The operation of several coal mines with vast proven reserves on the Navajo reservation is a manifestation of conflict between: a power hungry external world; the preservationist attitudes of traditional Navajo culture; the disadvantaged socio-economic status of the average Navajo wage earner; and the Navajo Nation's long term needs for internal development. The Navajo environment must be considered in terms of the external (non-Indian) demands for expansion and diversification of coal production and the related demands of meager water supplies; the Navajo's emotional/religious reaction to current and proposed expansion of coal production; the environmental impact of mining activities; and the future needs of the Navajo Nation. Questions pertinent to these conflicts are: (1) To what extent does the non-reservation world depend upon Navajo coal and can these consuming areas survive without expanded production?; (2) What is the meaning of mining to a society which is traditionally not entrepreneurial and what effect does strip mining have upon the Navajo's religion and his sense of place and being?; (3) Can the royalties received from coal production sustain improvements in the Navajo standard of living or should the Navajo tribalize coal production and seek profits as well as royalties? (JG)
ABSTRACT: The operation of several coal mines with vast proven reserves on the Navajo Reservation is a manifestation of the conflict between a power hungry external world, the preservationist attitudes of traditional Navajo culture, the disadvantaged socio-economic status of the Navajo wage-earner, and the long term needs for internal development of the Navajo Nation. The Navajo environment is considered in terms of external demands and proposals for expansion and diversification of coal production and the related demands on meager water supplies; Navajo peoples' reaction to the current and proposed expansions; the environmental impact of the mining activities; and the future needs of the Navajo People.

All habitats are stressed to a high degree by mineral exploitation, especially coal mining. What was once solid and seemingly basic becomes a menace as it is mixed thru the interfacings of the earth's surface. The nature of the menace embraces not only environmental factors of a physical habitat, but casts long shadows on what has to be a declining resource status for an area. In a temporal sequence the stress pattern is predictable; a period of little or no economic significance is followed by a period of intense, booming conditions which runs the life time of the mining operation, succeeded by depression of human and economic activity, the abandonment of a battered, scarred landscape and an aging and declining human population. The pattern has been repeated in time and space from eastern Pennsylvania thru Illinois and Kentucky and westward to Oklahoma and Kansas.

The magnitude of stress today is no less than in the past. Laws which provide for reclamation and require environmental statements provide some indication of how an area will fare through the episode of exploitation and allow some provisions to be made for the future of the place. The scale of operations, however, is a major factor of today's energy developments, and the shift from petroleum sources to coal has intensified the
modification of the human environment. If to these circumstances we add a sociocultural anomaly, an intriguing conflict of interests emerges. Such a conflict exists on the Navajo Reservation; the progress of the conflict bears careful observation because it represents a divergence of views or opinions concerned with the development of a third-world like colony which has been internalized within the American quest for energy independance. The conflict is not socioeconomic alone, it also extends to the Federal government's policy in its role of trustee for the Navajo Reservation.

The objective of this essay is an examination of the development of energy resources on the Navajo Reservation from the perspective of tribal needs and the future of the Navajo Nation. Questions raised by this objective are extremely broad and obviously demand a lot of attention. The purpose here is to direct inquiry to those aspects of planning and policy determination which have a direct effect upon the inhabitants of the Navajo space.

A few basic concepts and facts are needed:

The Navajo Section of the Colorado Plateau represents one of the nearest sources of coal to the energy consuming centers in the Southern California - Southern Arizona population growth complex. The Salt Lake City - Albuquerque - El Paso axis is also tied to the distribution network which delivers energy produced from Navajo Coal.

Coal deposits in the San Juan Basin, Gallup Saddle and Zuni Basin straddle gas transmission pipelines extending from Texas to Southern California. This locational
circumstances creates an extremely attractive situation for proposed coal gasification plants in the eastern portions of the Navajo Reservation.

In an arid to semi-arid region the underdeveloped groundwater reserves of the Navajo Reservation and the underclaimed surface water rights which the Indian has to the San Juan and Colorado Rivers are attractive inducements to energy generation which often requires quantities of water, such as the coal gasification projects. One of the most incredible and incongruous uses of ground water is in the slurry pipeline transfer of coal from Black Mesa to Western Arizona.

Although the Navajo Reservation has an average population density of about five people per square mile, the tribe is the largest within the United States and its population is increasing. Although accurate figures have been impossible to obtain to this date, the population most likely is between 135,00 to 150,000.

Reservation lands are held in trust for Indian people through agreements specified in Treaties with various tribes. The Treaty of 1868 between the Navajo Nation and the United States established the original Navajo Reservation as being, "set apart for the use and occupation of the Navajo tribe of Indians."

Subsequent measures have been taken to clarify the interaction between the Navajo Tribe and the Federal government as trustee of the lands. One of the most significant actions was the creation of the Tribal Council in the 1920's for the purpose of dealing with mineral development of the reservation.

The Navajo are among the least assimilated American Indian groups. Although their culture has absorbed changes through external contacts, and although their socio-cultural characteristics do appear to be less rigid than say the Puebloans, the non-village dwelling Navajo living in dispersed patterns over a landscape the size of West Virginia, have been able to adjust to and adapt from the dominant Anglo culture those elements needed to function and survive. A large element of the tribe is tribal-traditional and thus is "...obliged to function at two levels of consciousness...the kinship web, ... (and the) demanding socioeconomic environment beyond the tribal boundaries".  

These concepts can be used to bring into focus the major questions associated with Navajo Coal development. Several sets of questions can be posed:

Set I: To what extent does the non-reservation world depend upon Navajo Coal? Can these consuming areas survive without the Navajo resource? If the external world does indeed have

no alternative to Navajo Coal, then what price should the Navajo place on this valuable, but exhaustible resource? Do the Navajo have the same leverage that OPEC had in price setting? Should the Navajo "tribalize" the coal mining operations and power plants? Indeed can they?

David Aberle draws the following portrait of the Navajo area:

"Let us suppose that we could cut a cross section through the reservation territory extending about 3000 feet below ground, and that we could make a rapid-motion picture of the flow of population, money, and resources from about 1900 on. What would we see? First, we should see a population doubled thrice between 1870 and 1958: hogans and houses would multiply before our eyes. Plant cover would disappear; huge washes would appear, and increase in size; topsoil would disappear. An ebb and flow of the population off the reservation to employment sites could be observed. But money would flow predominantly to the trader and from the trader to the larger economy, balanced only by a flow necessary to sustain life and (in recent years) somewhat to enhance the standard of living. Sheep would increase rapidly – and then decrease suddenly in the 1930's, to remain more or less steady in quantity. Horses would increase until the 1930's and dwindle rapidly thereafter, while pickup trucks would partly replace them. Wagons would increase to the 1930's and almost disappear by the 1960's. Timber for firewood and house construction would dwindle fairly rapidly, commercial
timber less so. Meantime, below ground we would see oil, helium, coal, uranium, and vanadium draining off into the surrounding economy; we would see rents and royalties flowing into the tribal treasury, but, of course, major profits accruing to the corporations exploiting the reservation.

We would see the slow development of roads, water for stock and drinking, government facilities, and so forth, and a flow of welfare funds coming in; to go out again via the trader. The net flow of many physical resources would be outward; the flow of profits would be outward, and the only major increase to be seen would be population, with a minor increment in physical facilities and consumer goods.

"This is the picture of a colony. It can be duplicated time after time; place after place, in Africa, Asia, Latin America, and the Caribbean (for not all colonies are formally the political property of the country that dominates them), and, of course, for other American Indian groups. Where do we go from here?"

Set II: What is the meaning of mining to a society which is traditionally not entrepreneurial? What emotional responses could be drawn from the Navajo to the alteration of landscapes by strip mining and the development of mine-supportive facilities? What attitudes are generated by external (i.e. non-Navajo) demands for resource development and a Navajo Sense of Place and Sense of Being?

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The tribal-traditional outlook toward these questions might be demonstrated by the views of Kluckholm and Leighton:

"Navajos accept nature and adapt themselves to her demands as best they can, but they are not utterly passive, not completely the pawns of nature... they do not even hope to master nature. For the most part The People try to influence her with various songs and rituals, but they feel that the forces of nature, rather than anything that man does, determine success or failure of crops, plagues of grasshoppers, increase of arroyos, and decrease of grass. Many white people have the opposite view... Their premise is that nature will destroy them unless they prevent it; the Navajos' is that nature will take care of them if they behave as they should and do as she directs."

A statement given to me while interviewing Yellowhair Begaye II, a Navajo medicine man from northern Black Mesa, illustrates the Navajo man-nature harmony concept:

"As Navajos from the past say- but we were born here and have noticed that our elders were here on this earth and made a living here. The earth is known to us as our mother. The female mountain (Black Mesa) and the male mountain (Chuska Mts.) are our gods. Our whole life is on this earth, therefore we want to keep it the way our elders did. The brains of the female mountain is the coal and the veins are the streams. The two have different plants on them and all are meant to be used in some way."

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We were never meant to mine or dig up the mountains because we pray to them and they would get mad in some way. Seems that way right now - it is holding back the rain and we say there is no grass on this land for the animals - that is after it has been mined. To the Navajo people we are destroying our mother the earth."

In a more modern tribal-traditional sense Navajo leadership attitudes are displayed by the following comments by Peter MacDonal in the Introduction to the Navajo Ten Year Plan:

"...what is rightfully ours, we must protect; what is rightfully due us, we must claim. What we depend on from others, we depend on from others, we must replace with the labor of our own hands and the skills of our own people. What we do not have, we must bring into being. We must create for ourselves."  

And finally, what of the future development of the Navajo Nation:

Set III: Are the energy needs of the urban southwest a deterrent to future Navajo development? Can the royalties received from coal production sustain an improvement to Navajo standards of living and a decline of poverty? Should the Navajo people engage in mineral production and processing, thereby increasing their incomes by being able to gain the profits rather than the royalties alone? Can the Navajo be expected to develop their own people in management and technical skills? Should the tribe maintain its own industries to increase its income and reduce its dependence upon the Federal government?

5The Navajo Ten Year Plan, The Navajo Tribe, Window Rock, Arizona June 1, 1972.
David Aberle in his monograph, "A Plan for Navajo Economic Development," states that the development of mineral resources on the reservation has never had as its primary concern the needs of the Navajo. Royalties received by the tribe are windfalls not results of planned economic development of the Navajo Nation.

To anyone who has visited the reservation there is a strong feeling of incongruity when one scans the horizon and sees the large transmission lines which carry large quantities of electricity from non-Indian owned and managed generating stations on Navajo land fueled by Navajo coal to the non-Indian centers of the southwest. If one lifts his head he views a condensation trail of a jet aircraft at 40,000 feet swiftly carrying its passengers between Los Angeles and Albuquerque—two cities which depend on Navajo generated energy. But before you blink, lower your eyes: there on the unpaved road bounces a Detroit made pickup carrying a Navajo family to their hogan which is lit by a Coleman lantern.

Have I generated a false sense of pity for the Navajo? Perhaps. Many, but not all, Navajos do not feel that they live in poverty; yet I would say most do. The Anglo and Navajo perceptions of living standards vary greatly. And our demands for their coal at the present and under the current production management may not be in their best interests. Hopefully the Navajo will assume a stronger and more aggressive role in the planning of their mineral resource development. This is their land and we as trustees should respond to them in a trusting and sympathetic manner.

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6 David Aberle, op. cit.