number 139:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily Max.</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete
Settleable Solids (SS)	0.5 mg/l*		once/day	discrete
Oil & Grease	15 mg/l		once/day	discrete
BOD ₅	30 mg/l		once/day	discrete
Fecal Coliform	1000/100ml		once/day	discrete

4. Discharges resulting from a rainfall event greater than a 10-year, 24-hour precipitation event (1.80 inches within a 24 hour period):

- a. Discharges from active mining areas, reclaimed areas and roads, explosive storage areas, and well rehabilitation activities; Discharge Outfall Numbers 001 through 093, and 140 through 151:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily Max.</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete

- b. Discharges from preparation areas, shops, material storage facilities, and coal transportation facilities; Outfall Numbers 094 through 138, and Number 152:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily Max.</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete
Oil & Grease	15 mg/l		once/day	discrete

- c. Discharge of sanitary wastewaters; Outfall Number 139:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily Max.</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete
Oil & Grease	15 mg/l		once/day	discrete
BOD ₅	30 mg/l		once/day	discrete
Fecal Coliform	1000/100ml		once/day	discrete

*Maximum not to be exceeded at any time.

**Monitoring and reporting required. No limit at this time.

-Daily Max. means maximum for any one day not to be exceeded.

-Monthly average Limit means average of daily values for 30 consecutive days.

-Samples required in A.2 must be collected from the point of discharge.

-Samples required in A.3, and A.4 may be collected from a sampling point representative of the type of discharge, rather than from each point of discharge.

5. For the purposes of this permit, the gauge stations used to monitor rainfall for specific discharge points shall be:

<u>Peabody Gauge No.</u>	<u>Discharge Points</u>
1.	046, 048, 049, 050, 051, 052, 068, 069, 070, 071, 072, 073, 074, 075, 076, 077, 087, 088, 089, 090, 091, 138, 147
5.	017, 018, 019, 026, 027, 047, 085, 086, 098, 105, 108, 141, 142, 149
7.	001, 002, 003, 004, 008, 009, 013, 014, 015, 016, 037, 038, 081, 092, 093, 094, 096, 097, 100, 101
8.	023, 024, 025, 028, 029, 030, 031, 032, 033, 034, 035, 039, 040, 041, 042, 043, 078, 102, 103, 104, 109, 128, 129, 130, 131, 132
9.	005, 006, 007, 010, 011, 012, 020, 021, 022, 044, 045, 053, 082, 083, 084, 099, 134, 139, 140, 150, 151
10.	054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 095, 106, 107, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 143, 144, 145, 146, 152
11.	036, 079, 080, 127, 133, 135, 136, 137, 148

6. In addition to the data required in Parts A.I.2, A.I.3, and A.I.4, the following information shall be included in reports required by Part I.B.:

- a. The cause of any discharge - whether precipitation induced, or due to dewatering activities.
- b. The date and duration of the discharge.
- c. The rainfall, in inches per day, for each day which contributed to, or caused the discharge.

B. Monitoring and Reporting

1. Reporting

Discharge data obtained during the previous month shall be summarized and reported monthly. If there was no discharge for the month, indicate "Zero Discharge". The report shall include the data required in I.A.2, I.A.3, I.A.4, and I.A.6. Monthly data should be submitted no later than the 15th day of the following month. Signed copies of these and all other reports required herein shall be submitted to the Regional Administrator at the following address:

Regional Administrator
Environmental Protection Agency
Region IX, Attn. W-4
215 Fremont Street
San Francisco, CA 94105

DRAFT

2. Definitions

- a. The "monthly or weekly average" concentration, other than for fecal coliform bacteria, means the arithmetic mean of measurements made during a monthly or weekly period, respectively. The "monthly or weekly average" concentration for fecal or total coliform bacteria means the geometric mean of measurements made during a monthly or weekly period, respectively. The geometric mean is the nth root of the product of n numbers.
- b. A "discrete sample" means any individual sample collected in less than 15 minutes.
- c. The "daily maximum" discharge means the total discharge by weight during any calendar day.
- d. The "daily maximum" concentration means the measurement made on any single sample which shall not be exceeded.

3. Intermittent Discharge Monitoring

If the discharge is intermittent, rather than continuous, then on the first day of each such intermittent discharge, the permittee shall monitor and record data for all the characteristics listed in the monitoring requirements, after which the frequencies of analysis listed in the monitoring requirements shall apply for the duration of each such intermittent discharge. In no event shall the permittee be required to monitor and record data more often than twice the frequencies listed on the monitoring requirements.

4. Monitoring Modification

Monitoring, analytical, and reporting requirements may be modified by the Regional Administrator upon due notice.

APPENDIX A

<u>Discharge Serial No.</u>	<u>Outfall Number</u>	<u>Latitude Deg.Min.Sec</u>	<u>Longitude Deg.Min.Sec.</u>	<u>Receiving Water</u>
001	N1-F	36-31-45	110-24-45	Coal Mine Wash
002	N1-L	36-31-45	110-24-15	Coal Mine Wash
003	N1-M	36-32-30	110-24-15	Coal Mine Wash
004	N1-N	36-32-30	110-24-00	Coal Mine Wash
005	N5-A	36-31-15	110-24-45	Coal Mine Wash
008	N10-A1	36-32-45	110-22-30	Coal Mine Wash
009	N10-C	36-32-00	110-24-00	Coal Mine Wash
010	J3-A	36-28-45	110-25-00	Coal Mine Wash Trib.
012	N6-E	36-30-30	110-25-15	Coal Mine Wash Trib.
013	N10-B	36-33-00	110-22-15	Coal Mine Wash Trib.
014	N10-D	36-32-30	110-23-00	Coal Mine Wash Trib.
015	N10-E	36-32-30	110-23-00	Coal Mine Wash Trib.
016	N12-C	36-32-15	110-23-15	Coal Mine Wash Trib.
017	BM-A1	36-26-30	110-24-00	Moenkopi Tributary
018	J3-D	36-28-15	110-24-00	Moenkopi Tributary
019	J27-B	36-27-15	110-23-00	Moenkopi Tributary
020	N6-B	36-29-45	110-22-15	Moenkopi Tributary
021	N6-C	36-29-30	110-22-45	Moenkopi Tributary
022	N6-D	36-29-15	110-23-00	Moenkopi Tributary
024	N14-F	36-30-30	110-18-30	Moenkopi Tributary
025	N14-G	36-30-30	110-18-15	Moenkopi Tributary
026	MW-A	36-27-30	110-23-45	Moenkopi Wash
027	MW-B	36-27-30	110-23-45	Moenkopi Wash
028	J16-B	36-30-00	110-18-15	Moenkopi Trib.
029	J16-C	36-30-00	110-18-30	Moenkopi Tributary
030	J16-D	36-30-00	110-18-30	Moenkopi Tributary
031	J16-E	36-30-00	110-18-30	Moenkopi Tributary
032	J16-F	36-30-00	110-18-45	Moenkopi Tributary
033	J16-G	36-29-45	110-19-00	Moenkopi Tributary
034	J16-H	36-29-45	110-19-15	Moenkopi Tributary
035	J16-I	36-29-15	110-19-30	Moenkopi Tributary
036	J16-K	36-29-00	110-19-15	Moenkopi Tributary
037	N6-F	36-30-45	110-22-30	Moenkopi Tributary
038	N13-E	36-31-00	110-21-30	Moenkopi Tributary
039	N14-H	36-30-45	110-17-30	Moenkopi Tributary
041	N14-M	36-30-00	110-19-00	Moenkopi Tributary
042	N14-N	36-30-00	110-18-45	Moenkopi Tributary
043	N14-Q	36-30-00	110-19-15	Moenkopi Tributary
045	WW-6	36-30-00	110-22-15	Moenkopi Tributary
046	J7-B	36-25-30	110-24-00	Red Peak Valley
047	J7-DAM	36-25-30	110-23-30	Red Peak Valley
048	J7-G	36-25-00	110-24-15	Red Peak Valley
049	J7-CD	36-24-45	110-22-15	Sagebrush Wash

APPENDIX A (con't)

<u>Discharge Serial No.</u>	<u>Outfall Number</u>	<u>Latitude Deg.Min.Sec</u>	<u>Longitude Deg.Min.Sec.</u>	<u>Receiving Water</u>
050	J7-E	36-24-45	110-22-30	Sagebrush Wash
051	J7-F	36-24-30	110-22-30	Sagebrush Wash
052	J7-K	36-24-30	110-23-00	Sagebrush Wash
054	N1-AC	36-32-00	110-25-45	Yellow Water Canyon
055	N1-B	36-33-15	110-24-45	Yellow Water Canyon
056	N1-D	36-33-00	110-25-00	Yellow Water Canyon
057	N1-E	36-32-45	110-25-15	Yellow Water Canyon
058	N1-G	36-31-30	110-24-30	Yellow Water Canyon
059	N1-H	36-32-30	110-25-30	Yellow Water Canyon
060	N1-I	36-32-30	110-25-30	Yellow Water Canyon
061	N1-J	36-32-45	110-25-15	Yellow Water Canyon
062	N1-K	36-33-30	110-24-15	Yellow Water Canyon
063	N2-D	36-34-15	110-23-00	Yellow Water Canyon
064	N2-E	36-34-00	110-23-30	Yellow Water Canyon
065	N2-G	36-33-45	110-23-15	Yellow Water Canyon
066	N7-A1	36-32-15	110-26-00	Yellow Water Canyon
069	J7-I	36-24-45	110-24-30	Yucca Flat Wash Trib.
070	J7-J	36-24-30	110-24-30	Yucca Flat Wash Trib.
071	J7-M	36-24-15	110-24-15	Yucca Flat Wash Trib.
073	J7-O	36-24-30	110-23-45	Yucca Flat Wash Trib.
076	J7-L	36-24-30	110-23-00	Yucca Flat Wash Trib.
077	J7-Q1	36-24-15	110-23-15	Yucca Flat Wash Trib.
079	J21-A	36-26-15	110-14-45	Dinnebito Wash
080	J21-B	36-26-15	110-14-45	Dinnebito Wash
081	N1-O	36-32-00	110-24-00	Coal Mine Wash
082	N5-E	36-31-15	110-25-00	Coal Mine Wash
083	N5-F	36-31-15	110-25-00	Coal Mine Wash
086	WW-4	36-26-45	110-24-45	Moenkopi Wash
087	WW-9	36-23-45	110-24-45	Yucca Flat Wash Trib.
088	WW-9A	36-23-45	110-24-45	Yucca Flat Wash Trib.
089	WW9-B	36-23-45	110-24-45	Yucca Flat Wash Trib.
090	WW9-C	36-24-15	110-24-30	Yucca Flat Wash Trib.
091	WW9-D	36-24-15	110-24-30	Yucca Flat Wash Trib.
094	N10-B1	36-33-00	110-22-15	Coal Mine Wash Trib.
095	KM-D	36-31-30	110-25-15	Coal Mine Wash Trib.
096	N12-A	36-32-15	110-23-00	Coal Mine Wash Trib.
097	N12-N	36-31-30	110-22-15	Coal Mine Wash Trib.
098	BM-SS	36-27-00	110-23-45	Moenkopi Tributary
099	J3-E	36-28-45	110-23-30	Moenkopi Tributary
102	N14-A	36-31-00	110-21-00	Moenkopi Tributary
103	N14-B	36-31-00	110-20-30	Moenkopi Tributary
104	N14-C	36-30-00	110-19-15	Moenkopi Tributary
105	BM-B	36-26-45	110-24-00	Moenkopi Wash Trib.
106	KM-A3	36-31-45	110-26-00	Yellow Water Canyon
107	KM-B	36-31-30	110-26-00	Yellow Water Canyon
118	TPC-A	36-33-00	110-29-15	Long House Valley Trib.

APPENDIX A (con't)

<u>Discharge Serial No.</u>	<u>Outfall Number</u>	<u>Latitude Deg.Min.Sec</u>	<u>Longitude Deg.Min.Sec.</u>	<u>Receiving Water</u>
121	TPF-A	36-32-00	110-26-30	Yellow Water Canyon Tr.
122	TPF-B	36-32-00	110-26-15	Yellow Water Canyon Tr.
123	TPF-C	36-31-45	110-26-15	Yellow Water Canyon Tr.
126	TS-A	36-33-45	110-31-00	Klethla Valley
127	J16-A	36-30-00	110-18-15	Moenkopi Wash Trib.
128	J16-J	36-29-15	110-19-15	Moenkopi Wash Trib.
129	N14-O	36-30-00	110-18-45	Moenkopi Wash Trib.
130	N14-P	36-31-00	110-20-30	Moenkopi Wash Trib.
131	N14-R	36-31-15	110-18-30	Moenkopi Wash Trib.
132	N14-S	36-30-15	110-18-30	Moenkopi Wash Trib.
133	J16-L	36-30-45	110-19-30	Reed Valley
135	KM-A2	36-29-45	110-27-45	Yellow Water Canyon Tr.
136	KB-TPB	36-31-15	110-28-00	Yellow Water Canyon Tr.
137	KM-TPB1	36-33-00	110-28-00	Yellow Water Canyon Tr.
138	J7-P	36-24-30	110-23-45	Yucca Flat Wash Trib.
139	KME	36-31-15	110-25-30	Coal Mine Wash Trib.
140	J2-A	36-29-00	110-25-45	Wild Ram Valley
141	J3-F	36-28-00	110-25-15	Coal Mine Wash Trib.
142	J3-G	36-28-00	110-25-15	Coal Mine Wash Trib.
143	N7-D	36-32-30	110-25-45	Yellow Water Canyon Tr.
144	N7-E	36-32-30	110-25-30	Yellow Water Canyon
145	N8-A	36-33-15	110-26-00	Yellow Water Canyon Tr.
146	N8-B	36-33-30	110-26-00	Yellow Water Canyon Tr.
147	J7-A	36-25-30	110-23-30	Red Peak Valley
148	J21-C	36-26-00	110-15-30	Dinnebito Wash
149	J27-A	36-27-15	110-23-15	Moenkopi Wash Trib.
150	N6-G	36-29-30	110-23-00	Coal Mine Wash
151	N6-H	36-29-30	110-23-00	Coal Mine Wash
152	TS-B	36-33-30	110-31-15	Klethla Valley

EPA Region 9 - Standard Federal NPDES Permit Conditions (Updated as of January 29, 1988)

1) Duty to Reapply [40 CFR 122.21(d)]

The permittee shall submit a new application 180 days before the existing permit expires.

2) Applications [40 CFR 122.22]

(a) All permit applications shall be signed as follows:

(1) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

(ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(b) All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this Section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a) of this section;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,

(3) The written authorization is submitted to the Director.

(c) Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

3) Duty to comply [40 CFR 122.41(a)]

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

(2) The Clean Water Act provides that:

(A) Any person who causes a violation of any condition in this permit is subject to a civil penalty not to exceed \$25,000 per day of each violation. Any person who negligently causes a violation of any condition in this permit is subject to a fine off not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two years, or both. [Updated pursuant to the Water Quality Act of 1987]

(B) Any person who knowingly causes violation of any condition of this permit is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than three years, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$100,000 per day of violation, or by imprisonment of not more than six years, or both. [Updated pursuant to the Water Quality Act of 1987]

(C) Any person who knowingly causes a violation of any condition of this permit and, by so doing, knows at that time that he thereby places another in imminent danger of death or serious bodily injury shall be subject to a fine of not more than \$250,000, or imprisonment of not more than 15 years, or both. A person who is an organization and violates this provision shall be subject to a fine of not more than \$1,000,000 for a first conviction. For a second conviction under this provision, the maximum fine and imprisonment shall be doubled. [Updated pursuant to the Water Quality Act of 1987]

4) Need to halt or reduce activity not a defense [40 CFR 122.41(c)]

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5) Duty to mitigate [40 CFR 122.41(d)]

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

6) Proper operation and maintenance [40 CFR 122.41(e)]

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

7) Permit actions [40 CFR 122.41(f)]

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

8) Property rights [40 CFR 122.41(g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

9) Duty to provide information [40 CFR 122.41(h)]

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

10) Inspection and entry [40 CFR 122.41(i)]

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11) Monitoring and records [40 CFR 122.41(j)]

(1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

(3) Records of monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

(4) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

(5) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment for not more than four years, or both. [Updated pursuant to the Water Quality Act of 1987]

12) Signatory requirement [40 CFR 122.41(k)]

(1) All applications, reports, or information submitted to the Director shall be signed and certified. (See 40 CFR 122.22)

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or

by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment of not more than four years, or both. [Updated pursuant to the Water Quality Act of 1987]

13) Reporting requirements [40 CFR 122.41(l)]

(1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

(ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

(2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(3) Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act (CWA). (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory.)

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR).

(ii) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

(5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) Twenty-four hour reporting.

(i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or

planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR 122.41(g).)

(B) Any upset which exceeds any effluent limitation in the permit.

(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See 40 CFR 122.44(g).)

(iii) The Director may waive the written report on a case-by case basis for reports under paragraph (6)(ii) of this section if the oral report has been received within 24 hours.

(7) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (6) of this section.

(8) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

14) Bypass [40 CFR 122.41(m)]

(1) Definitions

(i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (3) and (4) of this section.

(3) Notice-

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, of possible at least ten days before the date of the bypass.

(ii) Unanticipated bypass. If the permittee shall submit notice of an unanticipated bypass as required in paragraph (a)(6) of section 13) (24-hour notice).

(4) Prohibition of bypass.

(i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (3) of this section.

(ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (4)(i) of this section.

15) Upset [40 CFR 122.41(n)]

(1) Definition.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;

(ii) The permitted facility was at the time being properly operated; and

(iii) The permittee submitted notice of the upset as required in paragraph 13)(6)(ii)(B)(24-hour notice).

(iv) The permittee complied with any remedial measures required under 40 CFR 122.41(d).

(4) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

16) Existing manufacturing, commercial, mining, and silvicultural dischargers [40 CFR 122.42(a)]

In addition to the reporting requirements under 40 CFR 122.41(l), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) One hundred micrograms per liter (100 ug/l);

(ii) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(iii) Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(iv) The level established by the Director in accordance with 40 CFR 122.44(f).

(2) That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) Five hundred micrograms per liter (500 ug/l);

(ii) One milligram per liter (1 mg/l) for antimony;

(iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7);

(iv) The level established by the Director in accordance with 40 CFR 122.44(f).

17) Publicly owned treatment works [40 CFR 122.42(b)]

This section applies only to publicly owned treatment works as defined at 40 CFR 122.2.

(1) All POTW's must provide adequate notice to the Director of the following:

(i) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; and

(ii) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

(iii) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(2) [The following condition has been established by Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act] Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR 270. Hazardous wastes are defined at 40 CFR 261 and include any mixture containing any waste listed under 40 CFR 261.31 - 261.33. The Domestic Sewage Exclusion (40 CFR 261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

18) Reopener clause [40 CFR 122.44(c)]

This permit shall be modified or revoked and reissued to incorporate an applicable effluent standard or limitation under sections 301(b)(2)(C), and (D), 304(b)(2) and 307(a)(2) which is promulgated or approved after the permit is issued if that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit.

19) Privately owned treatment works [The following conditions were established by Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act and 40 CFR 122.44(m)]

This section applies only to privately owned treatment works as defined at 40 CFR 122.2.

(1) Materials authorized to be disposed of into the privately owned treatment works and collection system are typical domestic sewage. Unauthorized materials are hazardous waste (as defined at 40 CFR Part 261), motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, industrial wastes, or other materials not generally associated with toilet flushing or personal hygiene, laundry, or food preparation, unless specifically listed under "Authorized Non-domestic Sewer Dischargers" elsewhere in this permit.

(2) It is the permittee's responsibility to inform users of the privately owned treatment works and collection system of the prohibition against unauthorized materials and to ensure compliance with the prohibition. The permittee must have the authority and capability to sample all discharges to the collection system, including any from septic haulers or other unsewered dischargers, and shall take and analyze such samples for conventional, toxic, or hazardous pollutants when instructed by the permitting authority or by an EPA, State or Tribal inspector. The permittee must provide adequate security to prevent unauthorized discharges to the collection system.

(3) Should a user of the privately owned treatment works desire authorization to discharge non-domestic wastes, the permittee shall submit a request for permit modification and an application, pursuant to 40 CFR 122.44(m), describing the proposed discharge. The application shall, to the extent possible, be submitted using EPA Forms 1 and 2C, unless another format is requested by the permitting authority. If the privately owned treatment works or collection system user is different from the permittee, and the permittee agrees to allow the non-domestic discharge, the user shall submit the application and the permittee shall submit the permit modification request. The application and request for modification shall be submitted at least 6 months before authorization to discharge non-domestic wastes to the privately owned treatment works or collection system is desired.

20) Transfers by modification [40 CFR 122.61(a)]

Except as provided in section 21), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR 122.62(b)(2)), or a minor modification made (under 40 CFR 122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under CWA.

21) Automatic transfers [40 CFR 122.61(b)]

As an alternative to transfers under section 20), any NPDES permit may be automatically transferred to a new permittee if:

(1) The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (2) of this section;

(2) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

(3) The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in the paragraph (2) of this section.

22) Minor modification of permits [40 CFR 122.63]

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR Part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR Part 124 draft permit and public notice as required in 40 CFR 122.62. Minor modifications may only:

(1) Correct typographical errors;

(2) Require more frequent monitoring or reporting by the permittee;

(3) Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or

(4) Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director.

(5)(i) Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation prior to discharge under 40 CFR 122.29.

(ii) Delete a point source outfall when the discharge from that outfall is terminated

and does not result in discharge of pollutants from other outfalls except in accordance with the permit limits.

(6) When the permit becomes final and effective on or after March 9, 1982, conform to changes respecting 40 CFR 122.41(e), (l), (m)(4)(i)(B), (n)(3)(i), and 122.42(a) issued September 26, 1984.

(7) Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 as enforceable conditions of the POTW's permit.

23) Termination of permits [40 CFR 122.64]

The following are causes for terminating a permit during its term, or for denying a permit renewal application:

(1) Noncompliance by the permittee with any condition of the permit;

(2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;

(3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or

(4) A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, plant closure or termination of discharge by connection to a POTW).

24) Availability of Reports [Pursuant to Clean Water Act Section 308]

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Administrator. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

25) Removed Substances [Pursuant to Clean Water Act Section 301]

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

26) Severability [Pursuant to Clean Water Act Section 512]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of this permit, shall not be affected thereby.

27) Civil and Criminal Liability [Pursuant to Clean Water Act Section 309]

Except as provided in permit conditions on "Bypass" (Section 14) and "Upset" (Section 15), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

28) Oil and Hazardous Substance Liability [Pursuant to Clean Water Act Section 311]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

29) State or Tribal Law [Pursuant to Clean Water Act Section 510]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street
San Francisco, Ca. 94105

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MODIFICATION OF THE
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et seq., the "Act"),

Peabody Coal Company
Black Mesa Mine Area
1300 South Yale
Flagstaff, AZ 86001

NPDES No. AZ0022179

is authorized to discharge stormwater runoff from the water retention ponds located throughout the mining area, at the Outfalls listed in Appendix A (pages 21-23) in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III hereof.

This permit modification shall become effective on

This permit and the authorization to discharge shall expire at midnight, May 31, 1988.

Signed this _____ of

For the Regional Administrator

Richard A. Coddington
Acting Director
Water Management Division

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PART I
Page 2 of 23
Permit No. AZ0022179

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning from the effective date of this modification and lasting through May 31, 1988, the permittee shall not discharge process wastewater pollutants to receiving waters except from those discharge points identified in Appendix A and in accordance with this permit and the effluent limits contained in paragraphs I.A.2, I.A.3, and I.A.4.
2. Discharges resulting from lagoon dewatering (or discharges not resulting from precipitation events) shall be monitored and limited to not cause water quality standard violations in the receiving waters or as follows, whichever is more stringent:
 - a. Discharges from active mining areas, reclaimed areas and roads, explosive storage areas, and well rehabilitation activities; Discharge Outfall Numbers 001 through 093, and 140-151:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/week	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/week	discrete
Iron, Total	7.0 mg/l	3.5 mg/l	once/week	discrete
Total Suspended Solids (TSS)	70.0 mg/l	35.0 mg/l	once/week	discrete

- b. Discharges from preparation areas, shops, material storage facilities, and coal transportation facilities; Outfall Numbers 094 through 138, and Number 152:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/week	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/week	discrete
Iron, Total	7.0 mg/l	3.5 mg/l	once/week	discrete
TSS	70.0 mg/l	35.0 mg/l	once/week	discrete
Oil & Grease	15 mg/l		once/week	discrete

3. Discharges resulting from a rainfall event less than or equal to a 10 year, 24 hour precipitation event (1.80 in. within a 24 hour period):
 - a. Discharges from active mining areas, reclaimed areas and roads, explosive storage areas, and well rehabilitation activities; Discharge Outfall Numbers 001 through 093, and 140 through 151:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete
Settleable Solids (SS)	0.5 ml/l*		once/day	discrete

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b. Discharges from preparation areas, shops, material storage facilities, and coal transportation facilities; Outfall Numbers 094 through 138, and Number 152:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete
Settleable Solids (SS)	0.5 ml/l*		once/day	discrete
Oil & Grease	15 mg/l		once/day	discrete

c. Discharge of Sanitary Wastewaters; Outfall Number 139:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete
BOD ₅	30 mg/l		once/day	discrete
Fecal Coliform	1000/ 100 ml		once/day	discrete

4. Discharges resulting from a rainfall event greater than a 10 year, 24 hour precipitation event (1.80 in. within a 24 hour period):

a. Discharges from active mining areas, reclaimed areas and roads, explosive storage areas, and well rehabilitation activities; Discharge Outfall Numbers 001 through 093, and 140 through 151:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete

b. Discharges from preparation areas, shops, material storage facilities, and coal transportation facilities; Outfall Numbers 094 through 138, and Number 152:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete
Oil & Grease	15 mg/l		once day	discrete

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c. Discharge of Sanitary Wastewaters; Outfall Number 139:

<u>Effluent Characteristic</u>	<u>Limit</u>		<u>Monitoring</u>	
	<u>Daily</u>	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow	**	**	once/day	estimate
pH	not more than 9.0 nor less than 6.5 Standard Units		once/day	discrete
BOD ₅	30 mg/l		once/day	discrete
Fecal Coliform	1000/ 100 ml		once/day	discrete

* Maximum not to be exceeded at any time.

** Monitoring and reporting required. No limit at this time.

-Daily Limit means maximum for any one day not to be exceeded.

-Monthly Average Limit means average of daily values for 30 consecutive days.

-Samples required in A.2, A.3, and A.4 may be collected from a sampling point representative of the type of discharge rather than from each point of discharge.

5. For the purposes of this permit the gauge stations used to monitor rainfall for specific discharge points shall be:

<u>Peabody Gauge No.</u>	<u>Discharge Points</u>
1.	046, 048, 049, 050, 051, 052, 068, 069, 070, 071, 072, 073, 074, 075, 076, 077, 087, 088, 089, 090, 091, 138, 147,
5.	017, 018, 019, 026, 027, 047, 085, 086, 098, 105, 108, 141, 142, 149,
7.	001, 002, 003, 004, 008, 009, 013, 014, 015, 016, 037, 038, 081, 092, 093, 094, 096, 097, 100, 101,
8.	023, 024, 025, 028, 029, 030, 031, 032, 033, 034, 035, 039, 040, 041, 042, 043, 078, 102, 103, 104, 109, 128, 129, 130, 131, 132,
9.	005, 006, 007, 010, 011, 012, 020, 021, 022, 044, 045, 053, 082, 083, 084, 099, 134, 139, 140, 150, 151,
10.	054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 095, 106, 107, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 143, 144, 145, 146, 152,
11.	036, 079, 080, 127, 133, 135, 136, 137, 148,

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6. In addition to the data required in Parts A.I.2, A.I.3, and A.I.4 the following information shall be included in reports required by Part I.C.:

1. The cause of any discharge- whether precipitation induced, or due to dewatering activities.
2. The date and duration of the discharge.
3. The rainfall, in inches per day, for each day which contributed to, or caused, the discharge.

B. SCHEDULE OF COMPLIANCE: Reserved.

C. MONITORING AND REPORTING

1. Reporting

Discharge data obtained during the previous three (3) months shall be summarized for each month and reported quarterly. If there was no discharge for the month, indicate "Zero Discharge". The report shall include the data required in I.A.2, I.A.3, I.A.4, and I.A.6. The report for the preceeding three months shall be submitted in January, April, July, and October of each year. The first report is due on September 30, 1987. Signed copies of these and all other reports required herein shall be submitted to the Regional Administrator at the following address:

Regional Administrator
Environmental Protection Agency
Region IX, Attn. W-4
215 Fremont Street
San Francisco, CA 94105

2. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analysis performed and calibrated and maintenance of instrumentation and recordings from continuous monitoring instrumentation, and copies of all reports required by this permit for a period of at least three (3) years from the date of the sample, measurement, or report. This period may be extended by request of the Regional Administrator at any time.

3. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored activity.

4. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

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5. Penalties for Tampering

The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment for not more than four years, or both.

6. Definitions

- a. The "monthly average" concentration, other than for fecal or total coliform bacteria, means the arithmetic mean of measurements made during a consecutive 30 day period. The "monthly or weekly average" concentration for fecal or total coliform bacteria means the geometric mean of measurements made during a monthly or weekly period, respectively. The geometric mean is the nth root of the product of n numbers.
- b. A "discrete" sample means any individual sample collected in less than 15 minutes.
- c. A "composite sample" means, for flow rate measurements, the arithmetic mean of no fewer than 8 individual measurements taken at equal intervals for 8 hours or for the duration of discharge, whichever is shorter. A composite sample means, for other than flow rate measurement, a combination of 8 or more individual portions obtained at equal time intervals or for the duration of the discharge, whichever is shorter. The volume of each individual portion shall be directly proportional to the discharge flow rate at the time of sampling. The sampling period shall coincide with the period of maximum discharge flow.
- d. The "daily maximum" discharge means the total discharge by weight during any calendar day.
- e. The "daily maximum" concentration means the measurement made on any single sample which shall not be exceeded.

7. Additional Monitoring by the Permittee:

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in the permit, the results of such monitoring shall be included in the calculation and reporting of the data required in this permit.

8. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Regional Administrator in the permit.

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9. Intermittent Discharge Monitoring

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the permittee shall monitor and record data for all the characteristics listed in the monitoring requirements, after which the frequencies of analysis listed in the monitoring requirements shall apply for the duration of each such intermittent discharge. In no event shall the permittee be required to monitor and record data more often than twice the frequencies listed in the monitoring requirements.

10. Monitoring Modification

Monitoring, analytical, and reporting requirements may be modified by the Regional Administrator upon due notice.

11. Records Content

Records of monitoring information shall include:

- a. The date, place, and time of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

12. Inspection and Entry

The permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

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D. REPORTING REQUIREMENTS

1. Anticipated Noncompliance

The permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

2. Compliance Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each scheduled date.

3. Monitoring Reports

Monitoring results shall be reported at the intervals specified in Part I.C.1. of this permit.

4. Twenty-Four Hour Reporting of Noncompliance

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The following shall be included as information which must be reported within 24 hours:

- a. Any unanticipated bypass which exceeds any effluent limitation in the permit;
- b. Any upset which exceeds any effluent limitation in the permit;
- c. Violation of a maximum daily discharge limitation for any toxic pollutant or hazardous substance, or any pollutant specifically identified as the method to control a toxic pollutant or hazardous substance, listed as such by the Regional Administrator in the permit to be reported within 24 hours.

5. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under Part I.D.4. at the time monitoring reports are submitted. The reports shall contain the information listed in Part I.D.4.

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6. Signatory Requirements

a. Applications: All permit applications shall be signed as follows:

- (1) For a corporation: by a responsible corporate officer. For the purposes of this section, a responsible corporate officer means (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (b) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- (2) For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or
- (3) For a municipality, State, Federal, Tribe, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (a) the chief executive officer of the agency, or (b) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

b. Reports: All reports required by permits and other information requested by the Regional Administrator shall be signed by a person described in paragraph a. of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- (1) The authorization is made in writing by a person described in paragraph a. of this section;
- (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
- (3) The written authorization is submitted to the Regional Administrator.

c. Changes to Authorization. If an authorization under paragraph b. of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph b. of this section must be submitted to the Regional Administrator prior to or together with any reports, information, or applications to be signed by an authorized representative.

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- d. Certification. Any person signing a document under paragraphs a. or b. of this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Duty to Provide Information

The permittee shall furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Regional Administrator upon request, copies of records required to be kept by this permit.

8. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Administrator. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

9. Penalties for Falsification of Reports

The Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment of not more than four years, or both.

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10. Additional Conditions

Additional conditions applicable to specified categories of NPDES permits:

a. Existing manufacturing, commercial, mining, and silvicultural dischargers. In addition to the reporting requirements under 40 CFR 122.41(1), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- (a) One hundred micrograms per liter (100 ug/l);
- (b) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile, five hundred micrograms per liter (500 ug/l) for 2,4- dinitrophenol and for 2- methyl4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
- (c) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
- d. The level established by the Director in accordance with 40 CFR 122.44(f).

b. Publicly Owned Treatment Works

1. All Publicly Owned Treatment Works (POTW's) must provide adequate notice to the Director of the following:

- (a) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to sections 301, or 306 of the Clean Water Act (CWA) if it were directly discharging those pollutants; and
- (b) Any substantial change in the volume or character of pollutants being introduced into that POTW at the time of issuance of the permit.
- (c) For purposes of this paragraph, adequate notice shall include information on the quality and quantity of effluent introduced into the POTW, and any anticipated impact of the change on the quality of effluent to be discharged from the POTW.

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2. Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR 270. Hazardous wastes are defined at 40 CFR 261 and include any mixture containing any waste listed under 40 CFR 261.31-261.33. The Domestic Sewage Exclusion (40 CFR 261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works. The permittee shall ensure that any unsewered dischargers, such as septic haulers, are aware of these requirements of the Resource Conservation and Recovery Act.
- c. Non-Municipal Wastewater Treatment Plants and Sewerage Systems.
1. Materials authorized to be disposed of into the sewer system are typical domestic sewage. Unauthorized materials are hazardous waste, motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, industrial wastes, or other materials not generally associated with toilet wastes or personal hygiene, laundry, or food preparation, unless specifically listed under "Authorized Non-Domestic Sewer Dischargers" in Part III of this permit.
 2. It is the permittee's responsibility to inform users of the sewer system of the prohibition against unauthorized materials and to ensure compliance with the prohibition. The permittee must have the authority and capability to sample all discharges to the sewer system, including any from septic waste haulers or other unsewered dischargers, and shall take and analyze such samples for conventional, toxic, or hazardous pollutants when instructed by the permitting authority or by an EPA inspector. The permittee must provide adequate security to prevent unauthorized discharges to the sewer system.
 3. Should a user of the sewer system desire authorization to discharge non-domestic wastes, the permittee shall submit a request for permit modification and an application, pursuant to 40 CFR 122.44(m), describing the proposed discharge. The application shall, to the extent possible, be submitted using EPA Forms 1 and 2C, unless another format is requested by EPA. If the sewer system user is different from the permittee, and the permittee agrees to allow the non-domestic discharge, the user shall submit the application and the permittee shall submit the permit modification request. The application and request for modification shall be submitted at least 6 months before authorization to discharge non-domestic wastes to the sewer system is desired.

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11. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.

Notice is required only when:

- a. The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR § 122.29 (b);
- b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR § 122.42 (a)(1).

12. Other Information.

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Director, it shall promptly submit such facts or information.

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A. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which are reasonably expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations

The permittees may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs c. and d. of this section.

c. Notice

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, he shall submit prior notice, if possible, at least 10 days before the date of the bypass.

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(2) Unanticipated Bypass.

The permittee shall submit notice of an unanticipated bypass as required in Part I.D.4. (24-Hour Notice).

d. Prohibition of Bypass

(1) Bypass is prohibited, and the Regional Administrator may take enforcement action against the permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(c) The permittee submitted notices as required under paragraph c. of this section.

(2) The Regional Administrator may approve an anticipated bypass, after considering its adverse effects, if he determines that it will meet the three conditions listed above in paragraph d.(1) of this section.

4. Upset Conditions

a. Definition

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation.

b. Effect of an Upset

An upset constitutes an affirmative defense to an action brought for noncompliance with such technologybased permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by an upset, and before an action for noncompliance, is final administrative action subject to judicial review.

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c. Conditions Necessary for a Demonstration of Upset.

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An upset occurred and that the permittee can identify the the specific cause(s) of the upset;
- (2) The permitted facility was at the time being properly operated;
- (3) The permittee submitted notice of the upset as required in Part I.D.4. (24-hour notice); and
- (4) The permittee complied with any remedial measures required under Part II.B.4. (duty to mitigate).

d. Burden of proof

In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

B. GENERAL CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

2. Duty to Comply with Toxic Effluent Standards

The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

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3. Penalties for Violation of Permit Conditions

Any person who causes a violation of any condition in this permit is subject to a civil penalty not to exceed \$25,000 per day of each violation. Any person who negligently causes a violation of any condition in this permit is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two years, or both.

4. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or notification of planned changes and anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

Notwithstanding Part II.B.5. above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revoked and reissued or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

7. Transfers

This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

8. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Administrator.

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9. Civil and Criminal Liability

Except as provided in permit conditions on "Bypasses" (Part II.A.3.) and "Upsets" (Part II.A.4.), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

10. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the Act.

11. Tribal or State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Act.

12. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property, or any invasion of personal rights, nor any infringement of Federal, State, Tribal, or local laws or regulations.

13. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

14. Penalties for Violation of Permit Condition.

Any person who knowingly causes violation of any condition of this permit is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than three years, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than \$100,000 per day of violation, or by imprisonment of not more than six years, or both.

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15. Penalties for Violation With Risk of Causing Injury.

Any person who knowingly causes a violation of any condition of this permit and, by so doing, knows at that time that he thereby places another person in imminent danger or serious bodily injury shall be subject to a fine of not more than \$250,000, or imprisonment of not more than 15 years, or both. A person who is an organization and violates this provision shall be subject to a fine of not more than \$1,000,000 for a first conviction. For a second conviction under this provision, the maximum fine and imprisonment shall be doubled.

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A. REAPPLICATION

1. If the permittee desires to continue to discharge, he shall reapply not later than 180 days before this permit expires, on the application forms then in use.

B. NON-DOMESTIC SEWER DISCHARGERS: Reserved.

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APPENDIX A

<u>Discharge Serial No.</u>	<u>Outfall Number</u>	<u>Latitude Deg.Min.Sec</u>	<u>Longitude Deg.Min.Sec.</u>	<u>Receiving Water</u>
001	N1-F	36-31-45	110-24-45	Coal Mine Wash
002	N1-L	36-31-45	110-24-15	Coal Mine Wash
003	N1-M	36-32-30	110-24-15	Coal Mine Wash
004	N1-N	36-32-30	110-24-00	Coal Mine Wash
005	N5-A	36-31-15	110-24-45	Coal Mine Wash
008	N10-A1	36-32-45	110-22-30	Coal Mine Wash
009	N10-C	36-32-00	110-24-00	Coal Mine Wash
010	J3-A	36-28-45	110-25-00	Coal Mine Wash Trib.
012	N6-E	36-30-30	110-25-15	Coal Mine Wash Trib.
013	N10-B	36-33-00	110-22-15	Coal Mine Wash Trib.
014	N10-D	36-32-30	110-23-00	Coal Mine Wash Trib.
015	N10-E	36-32-30	110-23-00	Coal Mine Wash Trib.
016	N12-C	36-32-15	110-23-15	Coal Mine Wash Trib.
017	BM-A1	36-26-30	110-24-00	Moenkopi Tributary
018	J3-D	36-28-15	110-24-00	Moenkopi Tributary
019	J27-R	36-27-15	110-23-00	Moenkopi Tributary
020	N6-B	36-29-45	110-22-15	Moenkopi Tributary
021	N6-C	36-29-30	110-22-45	Moenkopi Tributary
022	N6-D	36-29-15	110-23-00	Moenkopi Tributary
024	N14-F	36-30-30	110-18-30	Moenkopi Tributary
025	N14-G	36-30-30	110-18-15	Moenkopi Tributary
026	MW-A	36-27-30	110-23-45	Moenkopi Wash
027	MW-B	36-27-30	110-23-45	Moenkopi Wash
028	J16-B	36-30-00	110-18-15	Moenkopi Trib.
029	J16-C	36-30-00	110-18-30	Moenkopi Tributary
030	J16-D	36-30-00	110-18-30	Moenkopi Tributary
031	J16-E	36-30-00	110-18-30	Moenkopi Tributary
032	J16-F	36-30-00	110-18-45	Moenkopi Tributary
033	J16-G	36-29-45	110-19-00	Moenkopi Tributary
034	J16-H	36-29-45	110-19-15	Moenkopi Tributary
035	J16-I	36-29-15	110-19-30	Moenkopi Tributary
036	J16-K	36-29-00	110-19-15	Moenkopi Tributary
037	N6-F	36-30-45	110-22-30	Moenkopi Tributary
038	N13-E	36-31-00	110-21-30	Moenkopi Tributary
039	N14-H	36-30-45	110-17-30	Moenkopi Tributary
041	N14-M	36-30-00	110-19-00	Moenkopi Tributary
042	N14-N	36-30-00	110-18-45	Moenkopi Tributary
043	N14-O	36-30-00	110-19-15	Moenkopi Tributary
045	WW-6	36-30-00	110-22-15	Moenkopi Tributary
046	J7-B	36-25-30	110-24-00	Red Peak Valley
047	J7-DAM	36-25-30	110-23-30	Red Peak Valley
048	J7-G	36-25-00	110-24-15	Red Peak Valley
049	J7-CD	36-24-45	110-22-15	Sagebrush Wash

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<u>Discharge Serial No.</u>	<u>Outfall Number</u>	<u>Latitude Deg.Min.Sec</u>	<u>Longitude Deg.Min.Sec.</u>	<u>Receiving Water</u>
050	J7-E	36-24-45	110-22-30	Sagebrush Wash
051	J7-F	36-24-30	110-22-30	Sagebrush Wash
052	J7-K	36-24-30	110-23-00	Sagebrush Wash
054	N1-AC	36-32-00	110-25-45	Yellow Water Canyon
055	N1-B	36-33-15	110-24-45	Yellow Water Canyon
056	N1-D	36-33-00	110-25-00	Yellow Water Canyon
057	N1-E	36-32-45	110-25-15	Yellow Water Canyon
058	N1-G	36-31-30	110-24-30	Yellow Water Canyon
059	N1-H	36-32-30	110-25-30	Yellow Water Canyon
060	N1-I	36-32-30	110-25-30	Yellow Water Canyon
061	N1-J	36-32-45	110-25-15	Yellow Water Canyon
062	N1-K	36-33-30	110-24-15	Yellow Water Canyon
063	N2-D	36-34-15	110-23-00	Yellow Water Canyon
064	N2-E	36-34-00	110-23-30	Yellow Water Canyon
065	N2-G	36-33-45	110-23-15	Yellow Water Canyon
066	N7-A1	36-32-15	110-26-00	Yellow Water Canyon
069	J7-I	36-24-45	110-24-30	Yucca Flat Wash Trib.
070	J7-J	36-24-30	110-24-30	Yucca Flat Wash Trib.
071	J7-M	36-24-15	110-24-15	Yucca Flat Wash Trib.
073	J7-O	36-24-30	110-23-45	Yucca Flat Wash Trib.
076	J7-L	36-24-30	110-23-00	Yucca Flat Wash Trib.
077	J7-Q1	36-24-15	110-23-15	Yucca Flat Wash Trib.
079	J21-A	36-26-15	110-14-45	Dinnebito Wash
080	J21-B	36-26-15	110-14-45	Dinnebito Wash
081	N1-O	36-32-00	110-24-00	Coal Mine Wash
082	N5-E	36-31-15	110-25-00	Coal Mine Wash
083	N5-F	36-31-15	110-25-00	Coal Mine Wash
086	WW-4	36-26-45	110-24-45	Moenkopi Wash
087	WW-9	36-23-45	110-24-45	Yucca Flat Wash Trib.
088	WW-9A	36-23-45	110-24-45	Yucca Flat Wash Trib.
089	WW9-B	36-23-45	110-24-45	Yucca Flat Wash Trib.
090	WW9-C	36-24-15	110-24-30	Yucca Flat Wash Trib.
091	WW9-D	36-24-15	110-24-30	Yucca Flat Wash Trib.
094	N10-B1	36-33-00	110-22-15	Coal Mine Wash Trib.
095	KM-D	36-31-30	110-25-15	Coal Mine Wash Trib.
096	N12-A	36-32-15	110-23-00	Coal Mine Wash Trib.
097	N12-N	36-31-30	110-22-15	Coal Mine Wash Trib.
098	BM-SS	36-27-00	110-23-45	Moenkopi Tributary
099	J3-E	36-28-45	110-23-30	Moenkopi Tributary
102	N14-A	36-31-00	110-21-00	Moenkopi Tributary
103	N14-B	36-31-00	110-20-30	Moenkopi Tributary
104	N14-C	36-30-00	110-19-15	Moenkopi Tributary
105	BM-B	36-26-45	110-24-00	Moenkopi Wash Trib.
106	KM-A3	36-31-45	110-26-00	Yellow Water Canyon
107	KM-B	36-31-30	110-26-00	Yellow Water Canyon
118	TPC-A	36-33-00	110-29-15	Long House Valley Trib.
121	TPF-A	36-32-00	110-26-30	Yellow Water Canyon Tr.
122	TPF-B	36-32-00	110-26-15	Yellow Water Canyon Tr.
123	TPF-C	36-31-45	110-26-15	Yellow Water Canyon Tr.
126	TS-A	36-33-45	110-31-00	Klethla Valley
127	J16-A	36-30-00	110-18-15	Moenkopi Wash Trib.

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Permit No. AZ0022179

<u>Discharge Serial No.</u>	<u>Outfall Number</u>	<u>Latitude Deg.Min.Sec</u>	<u>Longitude Deg.Min.Sec.</u>	<u>Receiving Water</u>
128	J16-J	36-29-15	110-19-15	Moenkopi Wash Trib.
129	N14-O	36-30-00	110-18-45	Moenkopi Wash Trib.
130	N14-P	36-31-00	110-20-30	Moenkopi Wash Trib.
131	N14-R	36-31-15	110-18-30	Moenkopi Wash Trib.
132	N14-S	36-30-15	110-18-30	Moenkopi Wash Trib.
133	J16-L	36-30-45	110-19-30	Reed Valley
135	KM-A2	36-29-45	110-27-45	Yellow Water Canyon Tr.
136	KB-TPB	36-31-15	110-28-00	Yellow Water Canyon Tr.
137	KM-TPB1	36-33-00	110-28-00	Yellow Water Canyon Tr.
138	J7-P	36-24-30	110-23-45	Yucca Flat Wash Trib.
139	KMF	36-31-15	110-25-30	Coal Mine Wash Trib.
140	J2-A	36-29-00	110-25-45	Wild Ram Valley
141	J3-F	36-28-00	110-25-15	Coal Mine Wash Trib.
142	J3-G	36-28-00	110-25-15	Coal Mine Wash Trib.
143	N7-D	36-32-30	110-25-45	Yellow Water Canyon Tr.
144	N7-E	36-32-30	110-25-30	Yellow Water Canyon
145	N8-A	36-33-15	110-26-00	Yellow Water Canyon Tr.
146	N8-B	36-33-30	110-26-00	Yellow Water Canyon Tr.
147	J7-A	36-25-30	110-23-30	Red Peak Valley
148	J21-C	36-26-00	110-15-30	Dinnebito Wash
149	J27-A	36-27-15	110-23-15	Moenkopi Wash Trib.
150	N6-G	36-29-30	110-23-00	Coal Mine Wash
151	N6-H	36-29-30	110-23-00	Coal Mine Wash
152	TS-B	36-33-30	110-31-15	Klethja Valley

BLACK MESA PROJECT EIS UPDATE

May 2008



U.S. Department of the Interior
Office of Surface Mining Reclamation and Enforcement

How to Submit Comments on the Draft EIS

Comments previously submitted on the Draft EIS will be considered in the Final EIS and do not need to be resubmitted. Comments on the Draft EIS and alternative B may be submitted by e-mail over the Internet or in writing. In the subject line of your e-mail or at the top of your letter, indicate that the comments are "BMP Draft EIS Comments." Include your name and address in your e-mail message or letter. To ensure consideration in the Final EIS, written **comments must be received by OSM by 4:00 p.m. (MDT) on July 7, 2008.**

E-mail comments should be sent to **BMKEIS@osmre.gov**.

Written comments sent first-class or priority U.S. Postal Service should be mailed to:

Dennis Winterringer, Leader
Black Mesa Project EIS
OSM Western Region
P.O. Box 46667
Denver, Colorado 80201-6667

Comments sent by U.S. Postal Service Express Mail or by courier service should be delivered to :

Dennis Winterringer, Leader
Black Mesa Project EIS
OSM Western Region
1999 Broadway, Suite 3320
Denver, Colorado 80202-5733

BLACK MESA PROJECT EIS — UPDATE

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BLACK MESA PROJECT EIS UPDATE

May 2008



U.S. Department of the Interior
Office of Surface Mining Reclamation and Enforcement

Work on the Black Mesa Project EIS Resumes

After a one-year delay, the Office of Surface Mining Reclamation and Enforcement (OSM) has resumed work on the Final Environmental Impact Statement (EIS) for the Black Mesa Project.

Proposed Black Mesa Project

Southern California Edison and the other co-owners of the Mohave Generating Station (MGS) in Laughlin, Nevada, suspended operations of the power plant in December 2005. Since then they have been unsuccessful in finding buyers that would reopen the power plant. The power plant has never been a part of the proposed Black Mesa Project, but several components of the proposed project as it existed in November 2006, when OSM issued the Draft EIS, are dependent upon the power plant for their existence. These components include the Black Mesa Mine, coal slurry preparation plant, coal-slurry pipeline, and proposed Coconino water-supply system.

Peabody Western Coal Company, the sole supplier of coal to MGS, notified OSM that it believes the chances are remote of the power plant ever reopening. Therefore, it is unlikely that the Black Mesa Mine will resume coal production to supply the power plant, the existing coal-slurry preparation plant will be permitted, the coal-slurry pipeline will be rebuilt, and the new Coconino water-supply system will be built.

While OSM will continue to analyze these project components in the Final EIS under alternative A, OSM will be designating alternative B as the proposed project and preferred alternative. Alternative B includes the continued operation of Peabody's Kayenta Mine to supply coal to the Navajo Generating Station in Page, Arizona, and incorporation of the surface facilities and coal reserves of the Black Mesa Mine into the Kayenta Mine permit.

Status of the EIS

In November 2006, OSM released the Black Mesa Project Draft EIS for public review. During the comment period, which ended in February 2007, OSM received approximately 18,000 comment submittals. In May 2007, OSM suspended work on the Final EIS, including analysis and preparation of responses to these comments, when Southern California Edison stopped funding the EIS. OSM has resumed work on the Final EIS, which is now funded by Peabody.

OSM intends to issue the Final EIS by the end of 2008. Availability of the Final EIS will be announced in the Federal Register and in local media.

Comment Period on Draft EIS Reopens

On May 23, 2008, OSM published a notice in the Federal Register announcing that the comment period on the Draft EIS has been reopened between May 23 through July 7, 2008. The Draft EIS is the same document previously issued in November 2006. Comments are requested on the alternative B, which is now the proposed project and preferred alternative. Please do not resend comments previously submitted on the Draft EIS. OSM is considering these comments in the preparation of the Final EIS.

The Draft EIS is available for review on OSM's website at <http://www.wrcc.osmre.gov/WR/BlackMesaEIS.htm>. Paper and computer compact disk (CD) copies of the Draft EIS also are available for review at the Office of Surface Mining, Western Region, 1999 Broadway, Suite 3320, Denver, Colorado 80202-5733. (For more information on how to submit comments on the Draft EIS, see the information on the back cover of this newsletter.)