RECOMMENDATION/RATIONALE STATEMENT
for
DECKER NORTH EXTENSION
COAL LEASE APPLICATION
M-35736

Miles City District
U.S. Department of the Interior - Bureau of Land Management

George Neuberg, District Manager

July 5, 1979

PURPOSE

The following statement presents the recommendations/rationale prepared by the Miles City District Manager concerning the Decker Coal Company coal lease application M-35736:

W½,S½NE¼, Section 34
T. 8 S., R. 40 E., PMM - 400 acres

Lot 2, S½NE¼, SE¼, Section 3
T. 9 S., R. 40 E., PMM - 280.17 acres

The recommendation has been made after review of the final Technical Examination/Environmental Assessment, public comments, and the updated Decker-Birney Management Framework Plan. This recommendation statement is being published as a supplement to the final TEEA for Decker North Extension coal lease application M-35736.

In this supplement are the final leasing recommendations with recommendation rationale and a declaration statement as to whether or not an environmental impact statement is required. The final recommendation is being made following analysis of public comment received from the review of the draft TEEA and the recommendations of the MFP.

LEASING RECOMMENDATION

Option 2 (excluding floodplain)

It is recommended that the following portions of the application area be offered for lease:

Section 34, T. 8 S., R. 40 E., PMM

N½SW¼NE¼
SW¼SW¼NE¼
NW¼
SW¼ 350 Acres

Section 3, T. 9 S., R. 40 E., PMM

W½ Lot 2
NW¼SW¼NE¼
S½SW¼NE¼
SW¼NE¼SE¼
NW¼SE¼
S½SE¼ 180.08 Acres

It is further recommended that the following portions of the application area not be offered for lease:

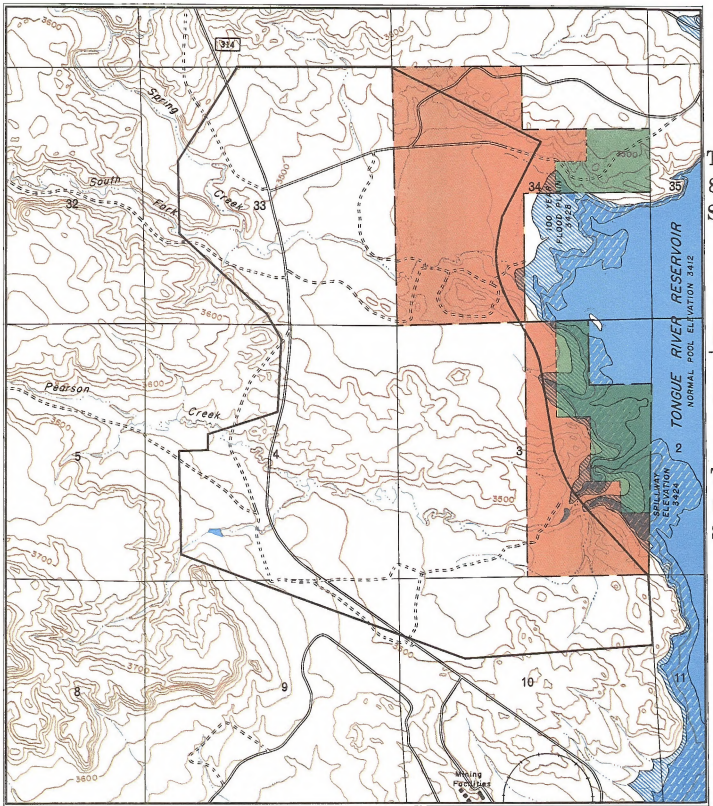
Section 34, T. 8 S., R. 40 E., PMM

SE¼SW¼NE¼
SE¼NE¼ 50 Acres

Section 3, T. 9 S., R. 40 E., PMM

E½ Lot 2
NE¼SW¼NE¼
SE¼NE¼
N½NE¼SE¼
SE¼NE¼SE¼ 100.09 Acres

LEASING RECOMMENDATIONS



R 40 E

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LEGEND

——— Mine Boundary

— — Lease Application M35736

Area recommended for leasing

Area not recommended for leasing

SPECIAL STIPULATIONS

1. Mining and mine-related activities are to be limited to the west side of the transportation corridor.

SPECIAL MITIGATING AND ENHANCING MEASURES

Several mitigating and enhancing measures were addressed in the TEEA. These measures can best be handled within the mine permit. The Miles City District Office will work with the Office of Surface Mining and the Montana Department of State Lands to assure that the best management practices and the latest technology available will be utilized to minimize the environmental effects of surface mining. The following mitigating and enhancing measures are to be considered during the mining permit approval:

1. Soil material should be salvaged during dry periods (soil moisture at 10+ atmospheres of water tension) to avoid impacts to soil porosity which happens when the soil is worked when wet. Soil reconstruction material should be salvaged in lifts and stockpiled according to its suitability rating.

2. If unacceptable amounts of mercury are found to be discharging into the reservoir with the mine effluent, a two-settling pond system,

as proposed by Turbak and Olson, 1977, should be constructed. A deeper primary pond would promote sedimentation and sulfate reduction which would remove the heavy metals. A shallower secondary pond would permit the biological uptake of nutrients such as those contributed from nitrogen explosives and carbonaceous materials in the coal.

3. Proper storage of the ammonium nitrate (ANFO) used in overburden blasting would help to prevent nitrate-rich water from entering the reservoir. Mine effluent should be monitored for nitrates and care taken to insure that nutrients are digested in the settling pond before allowing effluent to enter the reservoir.

4. Rip-rap could be placed in the re-established stream channels to prevent channel erosion.

5. Revegetation would initially re-establish a grassland vegetative type. Inclusion of some forbs would benefit a variety of wildlife species such as deer, antelope, upland game birds and some non-game birds. Forb species found in the Decker area that could be considered are: common salsify (Tragopogon dubis), fringed sagewort (Artemisia frigida), silverleaf scurfpea (Psoralea argophylla), common dandelion (Taraxacum officinale), western ragweed (Ambrosia psilostachya), hairy goldenaster (Chrysopsis villosa), eriogonum (Eriogonum spp.) and alfalfa (Medicago sativa). Small amounts of

various upland shrub trees species could be planted. Some riparian species should be planted to enhance reclaimed drainages for wildlife. Suggested species are western snowberry (Symphoricarpos orbiculatus), red wild plum (Prunus hookeri), current (Ribes spp.), willow (Salix spp.), cottonwood (Populus deltoides) and buffaloberry (Shepherdia argentea), most of which would resprout from root sources. Including some or all of the suggested forbs and shrubs in the reclamation plan would add diversity to the vegetative complex and would be an early benefit to wildlife.

RECOMMENDATION/RATIONALE

1. This proposal is recommended after consideration of the alternatives presented in the TEEA, the MFP recommendations, and the unsuitability criteria as stated in the Secretary of Interior's announcement of the new coal management program dated June 4, 1979.

2. Approximately 150 acres of the application area, lying east of the transportation corridor, has been recommended for non-lease because it is within the floodplain of the Tongue River Reservoir and lies outside of the MFP recommendation area.

3. Beneficial use will be made of approximately 14.7 million tons of recoverable coal in the application area and approximately 1.7 million tons of recoverable coal in adjacent existing leases which would otherwise be bypassed.

4. The coal will insure the continued operation of an established mine which is supplying coal under existing contracts to Lower Colorado River Authority, City of Austin, Commonwealth Edison Company, and Detroit Edison.

5. The Bureau of Land Management, in consultation with the U.S. Geological Survey, has evaluated the Decker Coal Company application and it has been determined that it meets the short-term bypass coal-

leasing criteria established by the court in NRDC vs. Hughes, September 17, 1979, and the emergency leasing criteria published as proposed rule making in the March 19, 1979, Federal Register (43 CFR 3425).

6. The issuance of this lease will not significantly alter the existing socio-economic structure of the Decker community.

7. There will be beneficial economic impacts to the state and federal governments through the collection of taxes, rentals, and royalties.

8. Successful reclamation potential exists; however, it is recognized that a reclamation plan must be approved and adhered to before reclamation can be accomplished.

9. Most physical adverse impacts would be short term and mitigated over time. The Dietz 1 and Dietz 2 coal seams will be lost as an aquifer within the lease area.

10. It is recommended that the area be returned to a condition to support native vegetation for wildlife and livestock grazing.

11. The location of the coal in relation to the existing leases, the Tongue River Reservoir, and the transportation corridor is such that it logically and feasibly should be mined at this time. If not mined at this time, the area will become an obstacle to a

logical reclamation sequence and isolated tracts of otherwise recoverable coal (approximately 16.4 million tons federal coal) would remain on the edge of a mined-out area.

12. If not mined at this time, the coal will be lost forever due to the provisions of the Montana Strip Mine Law which precludes mining of reclaimed land. The loss of this coal is not in the best interest of conservation of the nation's resources.

ENVIRONMENTAL IMPACT STATEMENT DECLARATION

The socio-economic and physical resource impacts are not significant. The tract has recently been included in an EIS prepared by U.S. Geological Survey and the State of Montana. Therefore, it is recommended that an environmental impact statement, as described in the National Environmental Policy Act of 1969, not be made.

George S. Neuberg
District Manager

July 5, 1979
Date

FINAL
DECKER NORTH
TEEA

ACTIVITY 4110

EAR # MT-020-78-8-45

TECHNICAL EXAMINATION/ENVIRONMENTAL ASSESSMENT RECORD

(TEEA)

FINAL

DECKER NORTH EXTENSION COAL LEASE APPLICATION

M-35736

JUNE 1979

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Miles City District
U. S. Department of the Interior - Bureau of Land Management

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Technical Examination/Environmental Assessment Record

PREFACE

The Bureau of Land Management (BLM) in the U.S. Department of Interior (USDI), is the federal agency responsible for the management of federal coal reserves in Montana and other states. As the managing agency, the BLM pursues coal development objectives established by the President, Congress, and the Secretary of Interior. Through laws, policy, and directives, the BLM is pursuing a program of coal management to make coal available to help meet regional and national energy needs.

In July, 1976, Decker Coal Company applied for a lease on 680 acres of federal coal to supplement its proposed north extension of the existing operation near Decker, Montana. The company proposed to mine existing federal leases adjacent to this 680-acre tract. The additional federal coal is desired as it could be efficiently and economically mined as part of the North Extension area. The Decker Coal Company application has been evaluated by the BLM and U.S. Geological Survey (USGS), and it has been determined that it meets the short-term coal leasing criteria established by the court in NRDC vs. Hughes, September 27, 1979; and the emergency leasing criteria published as proposed rule making in the March 19, 1979, Federal Register (43 CFR 3425). Should a bidder other than the applicant (Decker Coal Co.) be the successful bidder, their plans will also be assessed before consideration is given to approving the mining plan.

Three processes must be accomplished by the BLM before any leasing recommendations are made to the Secretary of the Interior. These

processes include: comprehensive land use planning, an environmental assessment of the proposed action and alternatives, and a technical examination of the area involved in the proposed action.

An "Environmental Assessment Record" (EAR) is the documentation of environmental assessments the BLM makes on proposed actions. A "Technical Examination" (TE) is the documentation of environmental and other technical analyses made on mineral disposal actions. Since there are only minor differences between the two processes, the TE can be easily merged with the EAR, as has been done in this assessment. The comprehensive land use planning for the Decker-Birney Planning Unit was completed in 1974.

Following public review (including state and local governments) of this Technical Examination and Environmental Assessment (TEEA), a "recommendation statement" is completed. The "recommendation statement" is comprised of a review and discussion of the public input, a review of criteria from the planning system, and a final recommendation to lease or not to lease.

The lease application, the casefile, the TEEA, and the recommendations are then forwarded to the BLM State Director. The USGS determines the value of the coal reserves and the Montana Department of State Lands is consulted to assure any lease stipulations conform to existing state laws and regulations. The case is then forwarded to the Secretary of the Interior. The Secretary consults with the Governor of Montana prior to making the final decision.

INTRODUCTION

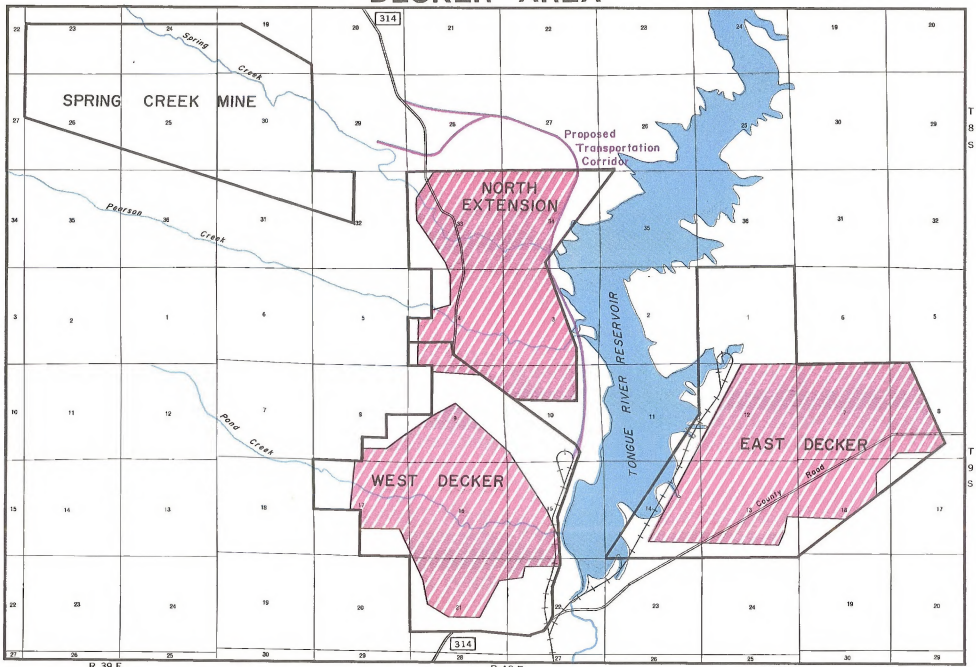
INTRODUCTION

Decker Coal Company has applied for a competitive coal lease on 680 acres of additional federal coal for the purpose of surface mining within the North Extension area, which contains a total of approximately 1,800 acres at Decker, Montana (Map 0-1).

A Draft Technical Examination and Environmental Assessment (TEEA) was published and sent out for public review in June of 1978. Public meetings were conducted in July and September and written comments were accepted from July through September. Since the date of the original application and the writing of the Draft TEEA, new federal and state laws and regulations were adopted. These new laws and regulations, in conjunction with the environmental impacts of the proposed action in the Draft TEEA, shows that the original proposed action was not the best alternative. Subsequent to the Draft TEEA, Decker Coal Co. has submitted a new proposal for the North Extension area. This new proposal is basically the "lease west of the transportation corridor", which was discussed in the alternative section of the Draft TEEA and is now the proposed action for the Final TEEA. This Final TEEA will assess this proposed action and the alternatives and record the possible impacts that may result if the lease is granted.

The previously leased coal (see Map 1-3) in the North Extension Mine is part of a larger complex of coal mines for which a site-specific environmental impact statement was prepared by the United States Department of

MAP 0-1
DECKER AREA



the Interior (USDI), U. S. Geological Survey (USGS), and the State of Montana, Department of State Lands (DSL). Following is a summary of impacts quoted from the June 1977 Final Environmental Impact Statement (FEIS) for the Proposed Plan of Mining and Reclamation of East Decker and North Extension Mines, Decker Coal Company, Big Horn County, Montana. These impacts would occur from mining in the North Extension area including the application area and the East Decker Mine.

"Summary of adverse, unavoidable environmental impacts"

A. Shallow aquifers would be permanently removed within the mined interval, and local water quality would be lowered by leaching of spoils and erosion. Effects of lowered water quality on the Tongue River Reservoir and any reduction of annual runoff to the Tongue River Reservoir should be insignificant.

B. Postmining surface would be slightly lower; soils would be removed, mixed, altered and replaced on 4,000 to 5,000 acres. Disturbed areas would experience unavoidable loss of productivity during the period of disturbance and some lesser loss of productivity until complete rehabilitation is accomplished.

C. Mining, coal-processing and coal-transport operations would cause short-term localized reduction in air quality. Scenic views and open-space qualities would be locally degraded until reclamation is completed.

D. Long-term rearrangement in size, area, and location of vegetative community types would occur. Approximately 6,300 acres of grazing land would be lost to use, at least until the proposed projects are completed.

E. Wildlife habitat losses would occur until mining activities cease and disturbed areas are successfully revegetated. These losses possibly might be long-term. Antelope and sage grouse would be severely affected at least for the short-term. Human activity associated with the mining operations would also impose some short-term impacts on wildlife.

F. State and local Montana governments are calculated to have sizeable revenue surpluses from the proposed mines whereas Wyoming governments would experience deficits. Quick reso-

lution of this problem is unlikely because of the unprecedented coordination and cooperation necessary to transfer funds from one of these States to the other.

G. Mining-related population growth in the Sheridan area would cause at least short-term impacts on housing availability and cost. Lag would occur in the ability of Sheridan to provide adequate community services to an increased population.

CHAPTER 1
PROPOSED ACTION

Chapter 1

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is the leasing of, for the purpose of surface mining, 530 acres of federal coal under the emergency leasing criteria.

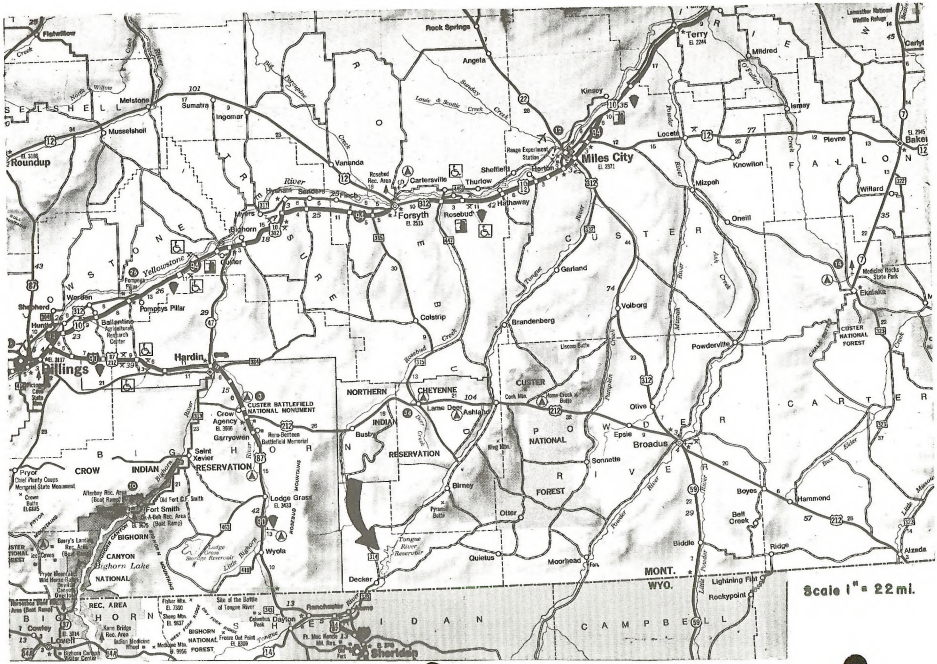
The proposed action is not a mining plan and does not include existing operations in the area.

The lease must be bid upon competitively and it is possible that someone other than the applicant may obtain the lease. The use of the applicant's plans as part of the proposed action is to determine the likely consequences of leasing and does not indicate a preference on the part of the BLM. Should a bidder other than the applicants be awarded the lease, their plans will be assessed before considerations is given to approving the mining plan.

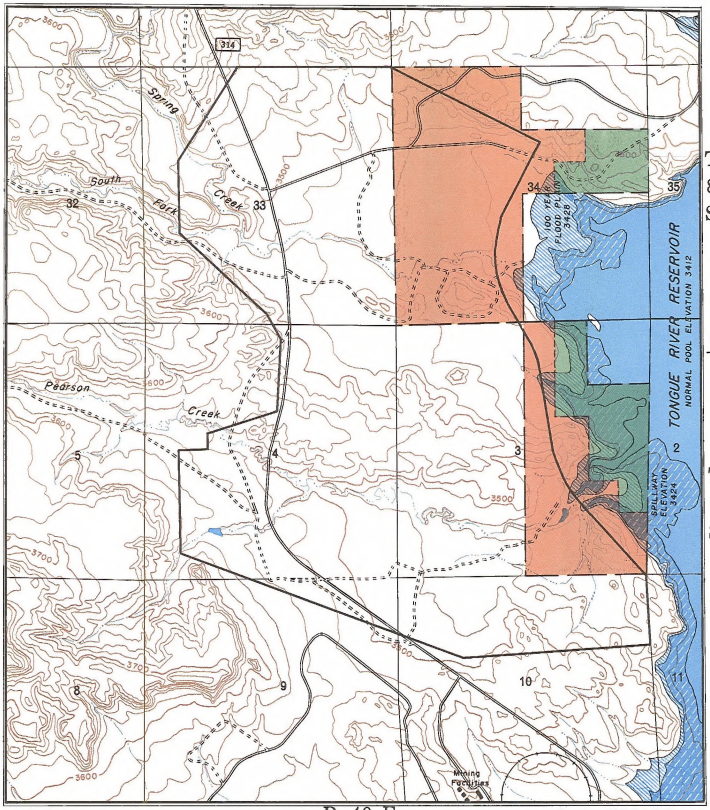
Should a lease be issued, a mining plan would be developed in accordance with the applicable Office of Surface Mining regulations and any mitigation measures developed in this TEEA. The mining plan would be developed through coordination and consultation between the Bureau of Land Management, Office of Surface Mining, and the appropriate state agencies.

Decker Coal Co. has applied for 680 acres of federal coal located four miles northeast of Decker, Montana, in Township 8 South, Range 40 East, Section 34, W½ and S½NE¼, and Township 9 South, Range 40 East, Section

MAP 1-1
LOCATION MAP



MAP 1-2
TONGUE RIVER RESERVOIR
FLOOD PLAIN



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LEGEND

- Mine Boundary
- Lease Application M35736
- Area considered for leasing
- Area deleted from consideration for leasing

3, Lot 2, S½NE¼, and SE¼, Principal Montana Meridian (Map 1-1). The BLM's Management Framework Plan (MFP) for the Decker-Birney Planning Unit recommends leasing strippable coal reserves in the application area to the extent that the leases do not include any areas within the floodplain of the Tongue River or Tongue River Reservoir. Since approximately 150 acres of the application area are within the floodplain of the Tongue River Reservoir (Map 1-2), this area will not receive further consideration for leasing. The proposed action then involves only those lands applied for which do not fall within the floodplain including:

Section 34, T.8S., R.40E., P.M.M.

N½SW¼NE¼	
SW¼SW¼NE¼	
NW¼	
SW¼	350 acres

Section 3, T.9S., R.40E., P.M.M.

W½ Lot 2	
NW¼SW¼NE¼	
S½SW¼NE¼	
SW¼NE¼SE¼	
NW¼SE¼	
S½SE¼	180.08 acres

This alternative was discussed in the draft TEEA in Chapter 8 under the section entitled Lease West of Transportation Corridor.

The area of the proposed action (hereafter referred to as the application area) lies between Decker Coal Company's existing leases (M-057934, M-057934-A, and M-061685) and the Tongue River Reservoir (Map 1-3).

Decker Coal Co. proposes to mine approximately 380 acres of the 530 acres[1/] in the application area as part of the North Extension of their existing West Decker operation.

The surface ownership of the application area is as follows:

	Section 34	Section 3	Total Application Area
BLM	40	40	80
State of Montana	0	25	25
Decker Coal Company	310	115	425
TOTAL	350	180	530

All coal in the application area is federally owned (Map 1-3)

The coal in the application area would be used to meet existing contracts between Decker Coal Co. and the Lower Colorado River Authority, City of Austin, Commonwealth Edison Company, and Detroit Edison. The additional coal would not increase the tons per year mined. However, the 14.7 million tons in the area would add approximately seven years of production to the North Extension (written communication, Tom Gwynn, Decker Coal Co., 1979).

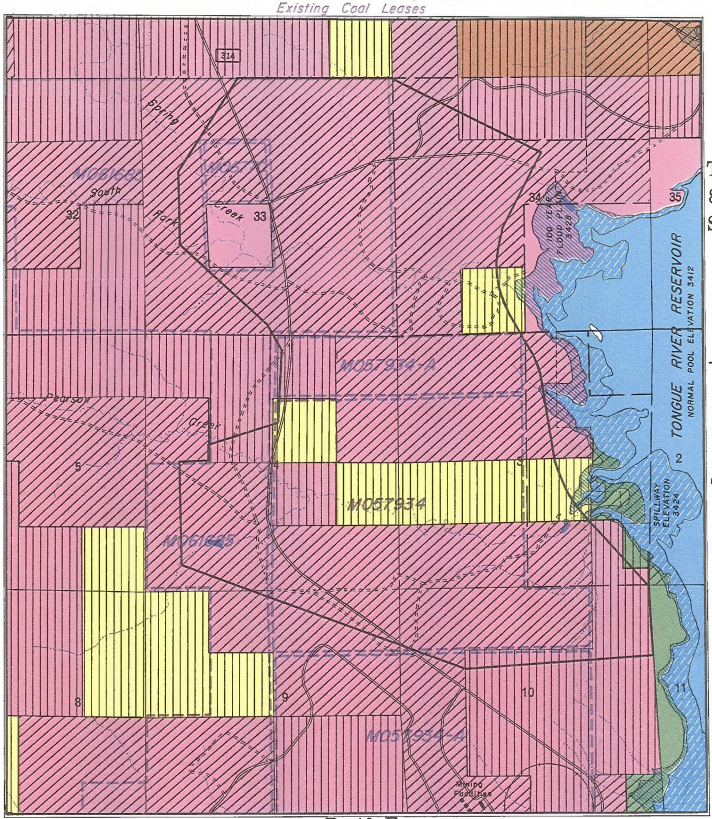
The Bureau of Land Management (BLM) and the U.S. Geological Survey (USGS) have determined that the application area is not a logical mining unit by itself, and further, if the area is bypassed at this time, it will not be mined in the foreseeable future.

1/ The 135 acres which are included in the lease but which will not be mined are included because it is necessary for the BLM to lease by legal subdivision, the 10-acre tract being the smallest aliquot part.

MAP 1-3
OWNERSHIP MAP

All surface ownership as of 6/15/77, mineral 6/15/79

Existing Coal Leases



LEGEND

- Mine Boundary
- Lease Application M35736
- All Minerals (U.S.)
- Coal (U.S.)
- Public Domain
- Decker Mining Company
- Pacific Power & Light
- State Water Board

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Small amounts of coal have been removed from the North Extension area in the past. Specifically, a small surface operation known as the Tongue River Mine operated intermittently between 1954 and 1970. The mine was operated on two 40-acre tracts and produced a total of 35,000 tons, most of which was consumed locally for domestice use.

In response to a request by the U.S. Geological Survey and the Montana Department of State Lands (DSL), Decker Coal Co. applied for modification to two of its federal coal leases in 1975. This modification would have incorporated the application area into its existing leases. Decker was forced to withdraw its application in 1976 with the passage of the Federal Coal Lease Amendment Act, P.L. 94-377, which limited the area that could be incorporated into an existing lease to a maximum of 160 acres. In October, 1976, Decker Coal Co. requested that the application area be considered again for leasing under the short-term criteria.

Bypassing of federal coal in section 3 would likely occur in June, 1980, and in section 34 by August of 1980, if a mining permit for the existing leases is obtained from the Office of Surface Mining and Department of State Lands (Decker Mine Plan, 1979). Decker Coal Co. submitted a revised mine plan to the Department of State Lands for the North Extension Mine in February of 1979. Because Department of State Land policy does not allow a mining plan to be submitted for unleased coal, the application area was not included. If the application area is leased and Decker Coal Co. is the successful bidder, their mine plan would have

to be amended to include the application area. The company has submitted a mine proposal to the BLM for the application area from which the following proposed action is drawn.

Mining the application area would provide an additional 14,000 tons from the Deitz 1 coal seam and 8,200,000 tons from the Deitz 2 coal seam in section 34 at a 92% recovery rate. Coal recovered in section 3 would include 3,200,000 tons from the Deitz 1 seam and 3,300,000 tons from the Deitz 2 seam. Also the issuance of the lease would provide access to 170,000 tons of Deitz 1 and 1,500,000 tons of Deitz 2 in section 10 (see Table 1-4). This is coal which although already leased, cannot be mined logically due to the tight angles and short distances involved in its recovery. The gain in coal recovered would total 16,400,000 tons. At a mining rate in excess of 2 million tons per year, the mine would disturb approximately 60 acres per year. After removal of the initial boxcut, reclamation would proceed at the same pace as mining.

TABLE 1-4

RECOVERABLE COAL
(tons)

	Application Area		Existing Lease Made Available by Proposed Lease	
	Section 3	Section 34	Section 10	TOTAL
Deitz 1	3,200,000	14,000	170,000	3,400,000
Deitz 2	3,300,000	8,200,000	1,500,000	13,000,000
	Total Application Area:		14,700,000	
	Existing Lease Made Available:		1,700,000	
	Total Recoverable Coal:		16,400,000	

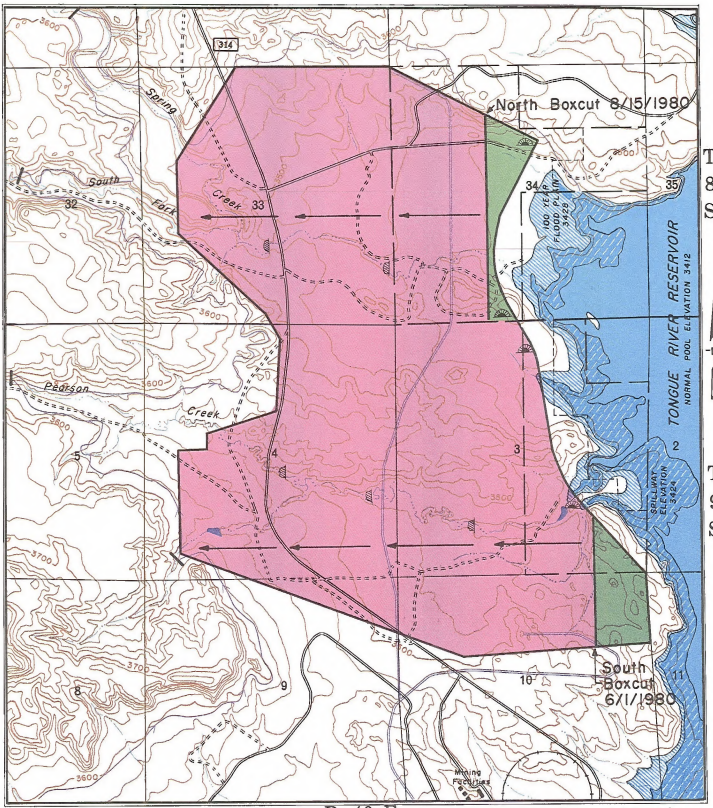
The proposed mining operation would utilize two pits with a north-south pit alignment progessing in a westerly direction to remove the Deitz 1 (where existent) and the Deitz 2 coal seams.

The mine proposal calls for the temporary diversion of Pearson and Spring Creeks (Map 1-4) to a course north of the proposed mining operations. Mine effluents would be pumped into a series of settling ponds and then into this diversion channel. The easternmost extension of mining activities would be bounded by a transportation corridor which would incorporate both U.S. Highway 314 and a rail spur to the proposed Spring Creek Mine. No mining-related activities would be allowed east of the transportation corridor. Decker Coal Co. has entered into an agreement whereby the Montana Department of State Lands will manage the surface which lies east of the transportation corridor for wildlife and recreation purposes.

The first step in the mine proposal plan calls for the removal, separation, and storage of both topsoil and subsoil in two separate operations. This would be done by staking the depth of the topsoil in accordance with existing soil surveys prior to its removal. The topsoil and subsoil are then stockpiled separately. With proper shaping, positioning, and seeding, wind and water erosion would be kept to a minimum.

The majority of the stripping operation would be accomplished by a 70-cubic yard dragline. The final few feet would be removed by scraper. The exposed coal would be progressively drilled and blasted using ammonium

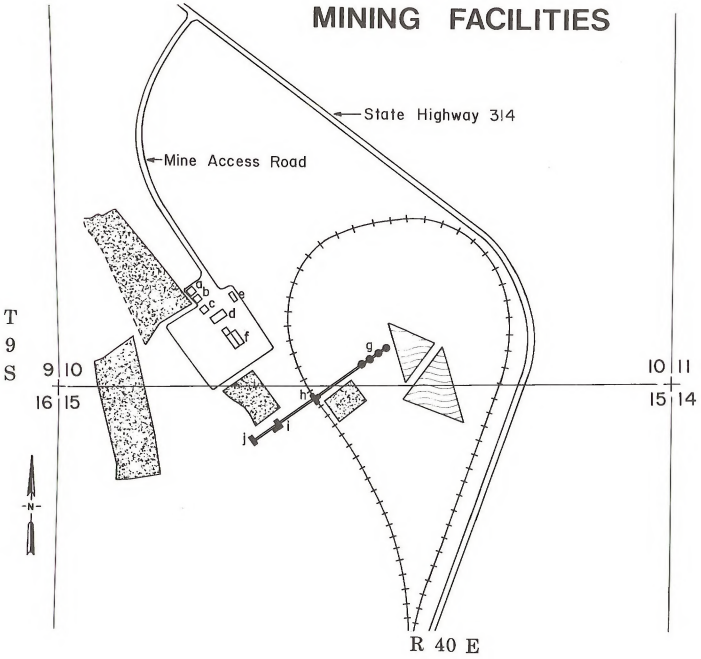
MAP 1-4
MINING SEQUENCE WITH LEASE



LEGEND

- Mine Boundary
- Lease Application M35736
- Overburden removal by dragline
- Haul road
- Overburden removal by front end loader & truck
- Typical settling/retention pond
- Pumping pits
- Stream diverson

MAP 1-5
MINING FACILITIES



LEGEND

- a – Carpenter Shop
- b – Tire Storage
- c – Change House
- d – Warehouse
- e – Office Area
- f – Shop
- g – Silos
- h – Loadout & Sampling Bldg.
- i – Secondary Crusher
- j – Primary Crusher

Ponds

Storage Areas

nitrate fuel-oil (ANFO). A 16-cubic yard, coal-loading shovel would excavate the broken coal and load it into 150-ton diesel coal haulers and trucked to the existing coal storage and loading facilities about ½ mile south at the West Decker pit (see Maps 1-4 and 1-5).

All mining and reclamation activities would be performed in accordance with current federal and state standards.

The post-mining land use would be for livestock grazing and wildlife habitat which is consistent with the present land use of the area.

Reclamation would include four distinct operations: regrading, topsoiling, reseeding, and rechanneling the displaced streams.

The overburden piles would be regraded to a level or gently rolling form. Regrading usually occurs one year behind the mining operation.

Following regrading, subsoil is spread on the regraded overburden. Topsoil is then replaced on the subsoil. The topsoiling operation would be performed by tractor-scrapers during dry seasons of the year to prevent loss of material.

The seeding operation would involve site preparation (such as contour plowing), and reseeding to native vegetation. This may include the use of a bulldozer, but normally would be done by farm implements.

PROPOSED SEED MIXTURE

	lbs./ac. Pure Live Seed
Western wheatgrass	6.0
Thickspike wheatgrass	3.0
Slender wheatgrass	3.0
Whitmar wheatgrass	3.0
Green needlegrass	4.0
Four-wing saltbush	0.5
Pubescent wheatgrass	1.0
Smooth bromegrass	1.0
Sainfoin	3.0
Sideoats grama	2.0
Indian ricegrass	2.0

The stream channels would be re-established at approximately the original gradient.

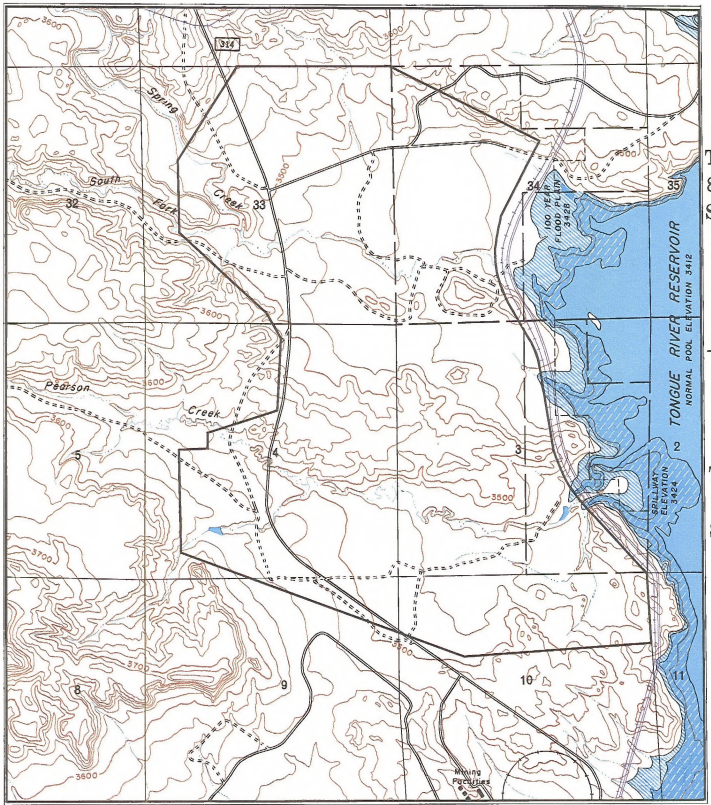
Other related activities include mining at the present West Decker Mine and the East Decker Mine. Spring Creek Coal Co. has filed application to open a mine in Spring Creek west of the North Extension Mine. This proposal includes the development of a rail line through the application area adjacent to the Tongue River Reservoir.

The North Extension Mine requires relocation of State secondary Highway 314. Decker Coal Co. and Spring Creek Coal Co. are proposing a transportation corridor between the west shore of Tongue River Reservoir and the North Extension Mine. The corridor concept was proposed to minimize the environmental impacts. The proposed corridor would contain the rail line, relocation of State Highway 314, and the powerline to the proposed Spring Creek Mine. Throughout the fall and winter of 1977, several meetings and field examinations were conducted by representa-

tives of Decker Coal Co., Spring Creek Coal Co., and various state and federal agencies. As a result of these meetings, three alternative alignments have been prepared. Map 1-6 shows the alignment decided upon.

The Montana Department of Natural Resources and Conservation (DNRC) presently holds a reservoir right-of-way on a portion of the SE¼SW¼, Section 34, T. 8 S., R. 40 E., and NW¼SE¼, Section 3, T. 9 S., R. 40 E. DNRC is presently evaluating plans to repair and/or raise the Tongue River Reservoir Dam. A discussion of this evaluation has been included in the Hydrology section of Chapter 2.

MAP 1-6
PROPOSED TRANSPORTATION CORRIDOR



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LEGEND

- Mine Boundary
- Lease Application M35736
- Proposed route of Highway 314
- Proposed railroad spur to Spring Creek Mine

CHAPTER 2
DESCRIPTION OF THE ENVIRONMENT

Chapter 2

DESCRIPTION OF THE EXISTING ENVIRONMENT

Air Quality

The existing, ambient air quality in the Decker area is described largely by the results of monitoring conducted by the Montana Department of Health and Environmental Sciences, Air Quality Bureau. The results of that monitoring were summarized by David Maughan of the Air Quality Bureau and included in the Final Environmental Impact Statement. These results show that continued coal mining would have little additional impact on the area.

The Environmental Protection Agency has designated the Decker area as Class II air quality. This means the maximum allowable average geometric mean for total suspended particulates (TSP) is about 30 ug/m^3 based on the average 1976 geometric mean for TSP which was approximately 20 ug/m^3 in the Decker area. This average is within the National Ambient Air Quality Standards (primary and secondary). The air quality in this area is considered in good condition.

Geology

The geology of the application area consists of interbedded, fine-grained sandstone, siltstone, brownish-carbonaceous shale, clinker, and coal. These units are all Eocene in age and belong to the

Tongue River Member of the Fort Union Formation. Generally, these beds are uncomplicated by post-depositional structural events, and exhibit a slight, regional southeast dip of less than one degree. The clastic beds in the Tongue River Member were deposited on floodplains of large rivers, in river and stream channels, or on belts extending into swamps. They tend to be lenticular in shape and limited in areal extent. As a result, the lithology or character often changes rapidly over short distances, making it difficult to characterize the exact lithology of the overburden or the interburden for any great distance.

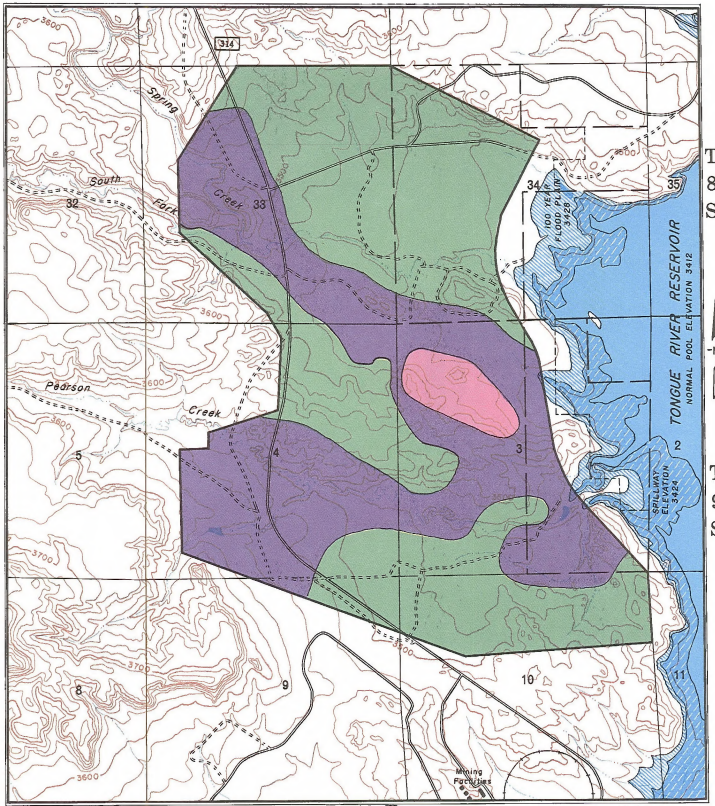
The paleontologic community in the Tongue River Member is limited to several species of mollusks and an abundance of leaf and stump remains. These fossils occur throughout much of southeastern Montana, northeastern Wyoming, and western North and South Dakota. It is the accumulation of plant remains which has led to the existence of at least seven persistent coal beds ranging from 5 to 35 feet thick, and perhaps an equal number of thin, less persistent beds (Figure 2-3). In stratigraphically descending order from top to bottom, they are:

Roland
Smith
Dietz 1 (D_1)
Dietz 2 (D_2)
Dietz 3 (D_3)
(Canyon)
Wall (Carney)

Only the Dietz units are of concern in the application area. The Roland and Smith units have eroded in the tracts, while the Carney (120 feet below the Dietz 3) is too deeply buried to be recovered by conventional strip mining methods.

The D_1 and D_2 coal seams are the target seams on the North Extension Mine (Map 2-2). Coal values in the application area have been calculated from D_1 and D_2 parameters. The D_1 has been burned or eroded in portions of the application area, while the D_2 extends throughout the area. The physical and monetary characteristics of D_1 and D_2 coals are shown in Table 2-1.

MAP 2-2
RECOVERABLE COAL

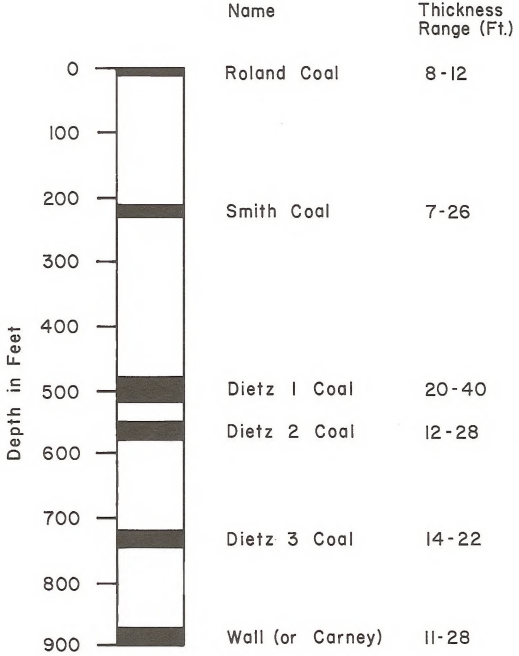


LEGEND

- Mine Boundary
- Lease Application M35736
- Burn Area
- Recoverable Coal D_1 & D_2
- Recoverable Coal D_2 only

Scale 1:24000

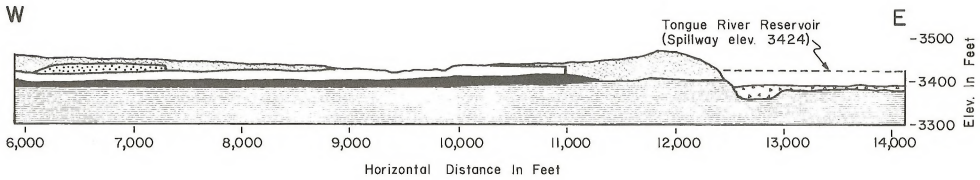
FIGURE 2-3
STRATIGRAPHIC COLUMN



Generalized Stratigraphic Column of all major coal beds in the Decker Mine Area.

FIGURE 2-4
CROSS SECTION

Generalized West-East Cross Section Through Application Area



LEGEND

- Alluvium
- Clinker
- Coal, D-1 beds
- Coal, D-2 beds
- Clay & silt above D-2 beds
- Clay, silt, & sand below D-2 beds

TABLE 2-1

Physical and Monetary Characteristics of Dietz Coal Seams (1)

Parameter	D_1	D_2	D_3
Tonnage Sec. 34	15,000	9,000,000	?
Tonnage Sec. 3	3,500,000	3,600,000	?
BTU's	9,738	9,380	9,750
Sulphur	.42%	.42%	?
Ash	4.13%	5.14%	?
Average Depth	40'	75'	200'
Range of Depth	20'-80'	30'-120'	150'-350'
Average Thickness	21'	18'	19'
Range Thickness	6'-36'	14'-22'	15'-22'
Stripping Ratio	2/1	5/1	10/1
Tonnage Recoverable (2)	3,200,000	11,500,000	?
Mine Mouth Value (3)	$22,400,000	$80,500,000	?
Federal Royalty (4)	$ 2,800,000	$10,100,000	?
State Revenue (5)	$ 8,100,000	$29,200,000	?

Combined D_1 & D_2	Stripping Ratio	3.25/1
	Total Tonnage (1)	14,700,000
	Mine Mouth Value (2)	$102,900,000
	Federal Royalty (3)	$ 12,900,000
	State Revenue (4)	$ 37,300,000

(1) Based on 380 acres considered minable in the application area.
(2) 92% Recovery Rate
(3) $7/Ton
(4) 12.5% Federal Royalty (minimum)
(5) 30% State Severance Tax + ½ Federal Royalty (minimum)

Both D_1 and D_2 seams are high quality coal having low sulphur content and high BTU values for the Great Plains. The stripping ratios are well within the limits preferred for the economic mining of western coal.

The Geological Survey has determined that the D_3 seam could not be mined economically at this time (see letter from USGS in Chapter 9).

There are no known reserves of oil or gas in the Decker area. Nearest production is from the Ash Creek Field about eight miles southwest of the North Extension on the Montana-Wyoming border. Two oil and gas test holes have been drilled in the Decker area to depths ranging from 3,840 feet to 4,850 feet, and all holes were dry. Undiscovered reserves of oil and gas may underlie the Decker area at greater depths or in untested parts of the area, but the lack of successful exploration for these reserves makes this an unattractive area for that type of exploration.

Clinker underlies large areas in Sections 3 and 34 to depths of 150 feet in places. Because of the durability and ease of extraction of clinker, it is used extensively for road surfacing and railroad ballast. The amount of clinker in the application area is unknown, but probably exceeds 40 million cubic yards. Several small pits have been excavated locally for use on roads in the Decker area.

There are no other known mineral deposits in sections 3 or 34 which are economically feasible for mining at this time.

The Montana Department of State Lands (DSL) has developed criteria to evaluate overburden material for suitability of reclamation (Table 2-5). These criteria are based on reviews of national literature and should be used with caution on a local basis. Trace element geochemistry is somewhat arbitrary since toxicity may depend on other variables such as pH, etc. Chemical and mechanical

analysis performed on a single sample in the application area indicate suspect concentrations of molybdenum and nickel as well as the sodium adsorption ratio nearly double the suspect level (Table 2-6).

TABLE 2-5

Montana Department of State Lands Guideline
for
Suspect Levels in Overburden Material

Analysis	Suspect Level
Conductance	4-6 mmhos/cm
Sodium adsorption ratio (SAR)	12
Mechanical Analysis	Clay 40% Sand 70%
pH	8.8-9.0
NO_3-N	10-20 ppm
NH_4-N	10-20 ppm
Cd_4	0.1-1.0 ppm
Cu	40 ppm
Pb	pH < 6, 10-15 ppm pH > 6, 15-20 ppm
Mn	60 ppm
Hg	0.4-0.5 ppm
Se	2.0 ppm
Mo	0.3 ppm
B	8.0 ppm
Zn	30-40 ppm
Ni	1.0 ppm

From: Dollhopf, et. al, 1978. Selective Placement of Coal Strip Mine Overburden in Montana, I. Data Base, Montana Agricultural Experiment Station Research Report 128, Montana State University, Bozeman, MT.

TABLE 2-6

Summary of Overburden Chemistry and Mechanical Analysis Data from a Single Core Sample in the Application Area

Analysis	Mean	Range Min-Max
Conductance (mmhos/cm)	2.25	0.51-4.80
Sodium Adsorption Ratio	23.11	1.7-40.7
Clay (%)	32.42	10.8-52.4
Sand (%)	29.71	6.0-70.0
pH	8.35	7.1-8.9
Cd (ppm)	.13	.08-.17
Pb (ppm)	4.20	.80-7.30
Hg (ppm)	.11	.048-.218
Se (ppm)	.091	0.01-0.26
Mo (ppm)	2.654	0.18-5.70
B (ppm)	.226	0.01-1.38
Ni (ppm)	5.41	0.68-12.74

Data Obtained From: Decker Coal Company North Extension Mine Plan VII. Analysis prepared by: Front Range Environmental Lab, Fort Collins, Colorado.

Topography

The existing topography is relatively flat to gently rolling. The area is dissected by two ephemeral streams, Spring Creek and Pearson Creek. The Spring Creek stream bottom has been leveled, diked, and developed into an irrigated hay meadow. The elevation of the application area ranges from 3,424 feet Mean Sea Level (MSL) to 3,580 feet (MSL). The area slopes to the east and drains into the Tongue River Reservoir. A generalized physiographic profile of the project area is shown on Map 1-2 and Figure 2-4.

Soils

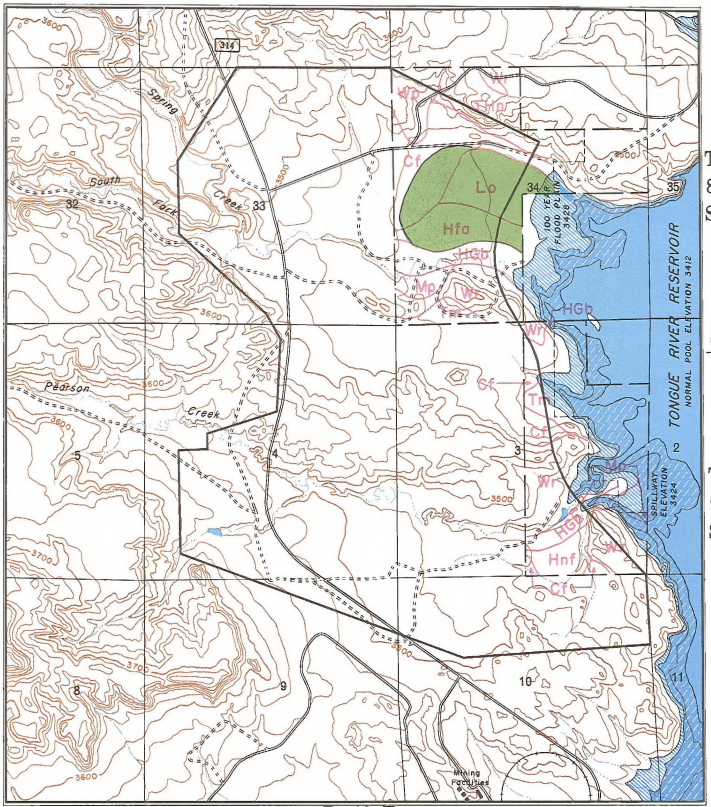
The soils of sections 3 and 34 are grouped into two major classes: alluvial and residual.

The alluvial parent material comprises the majority of the area and is represented by well developed Mollisols and Aridisols and less developed fans and terraces in the uplands. These soils are the best suited for sources of soil reconstruction material in the area (Map 2-8, Tables 2-9, 2-10, and 2-11).

The residual parent materials provide poorly developed soils, mainly Entisols on ridges, knolls and hillsides. Most of these soils are poorly suited for soil reconstruction material.

Prime farmland soils on the application area include the Chugter Loam, the Haverson Loam, the Lohmiller Silty Clay Loam, and the Thurlow Silty Clay Loam if they are irrigated. Approximately 160 acres of these soil types have been previously irrigated on the application area.

MAP 2-8
SOILS MAP



LEGEND

- Mine Boundary
- Lease Application M35736
- Soil Survey Line
- Prime Farmlands

Scale 1:24000

TABLE 2-9

Soil Mapping Units

Mapping Symbol	Name	Slopes
Cf	Chugter Loam	2 to 8%
Hfa	Haverson Loam	0 to 2%
HGb	Haverson and Lohmiller Soils, Channeled	0 to 4%
Hnf	Hydro Silty Clay Loam	2 to 4%
Lo	Lohmiller Silty Clay Loam	0 to 2%
Mp	McRae Loam	0 to 1%
THn	Thedulund-Wibaux Stony Loams, Hilly	15 to 45%
Tm	Thurlow Silty Clay Loam	1 to 4%
Wp	Wibaux Loam, Hilly	15 to 35%
Wr	Wibaux-Spearman Complex, Rolling	8 to 15%

TABLE 2-10

Soil Recontruction Material Rating
By Series

Chugter	0-16" Good; 16-40" Fair, excess lime
Haverson	0-60" Fair, excess lime
Hydro	0-5" Good; 5-60" Poor, excess salt
Lohmiller	0-6" Fair, too clayey; 6-60" Poor, too clayey, excess lime
McRae	0-5" Good; 5-60" Fair, excess lime
Spearman	0-23" Fair, too clayey, large stones: 23"+ Unsuitable
Thedulund	0-8" Fair, excess lime; 8-28" Poor, excess lime; 28"+ Unsuitable
Thurlow	0-13" Fair, too clayey; 13-60" Poor, excess lime, too clayey
Wibaux	0-9" Fair, large stones; 9-60" Unsuitable

TABLE 2-11

Section 34

Soil Mapping Unit	Approximate Surface Acres	%	Topsoil Suitability Good Ac. Ft.	Fair Ac. Ft.	Poor Ac. Ft.
Cf	70	22.	88	140	--
Hfa	36	11.	--	180	--
HGb	25	8.	--	67	55
Lo	43	13.	--	22	194
Mp	11	3.	5	50	--
THn	45	14.	--	26	39
Tm	10	3.	--	11	117
Wp	31	10.	--	23	--
Wr	48	16.	6.	58	--
	319	100 %	99 .3' of topsoil	577 1.8' of subsoil	405 1.3' of subsoil

Section 3

Soil Mapping Unit	Approximate Surface Acres	%	Topsoil Suitability Good Ac. Ft.	Fair Ac. Ft.	Poor Ac. Ft.
Cf	16	13.	20	32	--
HGb	13	10.	--	36	29
Hnf	20	16.	8	--	92
Tm	16	12.	--	17	63
Wr	63	49.	8	81	--
	128	100 %	36 .3' of topsoil	166 1.3' of subsoil or topsoil	184 1.4' of parent material

Hydrology

Surface Water

The application area lies in the Tongue River watershed which is a tributary to the Yellowstone River at Miles City. Surface waters in the application area and adjacent areas include the Tongue River Reservoir and the lower reaches of two ephemeral streams. These streams are Spring Creek and Pearson Creek which drain into the reservoir. The reservoir was constructed in 1940 and has a current capacity of approximately 60,000 acre-feet and floods an area of 3,500 acres when full. Spillway elevation is 3,424 feet mean sea level (MSL) and low water elevation varies from approximately 3,397 feet to 3,409 feet (MSL). The inflow to the reservoir is largely due to surface runoff, mainly from snowmelt, from the Big Horn Mountains. The reservoir is used primarily for water storage for irrigation along the Tongue River Valley. The ephemeral streams flow only in response to high intensity precipitation events and snowmelt. Spring Creek has a drainage area of 37 square miles and Pearson Creek drains an 8½ square mile area. The annual runoff from Spring Creek is estimated to be 1,526 acre-feet, and 90 acre-feet from Pearson Creek. Measurements of specific conductance in Spring Creek indicate that the dissolved solids content ranges from 1,200 milligrams per liter (mg/l) during periods of storm runoff to 2,500 mg/l during periods of low flow when groundwater discharge

contributed to the flow (Final EIS, East Decker North Extension Mines). The water is suitable for stock watering and irrigation. A preliminary identification of an alluvial valley floor has been determined for Spring Creek under the Office of Surface Mining (OSM) guidelines published in the Federal Register, August 25, 1978 (see Unsuitability section of Chapter 2).

The application area does not contain any national resource waters nor is it associated in any way with a municipal watershed. Because no mining or mining related activities would occur to the east of the proposed transportation corridor, the Tongue River Reservoir floodplain would not be affected by leasing the application area.

The water in the reservoir and the Tongue River immediately downstream from the dam has been classified by the State of Montana as $B\text{-}D_2$. The water is suitable for drinking, culinary, and food processing after adequate treatment consisting of coagulation, sedimentation, filtration, and disinfection has been made.

The reservoir water is very similar to the Tongue River water which contributes approximately 98% of all inflow to the reservoir. Conductivity, which can be adjusted to approximate total dissolved solids, ranged from 230 to 1,370 umhos/cm, with a mean value of 704 umhos/cm. This means the water has a low to medium salinity hazard for irrigation.

Mercury and aluminum have been detected at relatively high concentrations in the mine waters from the West Decker Mine (Phillips and Garrison, 1977). The mean value for mercury, 2.0 ug/l, exceeded the level recommended for the protection of aquatic life by a factor of 19, while the mean value for aluminum, 0.31 ug/l, was three times the recommended level. However, aluminum levels in the Tongue River water above the influence of the West Decker Mine were actually slightly higher than the levels reported for mine water (0.40 ug/l compared to 0.31 ug/l). Thus, the mine cannot be considered a significant source of aluminum to the reservoir (Phillips, 1978).

The average mercury concentration in the mine discharge was about sevenfold higher than that reported for the Tongue River, 0.3 ug/l, over the same time span. The discharge water undergoes a 2,000-fold dilution in the reservoir. This level of dilution negates any measurable change in the mercury concentration in the reservoir. With the expansion of the mining at Decker, a 16-fold increase in the mine discharge could result. Even this rate of discharge would not significantly influence the mercury concentration of the Tongue River Reservoir (Phillips, 1978).

Sampling by U.S. Geological Survey (USGS), Montana Department of Health and Environmental Sciences, Peter Kiewit Sons Co., Wyoming Department of Environmental Quality, and Argonne National Laboratory

indicates that mercury is a Tongue River watershed problem and not only confined to mining. The West Decker Mine currently contributes less than two percent of the total mercury introduced into the reservoir so it cannot be considered a significant source at this time. Table 2-12 is a STORET retrieval for mercury in the Tongue River watershed.

TABLE 2-12

Tongue River Watershed Analysis for
Total Mercury (ug/l) for Period 1975-1978
BLM STORET Retrieval

Sample Locations	Number of Samples	Mean Hg Total (ug/l)	Maximum Hg Total (ug/l)	Minimum Hg Total (ug/l)
Goose Creek below Sheridan, WY	12	.158	1.000	.000
Tongue River near Dayton, WY	9	.089	.600	.000
Tongue River at Monarch, WY	13	.000	.000	.000
Tongue River at State Line	13	.007	.100	.000
Tongue river at Reservoir Dam	9	.033	.100	.000
Tongue River below Hanging Woman Creek	16	.081	.600	.000
Tongue River below Brandenberg Bridge	14	.114	.500	.000
Tongue River at Miles City, MT	20	.080	.800	.000
Yellowstone River at Miles City, MT	13	.154	1.000	.000

Sporadic high concentrations of nitrates in the West Decker settling pond were observed by Van Voast and Hedges (1975) and Turbak and Olson (1977). The high concentrations are attributed to overburden blasting with ammonium nitrate explosives. Nitrates are a key factor in algal blooms and the release of nitrate-rich water into the reservoir could trigger blooms under certain conditions.

The Montana Department of Natural Resources and Conservation (DNRC) recently funded a feasibility study for repairing and/or modifying the Tongue River dam and reservoir. This study, completed in 1977 by R. C. Harlon and Associates, Consulting Engineers of San Francisco, California, states in part that:

> "The spillway of the existing Tongue River Dam is inadequately sized to pass the probable maximum flood. Also, the spillway is in deteriorated condition and urgently needs replacement to provide for the safety of the reservoir. The potential failure of the Tongue River Dam would be a disaster to southeastern Montana. Not only heavy property loss would ensue but lives could be lost. The present dependable water supply would be gone for many years while the dam is reconstructed and the reservoir refilled. Loss of water supply would create great consequential financial loss to agriculture in the area."

Nine alternatives for modifying the existing dam plus a new proposed High Tongue Dam were analyzed. These ten alternatives are

based on spillway elevations of 3,424 feet (MSL), the existing spillway elevation, 3,438 feet (MSL) and 3,465 feet. The latest cost estimates for modifying the dam range from 60-120 million dollars. DNRC is currently attempting to sell the water that would be available from a larger reservoir. In March of 1972, DNRC attempted to sell all of the water in the existing reservoir. After allowing agriculture three years to purchase new contracts, a contract for 4,175 acre-feet was established with the Montana Power Company for industrial use (DNRC, 1977). DNRC has indicated that it would be at least seven years before construction could begin on modifying the dam.

Groundwater

Groundwater in the area is obtained from four shallow aquifers consisting of the $Dietz_1$ and $Dietz_2$ coal seams, alluvium, and clinker. The coal aquifers are the most predictable sources of water and yield adequate amounts for domestic and livestock use. The clinker and alluvium aquifers are more permeable and permit higher individual well yields, but are utilized less due to their limited areal extent. Water quality is highly variable depending on the aquifer from which it is obtained. The coal yields soft, iron-free water that is less mineralized than the other aquifers and is suitable for domestic use. Alluvial water is typically very hard and contains significant concentrations of calcium and magne-

sium making it suitable only for irrigation. Water from the clinker is highly variable in quality depending on its sources of recharge.

The groundwater system is recharged in the uplands to the west of the application area and flows to the east and south, discharging to the reservoir. During periods of high water levels in the reservoir, the flow is reversed with water from the reservoir flowing into the shallow groundwater system.

Vegetation

The plant communities present in the application area are representative of the Montana Mixed Prairie Association. Four natural vegetation types or communities are found within the North Extension application area (Map 2-13).

The sagebrush steppe community occupies approximately 126 acres within the application area and is primarily found on gently rolling benches of low topographic relief. Big sagebrush, western wheatgrass, and needle-and-thread grass codominate the overstory vegetation. Common understory species are comprised of blue grama, alkali tumblegrass, Japanese brome, rubber rabbitbrush, and silver saltbush.

The grassland-sagebrush community covers a relatively small area (40 acres) within the application area. Canopy coverage (overstory) consists of sagebrush, bluebunch wheatgrass, and needle-and-thread grass. Threadleaf sedge is the major understory species.

The mid-short-grass prairie is the largest community (145 acres) and is primarily limited to steep sidehills with well-drained, coarse-textured soils. Plant species commonly occuring in this area include: little bluestem, blue grama, sideoats grama, prairie sandreed, threadleaf sedge, Gardner saltbush, and fringed sagewort.

The last vegetation zone found within the application area is the floodplain community. This community of silted mudflats lies on the annually flooded shores of the reservoir. Broadleafed plants dominated by curly dock, broadleafed plantain, and cockleburr all provide some livestock feed late in the year.

Sites with sparse vegetative cover and impeded soil drainages exist within the application area; thus, erosional problems do occur. Saline-alkali soils in the area can limit forage productivity and restrict vegetation to saline-tolerant species. These factors and others related to post-grazing use attribute to overall livestock carrying capacities of about 10 acres per Animal Unit Month (AUM), depending on the site.

Approximately 209 acres of agricultural land are located within the application area. In the past, irrigated alfalfa fields on the broad lower benches of Spring Creek and Pearson Creek were quite productive. Production figures of two to three tons per acre were common. Water was pumped from the Tongue River Reservoir to irrigate the 209 acres. When Decker Coal Co. bought the surface, the pipeline was removed and the irrigation system is presently inoperable.

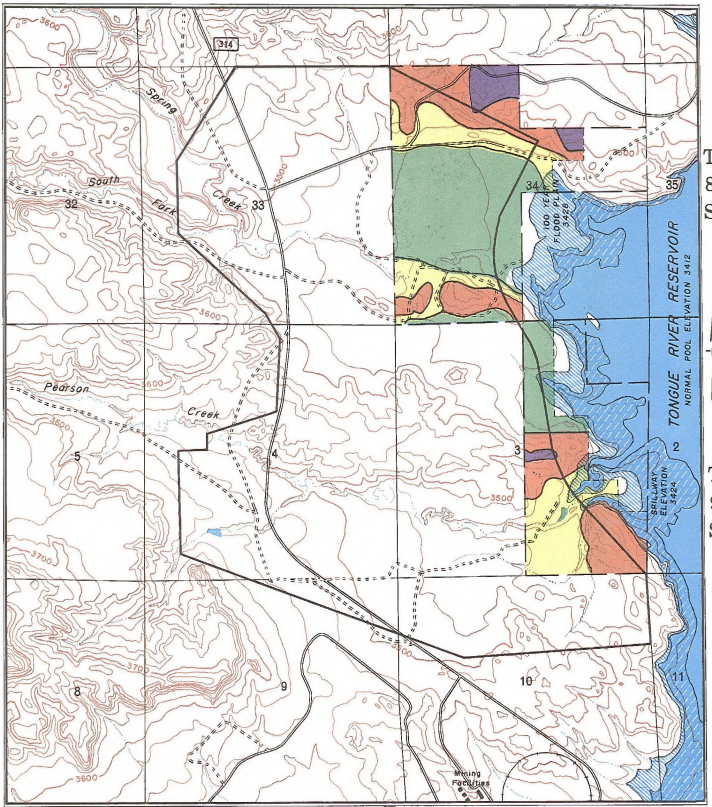
There are no known rare or endangered plant species or communities in or near the application area.

Animals

Domestic

Livestock grazing has been a common practice on the private surface within the application area. About 235 acres of private native range are available for livestock use. An estimated average carrying capacity of 10 acres per Animal Unit Month (AUM) or 23 AUM's total are available on this private range for grazing purposes. The 80 acres of BLM surface has not been leased for grazing since it was withdrawn for public water reserve as part of the Tongue River Reservoir. However, it has a grazing capacity rating of 9 AUM's. Decker Coal Co. controls the private grazing on the private surface within the application area. Presently, Decker Coal Co. has cancelled the grazing leases for private surface within the application area.

MAP 2-13
VEGETATION MAP



Scale 1:24000

LEGEND

- Mine Boundary
- Lease Application M35736
- Mid-short Grass Prairie
- Agricultural
- Grassland Sagebrush
- Sagebrush Steppe

Wildlife

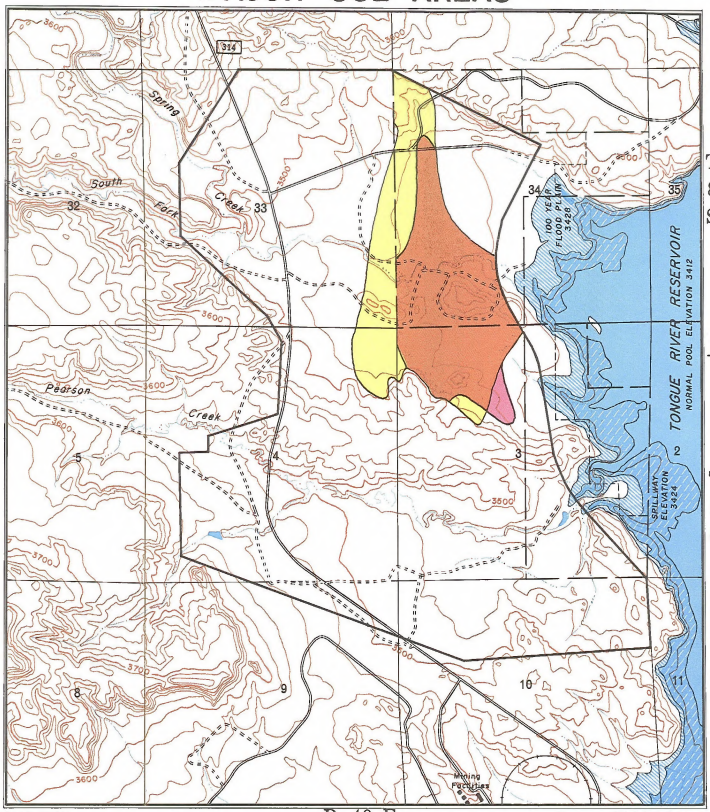
A major mule deer use area is along the Tongue River Reservoir and largely included in the application area (Map 2-14). Approximately 15 to 20 mule deer utilize the four square mile area in and around the application area from summer through fall (Biggins, personal communication, 1979).

Antelope make year-long use of the native and agricultural vegetation in the Decker area. A major antelope use area lies largely within the application area (Map 2-14). The yearly average antelope population for the area is two per square mile (Amstrup, personal communication, 1979). A wintering concentration of 200 antelope was recorded northwest of the application area on Spring Creek in January, 1977 (VTN, 1977). Approximately 40 antelope wintered on the North Decker area in 1978-79 (Amstrup, personal communication, 1979).

White-tailed deer in the Decker area are generally associated with riparian habitats of the Tongue River and Tongue River Reservoir.

Beaver, muskrats, and mink are three furbearers associated with the Tongue River and Tongue River Reservoir. They are typically water-oriented and depend upon aquatic productivity, which in turn is dependent upon water quantity and quality. Recent sightings of all

MAP 2-14
MULE DEER & PRONGHORN ANTELOPE MAJOR USE AREAS



LEGEND

- Mine Boundary
- Lease Application M35736
- Pronghorn
- Mule Deer
- Cohabitation

Source: VTN Consulting Company Baseline Wildlife Study, Spring Creek Coal Lease Area.

three species and their signs were recorded at the southern end of the reservoir (Gregory, 1977).

There are no known threatened, endangered, or sensitive mammalian species in this area.

The combination of bottomland alfalfa and uncultivated riparian vegetation provide prime pheasant habitat in the application area. Although most of the recent sightings of pheasants have been at the southern end and along the eastern edge of the Tongue River Reservoir, pheasant observations were recorded along the west edge of the reservoir as well.

There are no known sage grouse or sharp-tailed grouse display or nesting areas within the application area. However, these upland game birds utilize alfalfa fields from mid-summer through early fall.

Waterfowl use of the Tongue River and Tongue River Reservoir includes nesting, feeding, and periodic migration stopover. Canada goose occurrence in the North Extension area has generally been for feeding and resting purposes. Goose nesting does occur at the upper end of the reservoir primarily in unused heron and cormorant nests. Nesting may also occur in the application area; however, occurrence has not been documented.

Bald eagles (a recently designated endangered species) migrate through the area and have been sighted only during late winter and early spring. They hunt the Tongue River Reservoir and river bottom areas for fish, small mammals, and carrion.

Cultural Resources

The June 1977 final EIS on the North Decker Extension presents a complex series of cultural resource inventories and mitigations in the application area. It outlines several controversies regarding the adequacy of cultural resource work reported as of early 1977. Much of the controversy over the adequacy of cultural resource investigations centers around studies by the Mineral Research Center of Butte, Montana, and the Anthro Research Inc. of Livingston, Montana. Mineral Research Center investigators reported four prehistoric sites in the application area. Anthro Research recorded three additional prehistoric sites not reported by the Butte firm.

Subsequent to the preparation of the EIS, Mineral Research Center published a final report of investigation (Fredlund, 1977) which addresses their additional work in the area. Besides doing further work on sites they found earlier, Mineral Research Center personnel reinvestigated the three sites originally recorded by Anthro Research. Two of these sites were subsequently classified as isolated artifact locations.

The application area contains a total of five archaeological sites (Map 2-15). The sites include a hide processing station (1511), a hunter lookout (1517), and a drive line (1525), an occupation site of undetermined functions (1980), and an open camp (B11).

Aesthetics

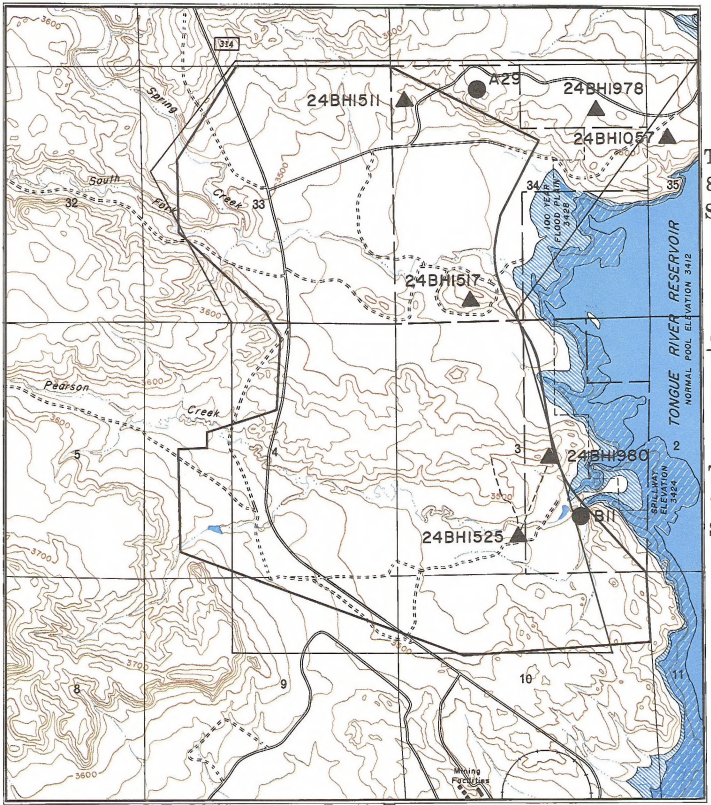
The visual effect of the natural environment of the application area is one of openness and tranquility. The landform is basically a rolling benchland type. This low, rolling landscape and high quality clean air offer uninterrupted vistas for many miles in all directions (USGS and Montana Dept. of State Lands, 1977).

The generally muted gray, green, and brown colors of the vegetation and soils contribute to the tranquil nature of the area.

Tongue River Reservoir provides variety and increases scenic quality while remaining in harmony with the feeling of openness and tranquility.

Man's influence on aesthetics has been minor. The few improvements associated with the livestock industry have not seriously detracted from the openness of the area. The existing West Decker Mine and East Decker Mine have, to a certain extent, disrupted the tranquility of the area.

MAP 2-15
CULTURAL RESOURCES



LEGEND

- Mine Boundary
- Lease Application M35736
- Anthro Research Inc. Site
- MRC Site
- Mineral Research Center Survey Area
- Drive Line

Recreation

No valid figures are available regarding recreation use, but the application area probably receives very little use. The use that does occur is probably limited to hunting activities.

The major recreation use in the area occurs in the form of fishing and boating on the Tongue River Reservoir. Most of this use originates from two undeveloped campgrounds which lie north of the application area. One of the main access roads to the campgrounds passes through the application area.

Socio-Economics

Population in Big Horn County, Montana, is sparse and, before the opening of the West Decker Mine, had not grown for decades. The 1977 census estimated the population to be approximately 10,700 people (U.S. Census, November 1978).

Rosebud County, the adjoining county to Big Horn had a peak population prior to 1970. This was reached in 1920 (8,002) and declined in nearly every census to 1970. At the peak of construction on Colstrip Units 1 and 2 in 1975, Rosebud County's population grew to about 9,600 people (Dodge, personal communication, 1978).

Sheridan County's all-time population high (pre-1970) was 20,185 residents in 1950. The 1976 population was estimated at 20,800 (Sheridan Area Planning Agency, 1976).

Historically, Big Horn and Rosebud Counties, Montana, have been dominated by ranching and farming. Agriculture was the largest single source of earnings to Rosebud County prior to 1975 when it was replaced by mining. Agriculture remains the dominant income producer in Big Horn County.

The Northern Cheyenne reservation is approximately twenty miles north of the application area and is bounded on the east by the Tongue River. Approximately 2,500 Northern Cheyenne live on the reservation. The Tribe has a major investment in the water of the Tongue River and currently pays storage space in the reservoir for sprinkler irrigation and other Tribal purposes.

The Crow people of the Crow Indian reservation make up about 40% of Big Horn County's population. The east boundary of the reservation is approximately nine miles west of the application area. The Crow people, along with the white residents of Big Horn County, look to Hardin (the county seat) as the county trade center. However, they also do much of their shopping and/or seek medical attention out of the county in Billings (Yellowstone County, Montana) or Sheridan (Sheridan County, Wyoming). The survey of the Crow people (Fighter,

1977) showed that for all purchases except food, the combined share of Crow demand, which went to Billings and Sheridan, exceeds 50% of total Crow purchasing. It is assumed that white residents had similar patterns which explains the low percentage of earnings in Big Horn County from the trade and services sectors. About 40% of the residents in Big Horn County seek their consumer goods, loans and insurance, and personal/professional services (including hotels, laundries, barbers, etc.) outside the county.

In Sheridan, earnings are from the key sectors of trade and services which accounted for over 1/3 of the total earnings in 1975.

The recent growth in the area has led to a boom in housing. Rentals are currently limited and homes available for sale are in short supply. Cost of housing and land has increased substantially.

This growth has also affected public services in Sheridan, Big Horn and Rosebud Counties. To provide revenues for the demanded services, School District II voters in Sheridan County agreed to bond themselves to the legal limit (February, 1978) and all Sheridan County voters agreed to raise their sales tax by 25%. Sheridan County is severely strained in its ability to generate revenues to its governments because it is now at or near the constitutionally imposed limits on mill levies, on school indebtedness and on the sales tax.

Because of these funding limitations, police forces and fire departments are understaffed. Jails do not meet constitutional

requirements, and sewage treatment systems do not meet Environmental Protection Agency guidelines. Additional growth will demand replacement or upgrading of many community services.

Land Use

Prior to the purchase of the lands within the application area by Decker Coal Co., the lands were classified as agricultural. The primary land use was for cattle grazing with some production of hay to supplement winter feeding.

In the application area, approximately 12.6 acres of federal surface is included within a right-of-way to the State of Montana for use as a reservoir site. Additionally, 25 acres of state land has been committed to reservoir use and associated buffers.

Spring Creek Coal Co. has made application to build a transportation corridor across the application area (see discussion in Chapter 1 and Map 1-6).

Unsuitability Assessment

The Department of Interior's Unsuitability Criteria were applied to the application area by the Miles City District Planning team. The results of this exercise were included in the draft Decker-Birney

Planning Unit update and made available to the public for comments in March, 1979. The following is a discussion of the criteria applicable to the application area.

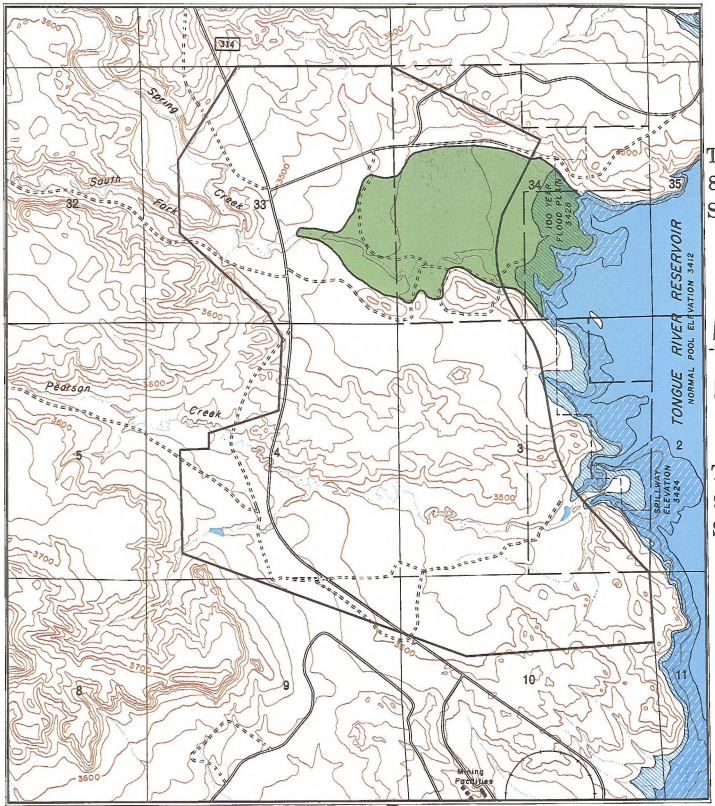
Public Roads

A public road crosses the application area in T.8S., R.40E., Sec. 34. The exception was applied as portions of the road have already been relocated to facilitate coal mining activities, and it is reasonable to believe that additional relocations could be agreed upon.

Alluvial Valley Floors

An alluvial valley floor on Spring Creek was identified by the use of the Department of State Land's study. Approximately 160 acres of alluvial valley floor occur along Spring Creek on the application area. Decker Coal Co. included in their permit application to the DSL a study which determined that alluvial valley floors do not exist on the lease application area. The alluvial valley floor determined by the State is based on the potential of the area adjacent to Spring Creek to be flood irrigated with water from the drainage. At the present time, the area is not irrigated. Leasing the application area would not "interrupt, discontinue, or preclude" farming on lands other than where mining would actually take place. The application area can be leased but the "essential hydrologic

MAP 2-16
ALLUVIAL VALLEY FLOOR



LEGEND

Mine Boundary

Lease Application M35736

Alluvial Valley Floor

Scale 1:24000

Source: Montana Department of State Lands.

functions" of the alluvial valley floor would have to be re-established if the area were mined, as required by federal and state laws and regulations.

Reclaimability

Reclamation research at the Decker Coal Company mining site near Decker, Montana, began during the summer of 1971. Nearly all the studies that presently exist at Decker are conducted by Montana State University researchers through the Montana Agricultural Experiment Station (MAES) in Bozeman, Montana.

Most projects initiated at Decker prior to 1975 have now been completed by MAES researchers. The following discussion will include the highlights of some of those reclamation studies.

Results of various revegetation studies at Decker through 1975 have shown the following wheatgrasses to be especially suited for establishment on mined areas: pubescent, tall, streambank, thickspike and crested. Other perennial grasses which proved moderately successful include: Siberian wheatgrass, Lincoln smooth brome, Indian ricegrass, and Nuttall alkaligrass (DePuit, 1978).

A drill seeding trail in 1973 using gouging as a surface manipulation treatment showed no apparent benefit over the non-gouged control. The gouging treatment was inferior to the control in terms of lower seeded species biomass (double for the control) and

higher weed biomass. Although native species comprised over 25% (by weight) of the perennial species seeded, a 1975 vegetation sampling showed the trial area dominated by weeds and seeded naturalized introduced species.

Also, litter accumulation was substantial which would show that some form of organic matter is being added to the soil (DePuit, 1978).

Results of shrub seeding studies on scoria material found in the coal fields at Decker have shown scoria to be a suitable soil media for initial growth and establishment of vegetation. This is encouraging since scoria is used for mining road construction and surfacing, and where scoria excavations are made, cuts and fills must be stabilized to prevent erosion (Sindelar, 1973).

After sampling and evaluation of revegetation studies up to 1975, MAES researchers have ascertained that future sampling will be required to determine the permanence of the weed cover as well as further development of seeded grasses, legumes, and shrubs on study areas.

To date, all indications show that soils in the Decker area can be reclaimed to support a diverse vegetation cover. Because of the existence of prime farmland soils on the application area and the potential for irrigation from Spring Creek, the alluvial valley floor reclamation should at a minimum equal that of West Decker and is expected to be much more successful.

CHAPTER 3
ENVIRONMENTAL IMPACTS

Chapter 3

ENVIRONMENTAL IMPACTS

Air Quality

The major air-pollutant emissions expected from mining the application area would be the same as those expected from mining the existing leases (Tables 3-1, 3-2, and 3-3). Because of the removal of an additional 16.4 million tons of coal, the impacts would be expected to extend an additional seven years. These impacts are within the current air quality standards.

Table 3-1[1/] -- Estimated uncontrolled particulate emissions for the surface mining of coal at the North Extension Mine (modified after VTN Colorado, 1975b)

Mining Activity	Estimated fugitive dust or particulates (tons/year)
Topsoil removal	3
Overburden removal	200
Coal extraction	57
Wind erosion of spoil piles	43
Overburden recontouring	75
Topsoil replacement	3
Haulage traffic	340
Coal crushing	120
Coal handling and conveying	690
TOTAL	1,531

1/ Final Environmental Statement for East Decker and North Extension Mines, p.423.

Table 3-2[1/] -- Estimated diesel-exhaust emissions from mine vehicles and equipment at the North Extension Mine (modified after VTN Colorado, 1975b)

Pollutant	Diesel truck emissions (tons/year)	Total equipment emissions (tons/year)
Particulates	0.1	0.2
Carbon monoxide	1.4	2.7
Hydrocarbons	.2	.5
Nitrogen oxides	2.3	4.6
Sulfur oxides	.2	.3
TOTALS	4.2	8.3

Table 3-3[1/] -- Estimated train emissions resulting from coal transport at the North Extension Mine (modified after VTN Colorado, 1975b)

Pollutant	Estimated emissions (tons/year)
Particulates	3.2
Carbon monoxide	17.0
Hydrocarbons	12.0
Nitrogen dioxide	48.0
Sulfur dioxide	7.4
TOTAL	87.6

Geology

The impact on the paleontology of the area would be negligible. Currently the entire area is covered by soil, vegetation, and clinker and as such the subjacent strata is not accessible. For a limited period of time, some fossil remains would be exposed offering some opportunity for paleontologic recovery.

1/ Final Environmental Statement for East Decker and North Extension Mines, p.423.

The proposed action would have the following impact on the coal recovery in the North Extension. An additional 3.4 million tons of D_1 coal and 13.0 million tons of D_2 would be recovered which would otherwise be bypassed. A 92% recovery rate would leave 300,000 tons of unmineable D_1 and 1,100,000 tons of D_2 coal in the ground.

The clinker beds would lose their continuity and become useless for road, railroad and other related construction activities. This is an insignificant impact due to other sources of clinker readily available in the area.

The elements found to surpass the suspect levels in the application area includes Na, Mo, and Ni. The levels detected are not sufficient to present demonstrable retardation in plant growth.

Topography

The high walls, ramps, access roads, drainage ditches, spoil piles, and linear pits would gradually replace the natural slopes of the present land surface. The total area being stripped or covered by unreshaped spoils at any time would be approximately 100 to 300 acres. At the end of the proposed mining period, the land surface would be more gently sloping. Stream valleys in the mined area would be obliterated and replaced by man-made drainages where necessary.

Topography of the mined area would be modified due to removal of natural irregularities including small tributary valleys and replacement with man-made surface. Reshaping includes grading the spoils to a gently rolling surface and establishing drainage patterns consistent with the surrounding area. Slope gradient and drainage would conform to approximately the contour of the original surface.

Objectives of reclamation include the rehabilitation of the mined land upon termination of the operation so that the land would be stable and be capable of being utilized for the same activities as before mining. Subsidence or compaction of the spoil returned to the pits is not expected to be significant. Differential compaction of the spoil material may produce some local soil "piping" at the land surface.

Soils

Present soil fertility would be affected since organic matter, micro-organisms, and the mineral fraction would be disturbed and mixed, causing a disruption of the present nutrient cycle. Soil mixing would cause alterations in chemical and physical properties. Two properties most likely to change would be an increase in calcium carbonate ($CaCO_3$) and pH to a depth of 12 inches. A pH range of 7.0 to 8.4 would most likely be the result of soil mixing.

Stripping off the vegetative cover and stockpiling the desirable

soil layers would increase its susceptability to wind and water erosion while stockpiled. The effect of this impact would be the loss of a small amount of potentially usable soil reconstruction material.

Soil depth would be impacted. Presently there is a variation in depth of natural soil profiles. This depth and quality would be reduced in some soil series and increased in others. A, B, and C horizons are the letter designations of soil layers by soil properties and increasing depth, and have no direct bearing on the value of that layer as a soil reconstruction material. Removal depth would be in response to this variation. However, when the material is respread on the application area, there would be a more uniform depth of about three inches of material rated good for topsoil. The effects of this would be positive on areas that had little topsoil previous to mining, but negative in comparison to those areas that had the thicker layers previous to mining (Table 2-11).

Past experience in farming practices has shown that soil material salvaged and worked when wet (1/3 to 8 atmospheres of soil water tension) will negatively change structure and porosity. These physical changes would reduce infiltration and increase runoff and erosion on areas of reduced vegetative cover. Due to the variability of the many physical and chemical soil factors and the large number of soil series involved, it is difficult to quantify the extent of the change in soil structure and porosity.

Hydrology

Surface Water

Mining activities in the Decker area currently introduce a limited amount of mercury into the Tongue River Reservoir. The mining of the application area would increase the total amount of mercury entering the reservoir. Because of the massive inflow of groundwater expected in the North Extension of the West Decker Mine, any mercury would be so diluted as to not significantly influence the mercury concentration in the reservoir. Current mine discharges are diluted, a 2,000-fold average by the reservoir, and current mine activities in the Decker area contribute less than 2% of the mercury to the reservoir. Research indicates that mercury is not concentrated in plants to a great extent, if at all (Gough and Shacklette, 1976), and therefore irrigation with Tongue River water should not pose a threat to livestock feeding on irrigated lands or consuming feed grown on irrigated land.

Nitrates introduced into the reservoir as a result of overburden blasting and/or poor storage practices of the ammonium nitrate explosives would, under certain conditions, contribute to algal blooms in the reservoir. This would reduce the recreational and scenic values of the reservoir and endanger the fish population of the reservoir.

Mining the application area at this time would prevent conflicts with any enlargement of the reservoir in the future. The earliest construction could begin is 1986, at which time the application area would be mined and reclamation efforts underway. The transportation corridor would prevent the waters in an enlarged reservoir at 3,438 feet Mean Seal Level (MSL) from eroding the reclaimed spoils. A reservoir at 3,465 feet (MSL) would submerge the relocated highway and railroad. At the 3,465 feet (MSL) elevation, locally severe erosion of the relcaimed spoils by wave action could pose a major impact that would require protective measures.

With correctly designed diversion channels and settling ponds, sediment yield to the reservoir would not be a significant impact during the life of the project. After the stream channels are reestablished over the reclaimed surface, increased erosion would occur and additional undesirable elements would be available to go into solution if adequate channel lining is not incorporated in the channel design.

Groundwater

Mining the application area would destroy the existing aquifer system in the area actually mined. Table 3-4 lists the aquifer and area which would be destroyed.

TABLE 3-4

AREAL EXTENT OF AQUIFERS WHICH WILL BE DESTROYED

Aquifer	Approximate Area To Be Destroyed $(mi)^2$
Clinker	.6
Alluvium	.4
Anderson Dietz 1 Coal	.1
Dietz 2 Coal	.7

These aquifers would be replaced by dragline-laid spoil materials in the mined-out areas, which have greater porosity and permeability than the original material. This would result in a single replacement aquifer that would store and transmit a larger volume of groundwater than the original aquifers. Degradation in water quality would result from leaching of the spoil material. Groundwater discharging from the spoil aquifer after reclamation may contain as much as 2,500 milligrams per liter (mg/l) dissolved solids and have a sodium adsorption ratio (SAR) as high as 12. Dominant ions probably would be sodium and sulfate. During mining, this increase in dissolved solids would be offset by the decrease in mine effluent. After mining is completed and groundwater discharge resumes to the Tongue River Reservoir, the total dissolved solids entering the reservoir for the North Extension area might be increased as much as 25%. The added impact on the reservoir, however, would be diluted due to the large amount of water in the reservoir. Therefore, the dissolved solids should have no discernible effect on the use of the reservoir or its water.

An increase in the size of the reservoir would increase the leaching of spoils in the application area by the movement of reservoir water into the groundwater system and vice versa. This would increase the dissolved solids reaching the reservoir, but because of the dilution afforded by the greater volume of water in the enlarged reservoir, the adverse impacts on water quality would be less than those occurring in the existing reservoir from mining.

With the addition of the application area, all but a small part of the initial box cut would be located closer to the Tongue River Reservoir. Contrary to the expectation that inflow would increase as the pit is moved closer to the reservoir, calculations by the U.S. Geological Survey (USGS) and Department of State Lands (DSL) indicate that the groundwater inflow would be reduced by 30% (FEIS, 1977). Groundwater inflow to the active mine pit would consist of three components:

1) Groundwater inflow from the west, representing groundwater discharge from the watershed.

2) Groundwater inflow from the east, supplied by the Tongue River Reservoir and,

3) Groundwater released from aquifer storage.

The inflow into the pit is expected to be reduced from 7.5-10.4 cfs from mining the existing lease area to 5.2-7.4 cfs if the application area is also mined.

Replacement of spoil materials in the mined-out area between the active pit and the Tongue River Reservoir should not significantly reduce the groundwater inflow into the mine from the reservoir. Dragline-laid spoils derived largely from clinker, which is abundant in the area, and alluvium should be more permeable than the same materials in their undisturbed state.

Vegetation

The most dramatic and critical impact on the existing vegetation in the application area would be its destruction by mining. Vegetation would be totally eliminated on areas stripped of topsoil. The effects of "associated disturbances" on vegetation would range from

Vegetation diversity may be lost for many years after mining. On revegetated lands within the application area, soil depths and other soil qualities would be more uniform than that which existed prior to mining. This would result in a more uniform vegetation cover on the application area as well.

Removal of vegetation would result in an annual loss of 23 Animal Unit Months (AUM's) of grazing for domestic livestock on the application area in addition to the 143 AUM's lost on the existing lease area.

Approximately 209 acres of irrigated hayfields would be taken out of production on the application area in addition to the 154 acres or the existing lease area.

Animals

Domestic

Mining of the application area would eliminate opportunities for domestic livestock to occupy the private surface and utilize the forage. About 23 Animal Unit Months (AUM's) of livestock grazing would be lost annually during the mining and reclamation phases. This situation would exist even if the federal coal is not leased since the private surface grazing leases have been cancelled. Grazing could resume in 10 to 15 years or whenever the bonds are released should mining and reclamation occur.

Wildlife

Twenty mule deer and eight pronghorn antelope are expected to be displaced if mining of the existing lease occurs. Mining the application area would not increase the number of mule deer or antelope displaced. The alfalfa bottomlands receive significant use by both species during the spring, fall and winter seasons. Spring use may be significant to reproduction in that the pro-

teinaceous bottomland forage is important to late fetal development and post-natal lactation (O'Gara, personal communication, 1977). During periods of heavy snowfall, alfalfa bottomlands may become key mule deer winter use sites as indicated by concentrations during the winter of 1977. Big game use of those bottomlands may be disrupted to some degree by mining the existing leases and would definitely be eliminated by mining the application area. Such uses would not likely be restored until mining is completed and the mine site is successfully reclaimed to its pre-mining habitat character.

Major antelope use areas and wintering concentrations occur in the Spring Creek and Decker areas. Spring and Pearson Creeks both flow through the application area and may provide important movement corridors to the Tongue River Reservoir for deer and antelope. Mining along the east boundary of the application area would effectively block deer and antelope movement to the reservoir.

Loss of riparian habitat and bottomland alfalfa fields would preclude use of the application area by white-tailed deer. The area is apparently not a key whitetail use area, and its disruption may not significantly affect the Decker population. However, each segment of riparian habitat that is lost limits the total available habitat which could be significant in the broad scope. Approximately 212 acres of game bird habitat and 380 acres of small mammal

and bird habitat on the application area would be lost in addition to the 1,316 acres on the existing lease until reclamation is successful.

Shoreline weed patches, riparian vegetation, and adjacent alfalfa fields in the application area are prime habitats for ring-necked pheasants. Disruption and loss of those habitats would likely diminish a currently low population of ring-necked pheasants in the Decker vicinity.

Canada geese have been observed on various occasions browsing in the alfalfa bottomlands of the application area. They utilize shallow bays around the reservoir. As summer drawdown advances and mudflats of these bays dry, geese move onto the alfalfa fields for feeding. If the application area is mined as is currently proposed, important Canada goose feeding sites would be lost until mining is terminated and the area is essentially reconstructed to its pre-mining character.

Cultural Resources

Since the five known cultural sites in the application area and the six known cultural sites on the existing lease have been mitigated by testing, data recovery, and analysis, there will be no adverse impact made on them by mining activities. Some isolated cultural

artifacts of no National Register significance could be lost during overburden removal. If any buried cultural remains exist in the application area, they could be lost unless adequately mitigated.

Aesthetics

The mining of the application area would increase the magnitude of the aesthetic impacts. Not only would the number of acres to be disturbed be increased by approximately 54%, but the disturbance would be moved closer to the Tongue River Reservoir and the proposed highway relocation. The entire application area would be highly visible from the relocated highway, as well as from the Tongue River Reservoir.

Recreation

Mining of the application area would not significantly add to the impacts associated with the mining of existing leases as identified in the FEIS. Recreation use of the 80 acres of federal surface within the area would be limited during the mining and reclamation stages.

The relocation of the state highway could have a positive impact of providing legal and physical access to portions of federally owned land within the application area. Presently, access does not exist to these tracts.

Socio-Economics

Leasing of the application area would mean extending the life of the Decker North Extension seven years. Therefore, the effect of the proposed action on employment and population would be to maintain the proposed levels. Approximately 155-190 people are expected to be employed at the Decker North Extension mine.

Summary of Impacts

Following is a table summarizing the impacts of the proposed action and comparing these impacts with the anticipated impact of mining without the proposed lease.

Resource or Factor	Existing Lease Area	Application Area	Total North Extension
Acres Applied for in Permit Submittal (1)	2,930	none additional	2,930
Acres of Disturbance	1,316	385	1,701
Acres Disturbed Per Year	60	same	60
Tons of Recoverable Coal (millions of tons)	56.7	16.4	73.1
Employment	155-195	-0-	155-195
Fugitive Dust	1,531 tons/year	same	same
Diesel Exhaust Emissions	8.3 tons/year	same	same
Train Emissions	87.6 tons/year	same	same
Mule Deer	20	-0-	20
Antelope	8	-0-	8
Game Bird Habitat	1,316 acres	209 acres	1,525 acres
Small Mammal & Bird Habitat	1,316 acres	385 acres	1,701 acres
Groundwater Inflow into the Pit @ 1 year	7.8-10.4 cfs	none additional	5.4-7.2 cfs
@ 5 years	7.5-10.0 cfs	none additional	5.2-7.0 cfs
AUMs Domestic Grazing	143	23	166
Hayfields	154	209	363
Archaeological Sites	6	5	11

(1) Revised mine plan submitted to DSL February 19, 1979 for existing leases. Application area would be used for associated disturbance if not leased.

CHAPTER 4
MITIGATING OR ENHANCING MEASURES

Chapter 4

MITIGATING OR ENHANCING MEASURES

Mitigating Measures To Be Required If Any Leasing Would Occur

1. Mining and mine-related activities should be limited to the west side of the proposed transportation corridor.

Mitigation To Be Considered At the Mining Permit Stage

The following mining plan considerations can best be handled prior to issuance of the mining permit by the Office of Surface Mining in consultation with the Bureau of Land Management, since the detailed mining plan and reclamation plan prepared by the mining company must be submitted and approved prior to mining. Miles City District Office would work with the Office of Surface Mining and the State of Montana to assure the best management practices and the latest technology available would be utilized to minimize the environmental impacts of surface mining discussed in Chapter 3.

1. Soils

Soil material should be salvaged during dry periods (soil moisture at 10+ atmospheres of water tension) to avoid impacts to soil porosity which happens when the soil is worked when wet. Soil

reconstruction material should be salvaged in lifts and stockpiled according to its suitability rating.

2. Hydrology

If unacceptable amounts of mercury are found to be discharging into the reservoir with the mine effluent, a two-settling-pond system, as proposed by Turbak and Olson, 1977, could be constructed. A deeper primary pond would promote sedimentation and sulfate reduction which would remove the heavy metals. A shallower secondary pond would permit the biological uptake of nutrients such as those contributed from nitrogen explosives and carbonaceous materials in the coal.

Proper storage of the ammonium nitrate (ANFO) used in overburden blasting would help to prevent nitrate-rich water from entering the reservoir. Mine effluent should be monitored for nitrates and care taken to insure that nutrients are digested in the settling pond before allowing effluent to enter the reservoir.

Rip-rap could be placed in the re-established stream channels to prevent channel erosion.

3. Wildlife

Revegetation would initially re-establish a grassland vegetative type. Inclusion of some forbs would benefit a variety of wildlife

species such as deer, antelope, upland game birds and some non-game birds. Forb species found in the Decker area that could be considered are: common salsify (Tragopogon dubis), fringed sagewort (Artemisia frigida), silverleaf scurfpea (Psoralea argophylla), common dandelion (Taraxacum officinale), western ragweed (Ambrosia psilostachya), hairy goldenaster (Chrysopsis villosa), eriogonum (Eriogonum spp.) and alfalfa (Medicago sativa). Small amounts of various upland shrub trees species could be planted. Some riparian species should be planted to enhance reclaimed drainages for wildlife. Suggested species are western snowberry (Symphoricarpos orbiculatus), red wild plum (Prunus hookeri), current (Ribes spp.), willow (Salix spp.), cottonwood (Populus deltoides) and buffaloberry (Shepherdia argentea), most of which would resprout from root sources. Including some or all of the suggested forbs and shrubs in the reclamation plan would add diversity to the vegetative complex and would be an early benefit to wildlife.

Other Mitigations

Additional mitigation which is beyond legal responsibilities of the applicant, but could enhance the environmental quality of the area are as follows:

1. Decker Coal Co. in cooperation with the Montana Fish and Game Department and Montana State University, has constructed a northern pike spawning marsh (Montana DNRC, 1977). The intended purpose of

this project is to enhance northern pike fisheries in the Tongue River Reservoir and waterfowl (primarily Canada geese) nesting. Other wildlife species such as fish-eating birds and aquatic vertebrates are expected to derive benefits as well. If the project is successful, a similar marsh might be developed on the proposed North Extension Mine area to mitigate losses to waterfowl, fish-eating birds, and aquatic furbearers, as well as further enhance the reservoir fisheries.

2. Decker Coal Co. could grant public access to the Tongue River Reservoir for recreational purposes.

3. To mitigate the increased pressures on reclamation land and wildlife habitat, a portion of the application area is well suited for possible land exchanges. Federal surface west of the proposed transportation corridor could be exchanged for some Decker Coal Company's fee surface east of the corridor. A land exchange would facilitate future management of the proposed mine area. In turn, public use of the recreational opportunities and the protection of important wildlife habitat along the Tongue River Reservoir would be enhanced. Public access would be provided a means of the proposed highway relocation.

CHAPTER 5
RESIDUAL IMPACTS

Chapter 5

RESIDUAL IMPACTS

If all recommended mitigating and enhancing measures from Chapter 4 are incorporated into the mine plan, and all federal and state regulations are complied with, some impacts would still result. Environmental components which would not be subject to residual impacts include: Air Quality, Geology, Cultural Resources, Recreation, Aesthetics, Socio-Economics, and Land Use. Residual impacts could be expected on the following environmental components.

Topography

Some subsidence and soil piping would occur from water moving over and through the regraded overburden. The extent of these impacts has yet to be quantified.

Soils

There would be the loss of all the Aridisols and Entisols on ridges, knolls and hillsides. These soils would not be reconstructed due to state laws on slope and strip mining methods. Quality of the reconstructed soil will vary from better to poorer than the original soil in a given area. Many of the natural soil-forming processes will return immediately and a few will take longer.

Hydrology

Surface Water

Reclamation of the application area would result in the replacement of Spring Creek and Pearson Creek stream channels. These replaced stream channels would consist of spoil materials and be less stable than the existing streams. They would offer an additional source for sediment and heavy metals.

Groundwater

The clinker, alluvium, Dietz 1 and Dietz 2 coal aquifers in the lease area would be destroyed by mining. The spoil replacement aquifer that would be established after mining is completed would store and transmit a larger volume of water than the original aquifers. This water would be suitable for stock watering, but the high total dissolved solids value of 2,500 milligrams per liter (mg/l) and sodium adsorption ratio (12) would preclude its use for irrigation or domestic use.

Vegetation

Vegetation diversity may be lost for many years after mining. A more uniform vegetation cover would occur on the application area as a result of changes in soil properties and reclamation requirements.

Approximately 209 acres of alfalfa fields would be taken out of production for the life of the project.

Animals

Domestic

Domestic livestock grazing would be eliminated for a short-term period of about 10 to 15 years in the application area. The 23 AUM's of annual livestock grazing on private surface will be lost even if the federal coal is not leased.

Wildlife

Most significant among unavoidable losses to wildlife resulting from mining would be habitat elimination. This effect would influence mule deer, antelope, white-tailed deer, upland game birds, waterfowl, and non-game birds and mammals. Diminishing wildlife production due to reductions in vegetative production and diversity (demonstrated on reclaimed sites) would continue as the mine area is enlarged. This impact could be a factor beyond the life of the mine as biological production may take years to regain pre-mining levels of native plant and animal species.

The short-term period of the proposed action would contribute to an extended economic viability of the area in terms of employment and

income from the operation of the mine. A trade-off would occur since the soil composition and structure, the opportunity to use or develop water, the vegetation, the wild and domestic animal habitat and use, the aesthetics and recreational use, and the grazing and farming opportunities would be eliminated during the short-term use.

There are several permanent or long-term changes that would be sustained by the environment due to mining. The coal is a non-renewable resource and once mined is not replaced. The removal of the coal seam would destroy it as an aquifer. Landscaping and seeding during reclamation will change the general topography and vegetation.

The soil and vegetation components are irretrievable as they now exist, but would return in a new form with reclamation.

There would be no irretrievable resource commitments of animals, recreation and cultural resources.

CHAPTER 6
ALTERNATIVES TO THE PROPOSED ACTION

Chapter 6

ALTERNATIVES TO THE PROPOSED ACTION

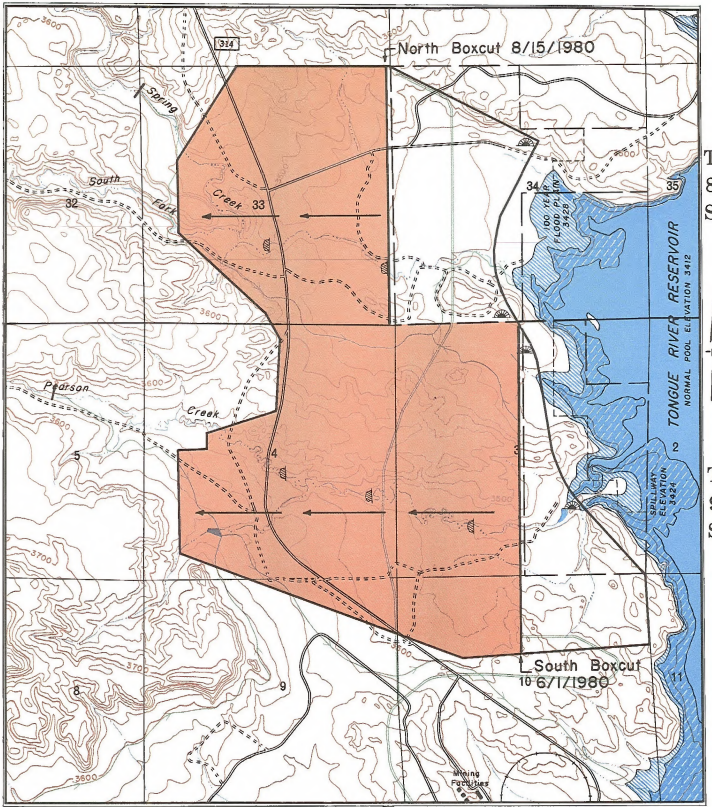
The definitive action assessed by the Bureau of Land Management (BLM) on a coal lease application is to lease, or not lease. The BLM has the option of selectively denying the lease of certain tracts, or portions thereof, of a lease application for documented reasons such as excessive environmental degradation, maximum economic recovery, or land use planning recommendations. In the assessment of the entire proposed coal lease, the impacts that would warrant selective denial of certain tracts, or portions thereof, will surface in this assessment. In this manner, the environmental consequences of the proposed action, and the public response to these consequences, are forwarded to the Secretary of the Interior. As a part of this environmental assessment, the following alternatives are assessed.

CONTINUATION OF MINING WITHOUT THE PROPOSED LEASE

Description of the Alternative

Continuation of mining without the proposed lease would not prevent continued development at the West Decker Mine or the proposed North Extension. Mining would begin in the North Extension area by placing the boxcut along the east boundary of the existing leases (Map 6-1). The boxcut spoils would be placed to the east of the boxcut and onto the application area. The location of the Spring

MAP 6-1
MINING SEQUENCE WITHOUT LEASE



Scale 1:24000

LEGEND

- Mine Boundary
- Lease Application M35736
- Haul road
- Stream diversion
- Overburden removal by dragline
- Typical settling/retention pond
- Pumping pits

Creek railspur would not change as a result of this alternative. The mining would progress in a westerly direction at the same rate as the proposed action.

Environmental Impacts

The environmental impacts of the no-lease alternative would be similar to the proposed action. Without the lease, the mine plan shows the settling ponds, spoil areas, topsoil storage area, and other mining-associated disturbances will take place on the application area and west of the transportation corridor. The area of surface disturbance will amount to the same area as the proposed action. The extent of subsurface disturbance will be reduced by approximately 385 acres. The no-action alternative would not serve to significantly reduce any impacts which would occur if the application area was mined.

The no-lease alternative would commit approximately 14.7 million tons of coal in the application area and approximately 1.7 million tons of coal in the existing lease area to nonuse. This 16.4 million tons does not form a logical mining unit by itself, therefore, if it is not recovered in conjunction with ongoing operations it probably will never be recovered.

LEASE AT A LATER DATE

Description of the Alternative

If the application area is leased at a later date, mining would involve basically the same steps as opening a new mine. This action would entail redeveloping the road system, the loadout facilities, and disturbing reclaimed land adjacent to the leased tracts.

Environmental Impacts

The environmental impacts of this alternative would be similar to the proposed action and to the no-lease alternative. Additionally, this alternative would result in several other impacts.

1. A feasible reclamation plan would be difficult. The handling of soil material and spoils would be limited due to the small size of the mineable tract. The reconstruction of the Spring Creek and Pearson Creek to match the stream gradients as they exit the existing lease areas would be questionable.

2. Due to the shape of the application area west of the transportation corridor, the diagonal location of the mineable tracts, and the required 100-foot buffer zones on the base

boundaries (see Map 6-1), the 16.3 million tons of recoverable coal would be reduced to approximately 13 million tons.

3. The overburden depths would be increased on portions of the application area. This would be caused by the proposed placement of overburden from the existing lease area onto the application area.

4. Leasing and mining at a later date would be in serious conflict with any future plans of the State Of Montana to raise and/or repair the Tongue River Dam.

Because of these additional impacts and the small size of the application area, developing the application area after the mining of the existing leases has bypassed it, in all probability, would not be feasible.

CHAPTER 7
CONSULTATION AND COORDINATION

Chapter 7

CONSULTATION AND COORDINATION

The following persons and organizations were contacted during the preparation of this assessment.

Department of the Army Corps of Engineers:	John Velehradsky discussed settling pond displacement and filling activities in the Tongue River Reservoir.
U.S. Fish and Wildlife Service:	Steve Amstrup, Duane Asherin, Dean Biggins and Burton Rounds all discussed various aspects of wildlife habitat and numbers at Decker.
U.S. Geological Survey Conservation Division:	John White discussed coal impacts.
Water Resources Division:	George Pike discussed mine dewatering, peak flows of the Tongue River and mine pit effluent.
State of Montana Department of Fish and Game:	Robert Martinka discussed mining impacts on wildlife habitat and possible mitigations.
Department of Natural Resources and Conservation:	Wayne Wetzel
Department of State Lands:	Dick Juntunen and Brace Hayden discussed adequacy of FEIS for Decker TEEA.
Montana Historical Society:	Ken Korte discussed compliance with Section 106 of the National Historic Preservation Act.
Montana State University:	Gary Wendt provided authors with reclamation research reports.
Northern Energy Resources Co.:	John F. Larson
Peter Kiewitt and Sons Decker Coal Company:	Jack Reed, Sam Scott, Bob Gjere, Ralph Bennett, Dave Jennings, and Bill Klapperich

VTN Environmental Consultants:	Fred Harrington
Wymont Industrial Council:	Lowell Lorenzen discussed the preference of Decker miners to live in Sheridan County.

United States Department of the Interior

GEOLOGICAL SURVEY
Conservation Division
P. O. Box 2550
Billings, Montana 59103

SD	
ASD	
EEO	
PA	
PEP	
TS	
MS	
F&EC	
ACTION	
FILING	

Memorandum

To: State Director, Bureau of Land Management,
P. O. Box 30157, Billings, Montana 59107

From: Area Mining Supervisor

Subject: Conservation of Federal Coal Resources at the West Decker and North Decker Extension Mines

In your memorandum of May 24, 1978, you expressed concern that Federal coal is being lost and requested an economic evaluation of mining the D-2 and D-3 coal seam at the Decker mines.

I met with George Neuberg and Bob Bennett on May 22, 1978, in Miles City and explained our reasons for not requiring the company to mine these seams. I assumed your questions had been answered.

The Decker mine was opened in August of 1972. Since that date about one-half of the coal mined has come from a State lease. Montana has a strong coal conservation law and State Lands personnel made a detailed analysis of the mine and determined that the lower seam could not be mined economically. This office independently reached the same conclusion. We have since regularly inspected the mine and repeatedly determined that the lower seam should not be mined.

Regulation 43 CFR 3041.0-4(b) states:

> "The Geological Survey (GS) exercises the Secretary's authority regarding operations conducted within the area of operations by permittees, lessees, and licensees and determines the action to be taken by them from the standpoint of the development, conservation, and management of mineral resources under the jurisdiction of the Department."

We have always been very conscious of this responsibility and constantly monitor all of the leases under our jurisdiction to prevent waste of coal.

In your memorandums you state that the D-2 and D-3 seams may be lost to the public forever if they are not mined at the present time. We feel these seams are an excellent underground reserve and should be preserved intact for future underground mining. To mine the D-2 seam in isolated areas as you advocate would practically destroy its value for a future underground operation. Longwall mining has recently grown rapidly, and today 25 percent of the coal mined underground in the West is by longwall. A longwall operation requires uniform and solid blocks of coal up to one mile in length to be successful. To force the company to mine the D-2 and D-3 seams now would destroy the value of millions of tons of coal left unmined in isolated blocks.

You suggested since the company plans to mine the D-2 seam in East Decker it should also be mined at West Decker. Coal at East Decker is mined by a truck and shovel method. West Decker is a dragline operation. There is a physical limitation to the depth which can be mined with a dragline but a truck and shovel operation has no limit. The Berkeley pit at Butte is a truck and shovel mine.

We are concerned about the damage which might be done to the environment by forcing Decker to mine these lower seams. We have found the interburden between coal seams is generally more toxic than the overburden. A dragline operation routinely leaves the lower strata near the surface in the spoil piles. Some of these toxic elements might then migrate to the surface. To bury the toxic interburden on the bottom of the spoils would require extensive rehandling with a dragline. We also don't know how much water would be in the pit at this depth.

The D-3 coal would be mined at a depth of 397 feet. The employees would be required to load coal at the base of a 397-foot highwall. This could present a safety hazard depending on the stability of the highwall.

Page 262 (Volume I) of the East Decker mine plan reads as follows:

> "Current mining plans preclude the loss of any portion of the D1 upper and D1 lower coal seam within the proposed area of operations. The D2 coal seam will be mined to the maximum extent possible. The mining of the D2 coal seam will terminate at such time as one or more of the following conditions are encountered:
>
> 1. Economic stripping limit
> 2. Adverse safety conditions
> 3. Mining operations approach within 100' of the proposed mine boundary"

Our preliminary figures show that West Decker using present mining methods is beyond the economic stripping limit for the D2 seam. We have been

working with company officials for months on this problem and intend to make a detailed cost analysis of mining these seams. We will supply you with the results of this study when it is completed.

Douglas H. Hileman

STATE OF MONTANA

DEPARTMENT OF STATE LANDS

MAILING ADDRESS: CAPITOL STATION
OFFICE: 1625 11TH AVENUE HELENA 59601 (406) 449-2074

November 2, 1978

Mr. George S. Neuberg
District Manager
Bureau of Land Management
Miles City District Office
P. O. Box 940
Miles City, Montana 59301

RE: Decker North Extension Coal Lease Application

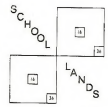
Dear Mr. Neuberg:

Thank you for your letter of October 4 regarding the State of Montana's position on the proposed North Decker coal lease in Sections 3 and 34. For reasons elaborated below, I recommend that the lease be issued.

I have discussed with Mr. Ted Doney, Director of the Department of Natural Resources, possible conflicts with future increase in the size of the Tongue River Reservoir. Mr. Doney indicated that the absolute minimum time period before an increase in the reservoir size could occur is 7 years. Were mining to begin on the edge of the proposed road-railroad corridor and proceed to the west, the Department of Natural Resources does not believe conflicts with mining in the proposed lease area would occur. Flooding of revegetated mine spoils should have minimal impacts upon the reservoir. A letter elaborating on the reservoir issue should be forthcoming from the Department of Natural Resources.

Besides the enlarged Tongue River Reservoir issue, other major concerns regarding the proposed lease area include a determination of whether the Lower Pearson and Spring Creek valleys are alluvial valley floors, and the significance of elevated mercury levels in Decker Mine discharges as well as in the reservoir itself.

The Department of State Lands and the Office of Surface Mining are currently analyzing the potential for alluvial valley floors in the entire North Extension area. In the event we should determine that an alluvial valley floor does exist, the Department of State Lands does not feel that conditions which prevent the mining of alluvial valley floors are present in the area. The company would be required to submit a mining and reclamation plan showing how the essential hydrologic functions of an alluvial valley floor would be reestablished together with supporting data.



MINING

RECLAMATION

The Department of State Lands is also carefully studying the mercury situation in the Decker area and specifically in regards to the expansion of coal mining into the North Extension area. Mitigation measures, such as oxidation ponds, may be required in the submittal of an acceptable mining and reclamation plan.

The Decker Coal Company has indicated that it intends to submit an updated mining plan for the North Extension area in December 1978. This current plan will not include mining of the proposed new lease area. Should Decker receive a permit from the Department of State Lands and the Department of the Interior and commence mining, it is unlikely that it would mine to the east of the box cut if the pending lease were subsequently issued. Therefore, should the proposed lease not be issued in the near future, approximately 17 million tons of Federal coal may never be mined.

Hence, in the interest of coal conservation and long-range reclamation of the entire area, a quick decision on the Decker coal lease proposal is important. The Department of State Lands would be happy to discuss lease stipulations with your office at any time. Please write or call if I may be of further assistance.

Sincerely,

Leo Berry, Jr.
Commissioner

kl

cc: Brace Hayden
Ted Doney
Ted Schwinden
John G. VanDerwalker
Jack Reed
Edwin Zaidlicz

Thomas L. Judge, Governor

MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION

MEMBERS OF THE BOARD – CHAIRMAN CECIL WEEDING, J. VIOLA HERAK, DAVID G. DRUM, DR. WILSON F. CLARK, DR. ROY E. HUFFMAN, WILLIAM H. BERTSCHE, CHARLES L. HASH

DNRC

Ted J. Doney, Director

November 15, 1978

George S. Neuberg
District Manager
U.S. Department of Interior
Bureau of Land Management
Miles City District Office
P.O. Box 940
Miles City, MT 59301

Dear Mr. Neuberg:

In your letter of October 4, 1978, you requested information on a possible conflict between raising the Tongue River Reservoir and the mining of land BLM is proposing to lease to Decker Coal Company. We believe this conflict can best be resolved by mining the coal immediately. We cannot possibly raise the reservoir prior to completion of mining in this area if mining proceeds from the reservoir west.

As your letter noted, we are still uncertain about which alternative to follow in modifying the existing dam, but all alternatives require substantial financing, environmental studies, and design work before we can begin construction. We estimate that this job would require a minimum of four years. Once this is complete, construction could begin which would require a minimum of three years. Therefore, the earliest we could begin storing water behind a higher dam would be at least seven years. Projected filling would take four to six years, so the full use of the reservoir is unlikely to take place. We have begun this effort in contacts with several interested industrial firms.

In conclusion, it is unlikely that additional flooding of BLM land by a higher Tongue River Reservoir could possibly begin before some 15 years from now, regardless of the alternative chosen for modifying the Tongue River Reservoir. Early mining of the BLM land would be in the best interest of the Department of Natural Resources and Conservation.

Sincerely,

Ted J. Doney

TED J. DONEY
DIRECTOR

TJD/ddl
cc: Ted Schwinden
Leo Berry
Skip Culver

32 SOUTH EWING, HELENA, MONTANA 59601 (406) 449-3712

CHAPTER 8
INTENSITY OF PUBLIC INTEREST AND PUBLIC COMMENT

Chapter 8

INTENSITY OF PUBLIC INTEREST

The Draft Technical Examination and Environmental Assessment (TEEA) was published and sent out for public review in June of 1978. Considerable public interest was shown at the two meetings held at Sheridan, Wyoming, and Ashland, Montana, concerning lease application M-35736.

Written comments received were evaluated by the Miles City District Office staff. Comments which were relevant to the TEEA were addressed and changes were made in the TEEA where appropriate. Some comments were beyond the scope of the TEEA and were not addressed.

All comments are reproduced as received. The transcripts from both public meetings can be found at the end of this chapter.

LETTER	SUBMITTED BY
1	U.S.G.S. - Conservation Division
3	U.S.G.S. - Water Resources Division
4	Sheridan County Chamber of Commerce
5	Montana Department of Natural Resources and Conservation
6	Montana Water Quality Bureau
7	U.S. Fish and Wildlife Service
8	Decker Coal Company
9	Montana Department of State Lands
10	Northern Cheyenne Tribe
11	Quarter Circle U Ranch
12	Montana Environmental Quality Council
13	Montana Cooperative Fishery Research Unit
14	Big Horn County
15	Senator Carrol Graham, Montana State Senate
16	Nance Cattle Company
17	Bureau of Indian Affairs
18	Army Corp of Engineers
19	Decker Coal Company
20	Jack Knobloch
21	Patty Kluver
22	Montana Department of Health and Environmental Sciences
23	Art Hayes Jr.
24	U.S. Environmental Protection Agency
25	Diamond Ranch
26	Roger B. Crokin
27	Authur J. Hayes
28	Tri-County Ranchers Association
29	Sam Scott
30	U.S. Fish and Wildlife Service

PUBLIC MEETINGS

Sheridan - July 26, 1978
Ashland - September 13, 1978

COMMENTS AND RESPONSES

United States Department of the Interior

GEOLOGICAL SURVEY
Conservation Division
P. O. Box 2859
Billings, Montana 59103

N 35736

Letter 1

June 27, 1978

Director

Memorandum

To: Mr. George Neuberg, District Manager,
Bureau of Land Management, P.O. Box 940,
Miles City, Montana 59301

From: Area Mining Supervisor

Subject: Decker North Extension Draft TERA

We have received and reviewed the subject document. As comes within the mining expertise of this office, we find it to be a well-written, clear presentation, with one exception. In reference to the last sentence, first paragraph, page 2 - 5, it has not as yet been established whether how D_2 can be mined at a profit under present conditions. 1-1

Jon M. White
For Area Mining Supervisor

LETTER 1 1-1 Text has been revised (see page 2-7).

MONTANA HISTORICAL SOCIETY

225 NORTH ROBERTS STREET - (406) 449-2694 - HELENA, MONTANA 59601

July 19, 1978

Letter 2

Mr. George Neuberg, District Manager
Miles City District, Bureau of Land Management
Box 940
Miles City, Montana 59301

RE: Draft Decker North
Extension Coal Lease
Application

Attention: Jerry Clark

Dear Mr. Neuberg:

I have reviewed the above Draft Environmental Statement, "Three Cultural Resource Projects Near Decker, Montana", Fredlund, 1978, and "The Impact of Coal Development on the Cultural Resources in Southeastern Montana", Lahren, no date.

The information indicates that you have complied with Executive Order 11593, 1971, in that you have completed an intensive inventory of cultural resources in the project area.

The sites identified have been evaluated by complete field recording, mapping, collecting, and subsurface testing. Sites 24BH1525, 24BH(811), 24BH1980 (A32), 24BH1417, 24 BH1978 (BDH-Decker-439) and 24BH1511 do not have the potential to yield information important to prehistory, and therefore, do not meet criteria d. for listing on the National Register of Historic Places.

You have complied with Section 106 of the Historic Preservation Act. Thank you for consulting with me.

Sincerely,

State Historic Preservation Officer

RK:EV:gh

LETTER 2 Comments have been noted.

Letter 3

Water Resources Division
301 South Park Avenue, Room 428
Drawer 10076
Helena, Montana 59601

July 25, 1978

Mr. Bob Bennett
Bureau of Land Management
Miles City District
Miles City, Montana 59301

Dear Bob:

Mike Whittington called yesterday to say that you had never received our review comments on the Decker North Extension TEIA. After much searching, I discovered the comments made by myself, Hotchkiss, and McClymonds were still in draft form. The report had been bound up for our recent move to new headquarters and had never been unpacked. I trust the following belated comments are still useful:

3-1 1. Page 1-4..."Reclamation would include three distinct operations: regrading, top soiling, and reseeding." We feel rechanneling the displaced streams should also be specifically mentioned.

3-2 2. Pages 3-8 and 3-9...Considerable comment is made about aluminum and mercury in effluent water. However, an equally serious problem could arise from nitrates. Ten Yoest's work has shown that ground-water may have high concentrations of nitrates from explosives. Nitrates are a key factor in algae blooms and injection of nitrate-rich water into the reservoir could trigger algae blooms under certain conditions. The nitrate-rich water has two ways of entering the reservoirs: by discharge of mine-effluent via settling basins and via ground-water discharge. Mine effluent should be monitored for nitrates and care should be taken to insure that nutrients are digested in holding ponds before allowing effluent to enter the reservoir. Ground-water discharge would be difficult or impossible to control. However, the rate of movement of ground-water may be slow enough to preclude problems.

3-3 3. Page 5-2...The placement of rip-rap in the replaced stream channels could control channel scour.

If you have any questions regarding these comments, feel free to call. Hopefully our response will be more timely.

Joe A. Moreland
Acting District Chief

LETTER 3 3-1 Text has been revised (see page 1-12).

3-2 Text has been revised (see pages 3-21, 3-6, and 4-21).

3-3 Text has been revised (see page 4-3).

Sheridan County Chamber of Commerce

P. O. Box 707 - Phone 307-672-2485
Sheridan, Wyoming 82801

July 26, 1978

Letter 4

George Neuburg
District Mgr.
U.S. Dept. of Interior
Bureau of Land Management
Miles City District Office
P.O. Box 940
Miles City, Montana 59301

RE: Decker North Extension Coal Lease Application M-35736

Dear Mr. Neuburg,

The Board of Directors of the Sheridan County Chamber of Commerce who represents a membership of over 300 firms and individuals in the Sheridan area met on July 25, 1978 in the chamber quarters at the Sheridan Information and Visitors Center.

The Board of Directors of the Sheridan County Chamber of Commerce passed a resolution unanimously in support of Decker North Extension Coal Lease Application M-35736. We feel that the government's action to lease portions of sections of land will benefit the people of our city and county by an additional $40 million in payroll. It will also help to solve the energy crisis of our nation.

Very sincerely yours,

Byron G. McMillan, Exec. Director
Sheridan County Chamber of Commerce

LETTER 4 Comments have been noted.

5-4 Our major concern is the proposed settling pond next to the Tongue River Reservoir. We find this location unacceptable. During the past year the DNRAC has been negotiating with the Northern Energy Resources Company as well as the Decker Coal Company to establish an acceptable alignment for a transportation corridor along the west shore of the Tongue River Reservoir. This transportation corridor would contain the railroad spur to the Spring Creek Mine as well as the relocated highway FAS 314.

5-5 The transportation corridor was difficult to site, as moving it east adversely impacts the reservoir while moving it west covers mineable coal. The alignment is further constrained by limits on curves and slopes for the railroad. Through a great deal of effort, especially on the part of the coal companies, a compromise alignment has been reached. This compromise alignment represents the easterly limits of industrial development the Department would find acceptable.

5-6 The settling pond is proposed to be at the elevation of the existing spillway at the Tongue River Dam. This must not be allowed as the water surface in the upper reaches of the reservoir often reaches elevations higher than the spillway. This year the maximum water surface was some 8 feet above the spillway elevation in the upper reaches of the reservoir.

On page 3-4 of the Environmental Assessment it is proposed that the initial spoil piles be cast below the spillway elevation of the Tongue River Reservoir. We presume that all spoil piles will be to the west of the transportation corridor. As stated earlier, no disturbance to the east of the transportation corridor would be acceptable. If the spoil piles are limited to the west side of the transportation corridor, erosion from the reservoir should not be a problem.

5-7 In order to reduce runoff-caused erosion we recommend that the slopes of the spoil pile near the reservoir be top soiled and seeded immediately. On the transportation corridor, we will require slopes no steeper than 1:4

2

Letter 5

COMMENTS BY THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
DRAFT TECHNICAL EXAMINATION AND ENVIRONMENTAL ASSESSMENT DECKER NORTH
EXTENSION COAL LEASE APPLICATION by United States Department of the Interior,
Bureau of Land Management

My name is Richard L. Bondy. I am Chief of the Engineering Bureau of the Water Resources Division of the Department of Natural Resources and Conservation.

The Montana DNRAC, as owner of the Tongue River Reservoir has a special interest in this proposed lease. The Department also has the ability to control some of the things proposed in this lease application.

The authority of the DNRAC concerning this development stems from two areas:

5-1 1) A portion of this land has been withdrawn for use by the Department for the Tongue River Reservoir. In the release of this reservation for any other uses, utmost consideration must be given to protection of the Tongue River Reservoir.

5-2 2) Decker Coal Company, along with the Northern Energy Resources Company has applied for an easement through Department-owned land for a transportation corridor along the west shore of the Tongue River Reservoir. Conditions attached to this easement will include certain requirements on construction of the transportation corridor and restrictions on the use of the land by these 2 companies on the east side of the corridor

These conditions will apply to the entire length of the railroad along the Tongue River Reservoir, whether the land is owned by the State or not.

5-3 We agree with the statement on page B-2 which suggests that BLM lease only the portion of the application area which will lie to the west of the transportation corridor. The transportation corridor will serve as a logical boundary for the east side of the mine and act as a buffer between the mine operation and the Tongue River Reservoir.

for slopes adjacent to the reservoir and we urge that spoil piles adjacent to the reservoir be required to observe this limit.

We would recommend that the initial spoil piles be created and protected from erosion at a time when the reservoir is at a relatively low elevation. The spoil piles should be protected, and no spoil pile should be created below the elevation of 3420 during the months of April, May, and June.

5-8 I am concerned about contamination of the reservoir water and would like this area explored further. The environmental assessment mentions several potential pollutants to the reservoir, but gives little idea how serious this problem will be.

5-9 In the discussion on page 3-7 on groundwater inflow, it is unclear which inflow is being talked about. Is this the inflow to the mine or is it the inflow to the Tongue River Reservoir?

I would like to elaborate further on the statement on Page 1-8:

"Since DNRC and the Department of State Lands has permitted the rail location and mine siting at East Decker below the proposed 3438 feet MSL spillway elevation, it must be assumed that any possible increase in spillway elevation is sometime in the distant future."

5-10 The easement granted to East Decker for the railroad clearly allows the existing alignment to be flooded. The State of Montana's efforts to increase storage at Tongue River Dam has been progressing steadily for the past 10 years. We expect this progress to continue and will probably see a completed project there within the next 20 years or so. We would ask that any permanent facilities be built at an elevation at least as high as the silos at East Decker and that mining begin on the reservoir side of the mine progressing in a westerly direction.

I must also comment on the notice given for this meeting and the location for the meeting. No notice was given by the sponsors of this meeting to the Tongue River Water User's Association. I was notified this Monday by a friend

3

in the Northern Plains Resource Council. The Tongue River Water User's Association was informed in the same way, but it was too late for them to be able to get their comments together. The Department of Natural Resources did receive official notice late Monday.

5-11 Also, Sheridan, Wyoming is a long way from home for most of the irrigators downstream of the proposed coal lease. These irrigators will be the people most affected by any adverse impacts to the Tongue River system. I urge the BLM to hold another hearing, possible in Ashland, for which adequate notice is given.

In summary, the Department urges the BLM to:

1) Lease only the portion of the application area which will lie to the west of the transportation corridor.

2) Require spoil pile slopes no steeper than 1:4 on the west side of the mine.

3) Require erosion protection methods that are sure to work.

4) Determine more definitely what the water quality impact will be on the reservoir.

5) Hold another hearing in the Tongue River Basin in Montana and provide adequate notice for this hearing.

6) Come to a rapid decision on whether or not this lease will be granted.

Letter 6

Office Memorandum •

STATE DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

TO : District Manager, Miles City District, BLM, P.O. Box 940, Miles City, Montana **DATE:** July 26, 1978

FROM : Dick Pedersen, Water Quality Bureau DP

SUBJECT : Comments on Decker North Extension

Following are comments addressing water quality.

6-1 Pg. 3-8 lines 11-14 - It is possible the greater inflow of water may dilute the mercury concentration but also may increase total mercury load.

6-2 Pg. 3-9 lines 1-2 - If the flow from the mine is greater than flow from natural sources, the mine would be a significant source of aluminum.

6-3 Pg. 3-2 lines 15-18 - Using uncompacted mine spoils for stream channels would not only affect another source of sediment to the reservoir but may be an additional source for mercury and aluminum.

LETTER 5 5-1 Comments have been noted.

5-2 Comments have been noted.

5-3 Comments have been noted.

5-4 Settling pond has been relocated west of the transportation corridor (see page 1-9 and comment 6-3).

5-5 Comments have been noted.

5-6 Settling ponds have been relocated west of the transportation corridor and will be above the spoilway elevation (see page 1-9 and comment 6-3).

5-7 No disturbance would occur east of the transportation corridor (see pages 1-9 and 3-18).

5-8 Text has been revised (see pages 2-19, 2-6, and 4-21).

5-9 Inflow is to the active mine pit.

5-10 Comments have been noted. Mining is scheduled to begin adjacent to the transportation corridor and progress west (see Map 1-4).

5-11 An Ashland meeting was held in September, 1978.

LETTER 6 6-1 Groundwater inflow into the mine pit of the North Extension of the Decker Mine would be primarily from the reservoir. Therefore, the mercury concentrations of the mine effluent would be diluted without increasing the total mercury load.

6-2 The discharge from the mine would never be greater than the flow from natural sources, i.e., the Tongue River.

6-3 Your comment has been noted and the text revised (see pages 3-7 and 3-2).

Letter 7

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Billings Area Office
Federal Building, Room 3035
316 North 26th Street
Billings, Montana 59101

IN REPLY REFER TO:

ES

August 4, 1978

Mr. George Nonberg, District Manager
Miles City District Office
Bureau of Land Management
P.O. Box 940
Miles City, MT 59301

Dear Mr. Nonberg:

This replies to your letter of July 21, 1978, concerning your request for comments on the DEIS regarding Decker North Extension.

Our letter to the U.S. Geological Survey, dated November 12, 1976, (copy enclosed) on this mine extension stated, "It appears that all or most of the kinds of impacts to fish and wildlife that have been identified and discussed." However, we emphasize that this statement is true only for the North Extension Tract, Decker Mine. Within an eleven mile radius of Decker, Montana, at least eleven surface coal mines are in existence or already existing. We are concerned about the cumulative effects of these mines upon fish, wildlife, and their habitats in the area, particularly the possible impacts on riparian vegetation which is in critically short supply.

7-1

It may be relatively easy to define and provide for mitigation for damage to fish and wildlife and their habitats on a single mine application; however, the effects of several mines located very near each other may be another matter. We believe that cumulative leasing of federal coal to several different mining companies should not be allowed to have serious negative effects on fish, wildlife, their habitat, or the ecological stability of the area.

The FWS recognizes that preparation of a regional EIS is underway and that some of the potential impacts we are concerned about may be under study. Also, the Service is cognizant of the need for short term mine boundary adjustment.

Attached is a copy of a letter submitted to the Department of State Lands outlining the requirement for consultation with both the Fish and Wildlife Service and the Montana Department of Fish and Game. Since any stipulations developed as a result of these consultations must be incorporated as part of the lease, Section 523 (b) of the Surface Mining and Reclamation Act of 1977, we recommend that the Bureau withhold the granting of a lease in the Decker area to any surface mining company until the consultation process has been consummated and permit stipulations have been developed.

7-2

I hope that this recommendation will meet with your approval. Should you have any questions, informal contact can be made with Mr. Raymond Hoen (657-6792) of my staff.

Sincerely,

Burton W. Rounds
Area Manager

cc: Bob Martinka, Montana Department of Fish and Game, Miles City, MT
Jim Brockett, Montana Department of Fish and Game, Helena, MT
State Director, Bureau of Land Management, Billings, MT
Director, OEWRS, Denver, CO
Roy Irvin, Acting Coal Project Leader, WELUT
Harold Tyus, AFAL-Coal, Denver, CO
Bob Stewart, Coal Project Manager, Washington D.C.
Department of State Lands, Helena, MT

Director, U.S. Geological Survey
Reston, VA 22092

Nov. 12, 1976

Area Manager, Fish and Wildlife Service
Billings, MT 59101

Draft of Environmental Impact Statement (DES 76-40) - Proposed Plan of Mining and Reclamation, East Decker and North Extension Mines, Decker Coal Company, Bighorn County, MT

In response to a request from our Chief, Branch of Environmental Coordination, we have reviewed the subject document and wish to offer these comments.

Based on our analysis of the information presented in the draft statement, it appears that all or most of the kinds of impacts to fish and wildlife that would be covered with the Decker Coal Company's proposed expanded Decker Mine operations, have been identified and described.

It is recognized that this is not a new venture into a new area, but rather a substantial enlargement of a mining development that is already underway. Further, although in the past, the state leasing of this portion of Wyoming where new and expanding coal mining operations are no longer unique or as startling as in the recent past. This situation may or may not be reflected in the statement; however, we are left with the general impression that we are being told that the described impacts to fish and wildlife really will not be as severe as presented and that operation, reclamation and mitigation measures will completely be effective in controlling or restoring much of fish and wildlife to see.

Statements in the surface indicate that both proposed plans are subject to change and may be modified as described under Chapter VIII, Alternatives to the Proposed Action.

The North Extension would be expanded if applications for lease modifications were approved. We would not have anticipated the unresolved anomaly concerning ground-water flow on page 471. However, we would still conclude that the greater the distance of the initial box cut from the Tongue River Reservoir, the less the potential impacts should be.

A decision by the Administrator, Reclamation Division of the Montana Department of State Lands (page 830), unless modified, will result in a significant change in the East Decker mining plan and attitude. We would concur with the philosophy that alluvial stream bottoms and reservoir or lake shorelines should not be buried under mine spoils or fill material. Without alternative mining plans have been presented for

2

the East Decker area, we are not certain that the original plan has been abandoned.

Considering the preceding comments, it would seem appropriate to suggest that the current draft be considered preliminary and that, after the mining and reclamation plans are finalized, the statement should be revised and circulated.

The above suggestion is made, more or less, on page 605 of the statement under item e. Narrow mining plan after modification. Our reaction is that this is a realistic alternative and not one to be proposed and rejected in an effort to present several alternatives.

We are in agreement with the attitude expressed under f. Allow development of selected areas now under lease, on page 603 also. It might be considered unrealistic, however, to believe that there can be areas within a lease tract that will not be disturbed. We know this is in conflict with the requirement of total mining of a given site. However, we would argue that it would be less practical to inject such specifications into a mining plan then it would be to delete or exclude such areas from leasing before the tracts are offered to the public.

/S/ Burton W. Rounds

Burton W. Rounds

cc: Regional Director, FWS, Denver, CO (IES)
Director, FWS, Washington, DC (25 Attn: Chief, ES)

JCS/ejs

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Billings Area Office
Federal Building, Room 3035
316 North 26th Street
Billings, Montana 59101

IN REPLY REFER TO:
ES

August 3, 1978

Mr. Leo Berry, Commissioner
Department of State Lands
Capitol Station
Helena, MT 59601

Dear Mr. Berry:

This office is in the process of reviewing the Bureau of Land Management's Draft Technical Examination and Environmental Assessment (TEA) Decker North Extension Coal Lease Application. In so doing, we noted that this application involves rerouting of two existing intermittent streams, loss of 2.1 miles of stream channel and changes in the area of sedimentation within the Tongue River Reservoir.

As was pointed out to Mr. Hayden of your department, prior to any permit being issued in this area, consultation must be undertaken with both the State and Federal fish and wildlife management agencies when stream channel diversions are proposed by an applicant for a surface mining permit, (Section 715.17 (5) of Regulations published in the Federal Register by the Office of Surface Mining and Enforcement, 13 December 1977).

The Fish and Wildlife Service (FWS) is concerned over the cumulative impacts surface mining may have in the area surrounding Decker, Montana. Accordingly, the Service proposes to undertake an analysis of the cumulative impacts on fish and wildlife resources associated with the total proposed open mining in the immediate area of Decker, Montana and in particular, the cumulative impact of these stream diversions.

The analysis can be accomplished by 30 September 1978 and a report forwarded to your agency in early October.

In view of the foregoing, the FWS recommends that no permit for mining be granted until such a study has been completed. This procedure would assure compliance with Section 715.17 (d) of the surface mining regulations.

Our study will be initiated upon receipt of a favorable response from your agency. If you have any questions, informal contact should be made with Mr. Raymond Owen (657-6760) of my staff.

Sincerely,
/S/ Burton W. Rounds
Burton W. Rounds
Area Manager

cc: Bob Martinka, Montana Department of Fish and Game, Miles City, MT
Jim Posewitz, Montana Department of Fish and Game, Helena, MT
District Manager, Bureau of Land Management, Miles City, MT
State Director, Bureau of Land Management, Billings, MT
Director, Office of Surface Mining, Denver, CO
Roy Irvin, Acting Coal Project Manager, WSLIT
Harold Tyus, ARAL-Coal, Denver, CO
Bob Stewart, Coal Project Manager, Washington D.C.

LETTER 7 7-1 This document cannot consider regional impacts. Your concerns can only be approached on a regional basis and will be addressed in the regional EIS.

7-2 Refer to Burton Rounds's letter of November 3, 1978, Letter 10. The BLM agrees with the stipulations listed in the November 3rd letter and will be glad to work with the FWS and Department of State Lands to see that these stipulations are included in the permitting stage of the process, not the leasing process. By incorporating these stipulations into the permit, they are subject to review and revision after five years. If stipulations were incorporated into the lease stage, they would be permanent regardless of technological advances or other changes.

Letter 8

Decker Coal Company

One Thousand Knock Plaza
Omaha, Nebraska 68131

(402) 345-2000

August 4, 1978

Attn: Decker, Montana

George Mayberg
District Manager
Bureau of Land Management
P.O. Box 940
Miles City, Montana 59301

Re: TEEA for the Decker North Extension
Coal Lease Application

Dear Mr. Mayberg:

The following comments in regard to the draft Technical Examination and Environmental Assessment are forwarded.

GENERAL

8-1 Since the signing of PL 95-87 in August 1977, many new rules and regulations have been issued that significantly affect strip mine operations. As a result, several of the impact comments or statements made in the draft TEEA are no longer applicable. Compliance with new state and federal regulations, specifically in the area of settling pond location and diversion systems, will eliminate the condition that previously had an impact on the area. Therefore, we recommend a statement be included in the introduction, probably on page 0-1, that reflects the change in environmental impact these new rules and regulations have caused.

DISCRIPTION OF THE PROPOSED AREA

8-2 1. Page 1-3: Comment - Change next to last sentence in first paragraph to read "The dragline will then make a second pass uncovering the second coal seam."

8-3 2. Page 1-4: Comment - First paragraph - The discussion of locating a settling pond next to the reservoir on the east side of the transportation corridor is no longer applicable because of the regulation. The pond will be located west of the corridor.

8-4 3. Page 1-4: Surface Water Comment #5 - Stream channel removal would only be temporary.

8-5 4. Page 1-4: Surface Water Comment #6 - Should read "Temporary changes..."

George Meuberg
August 4, 1978
Page 2

DESCRIPTION OF EXISTING ENVIRONMENT

F-4 1. Page 2-21: Comment - First paragraph, third sentence - Only Spring Creek has been an irrigated hay meadow; Pearson Creek flows straight.

F-7 2. Page 2-71: Comment - The AVF question has been resolved and incorrect regulations were cited. Recommend deleting.

F-8 3. Page 2-19: Comment - Regulations cited under discussion of prime farmland should refer to 30 CFR 716.7 (c) and (d)

ENVIRONMENTAL IMPACTS

F-9 1. Page 3-4: Comment - Soils - Initial spoil piles will be west of the transportation corridor, therefore, at no time should high water be in contact with unconsolidated overburden material. Recommend rewriting or deleting.

F-10 2. Page 3-7: Comment - Last paragraph - The new location of the mine dewatering settling pond is west of the transportation corridor and should not be susceptible to flooding and leakage at the high water level of the reservoir. Recommend rewriting or deleting.

F-11 3. Page 3-8: Comment - First sentence - Analysis to date does not indicate high mercury or aluminum concentrations. Recommend deleting discussion.

F-12 4. Page 3-16: Comment - Second paragraph - No sediment ponds are proposed. Recommend deleting.

F-13 5. Page 3-16: Comment - Third paragraph - Do not agree with statement that overburden spoilage and fill for the transportation corridor will significantly disrupt several bays of the reservoir.

F-14 6. Page 3-19: Comment - Under land use, nothing is presently being irrigated and no cattle are on the property.

IRRETRIEVABLE RESOURCE COMMITMENTS

F-15 1. Page 7-1: Comment - Second paragraph, last sentence - The proposed North Extension mine plan will in no way encroach upon the Tongue

LETTER 6

6-1 The Final TEEA recognizes that an approved mine plan must be in conformance with existing laws.

6-2 Text has been revised.

6-3 Text has been revised (see page 1-6).

6-4 Text has been revised (see page 1-9).

6-5 Text has been revised.

6-6 Text has been revised (see page 2-12).

6-7 Text has been revised (see page 2-37).

6-8 Text has been revised (see page 2-13).

6-9 Text has been revised (see Chapter 1 - Proposed Action).

6-10 Text has been revised (see Chapter 1 - Proposed Action).

6-11 Text has been revised (see page 2-19).

6-12 Text has been revised.

6-13 Text has been revised (see Chapter 1 and Map 1-6).

6-14 Text has been revised (see page 2-25).

6-15 Text has been revised (see Chapter 13).

George Meuberg
August 4, 1978
Page 3

River Reservoir, therefore, shoreline and decreased storage capacity will not become a permanent alteration of the environment.

Very truly yours,

DECKER COAL COMPANY

David Shelso

DS/mc

Letter 9

STATE OF MONTANA

DEPARTMENT OF STATE LANDS

MAILING ADDRESS: CAPITOL STATION
OFFICE: 1625 11TH AVENUE
HELENA 59601 (406) 449-3074

STATE BOARD OF LAND COMMISSIONERS
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ATTORNEY GENERAL
R. V. "BOOTY" CHRISTY
CAPITOL

August 9, 1978

Mr. George S. Neuberg
District Manager
Bureau of Land Management
P.O. Box 3388
Miles City, Montana 59301

Dear Mr. Neuberg,

Below are the Department of State Lands' (DSL) comments to the draft Technical Examination and Environmental Assessment (TEEA) for the Decker North Extension coal lease application. This assessment was reviewed by members of DSL's Reclamation Division's staff.

LEO BERRY JR.
COMMISSIONER

9-1 (1) On page 0-1, paragraph 2, it should be noted that the Decker Coal Co. has indicated to DSL that it soon will be submitting a revised permit application for the North Extension area. This revised application will address the performance standards of Montana's Coal Mine Reclamation Act, the Federal Coal Mine Reclamation Act, and DSL's rules implementing both Montana's Act and the interim regulatory program under the Federal Act. Decker Coal Co.'s revised application will cover all of their proposed North Extension mine area including a portion of that considered in the TEEA exam. Decker originally submitted to DSL a permit to mine the proposed lease area in October 1975.

9-2 (2) On page 1-3, in the second paragraph, it is stated that 484 of the 680 acres under consideration in this lease are included in the proposed mining plan. It is further stated that the remaining 196 acres is too close to the reservoir to be mined. It appears as if the correct figure for the acreage not to be mined is 196 acres.

MINING

9-3 (3) On page 1-5 and 1-6, the proposed transportation corridor along the west side of the Tongue River Reservoir is discussed. Accurate maps of the proposed corridor are now available and should be used to revise maps A1-1, A1-2 and A1-3 in the TEEA Appendix. Map A1-1 shows the proposed box-cut beginning to the east of the transportation corridor at the north end of Decker's proposal. Map A1-3 shows the transportation corridor impinging on the reservoir. Both maps are in error.

RECLAMATION

George S. Mewberg
BLM
August 9, 1978
Page -2-

9-4 (4) On page 1-4, the last sentence states "Regrading usually occurs two or three years behind the mining operation." This does not reflect the Department's experience in Montana as regrading commonly lags behind the mining operations for a period of about 1 year.

9-5 (5) On page 1-5, in the fourth paragraph, the map numbered 1.4-4 is referred to but is not included in the Appendix.

9-6 (6) On page 1-12, should the 96 acres referred to in line 1 be 196 acres as was discussed in Item (1) above? The maximum extent of acreage that the BLM is considering for leasing in the lease consideration area should be made clearer by way of maps and narrative discussion.

9-7 (7) On page 2-1, under the heading Air Quality, David Vaughan's name is spelled incorrectly. In the text sentence the reference to the 1976 geometric mean for TSP should be elaborated upon. What is the meaning of 21.6 micro-grams per cubic meter? A lay person probably does not know. In addition, what air does this 21.6 micro-grams per cubic meter represent? Was this air that was affected or unaffected by mining activity?

9-8 (8) At the top of page 2-7, the statement is made that the lease consideration area does not contain any alluvial valley floors pursuant to the interim federal regulations on surface mining of coal. This statement is at best premature since the information necessary to make this determination is still being collected. The Montana Department of State Lands, with concurrence of the Federal Office of Surface Mining, has yet to make a decision regarding the extent and significance of alluvial valley floors in the North Extension area.

9-9 (9) On page 2-19 in the second paragraph relative to prime farmland, the federal rules that are referenced are designated incorrectly. They should be 716.7(a)(1) and 715.13(e)(5) and (7).

9-10 (10) At the top of page 3-9, the reference to high aluminum levels in the sediment of the West Decker settling pond may be misleading, since, if the analysis of aluminum in the sediment was based on a total digestion of the sediment, then considerable quantities of aluminum would be released because aluminum is a primary structural element of clays. The method for aluminum analysis of the sediment should be checked out and identified in the final TEEA.

9-11 (11) The Department appreciates the BLM pointing out in the report the potential mercury problem in West Decker sediment pond effluent, the possible mitigating measures, and the implications of this for the proposed North Extension mine. A progress report on further work regarding this potential problem is forthcoming in about 2 weeks from the Cooperative Fisheries Research Unit at M.S.U. It would be desireable if this report could be reviewed for pertinent information before the final TEEA is published.

George S. Mewberg
BLM
August 9, 1978
Page -3-

9-12 The Department is aware of some sparse data collected by the Geological Survey and the Bureau of Mines on the West Decker discharge which shows mercury in 4-11 samples below the detection limit of 0.1 microgram/liter. We requested this data through Roger Dragoon of the Helena Geological Survey Water Resources Division. This information should also be evaluated prior to the issuance of a final TEEA.

The mercury situation will be closely monitored by OSM.

9-13 (12) At the bottom of page 5-1, it is stated that a residual impact of mining will be that "a small amount of wind and water erosion of stockpiled and SCTP spoils will occur" (emphasis added). The word "small" should be quantified or made more definitive. In the same paragraph on residual impact on soils, the adverse affects on soil structure and the soil profile could perhaps be discussed.

Please don't hesitate to contact me regarding the proposed North Extension mine. Thank you very much for the opportunity to comment on the TEEA.

Sincerely,

Bruce Hayden, Administrator
Reclamation Division

xc: Neil Harrington
Mike Bishop
Mary Daniels, Tri-County Ranchers Assoc.
Donald Crane
Leo Berry, Jr.
Jack Reed

RH:lw

LETTER 9 9-1 Comments have been noted.

9-2 Text has been revised (see Recommendation/Rationale Statement).

9-3 Maps have been revised (see map 1-4 and 1-5).

9-4 Text has been revised (see page 1-13).

9-5 Maps have been revised.

9-6 Text has been revised (see Recommendation/Rationale Statement and map).

9-7 Text has been revised.

9-8 Text has been revised (see page 2-37).

9-9 Text has been revised (see page 2-13).

9-10 Further research has indicated that mining is not a significant source of aluminum in the Yongue River Reservoir. Therefore, it is not considered an impact from mining.

9-11 The information from this report has been incorporated into the final TEEA.

9-12 All available mercury data has been considered in the final TEEA.

9-13 Text has been revised (see page 5-1).

Letter 10

NORTHERN CHEYENNE TRIBE
INCORPORATED
P.O. BOX 128
LAME DEER, MONTANA 59043

LITTLE WOLF AND MORNING STAR - Out of defeat and exile they left an heir to Custer's star and won for Cheyenne freedom that we will keep forever.

WISDEEDY - The Morning Star

August 10, 1978

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Busby

District Manager
Miles City District
Bureau of Land Management
P.O. Box 940
Miles City, MT 59301

Dear Sir:

Enclosed are the comments of the Northern Cheyenne Tribe on the Technical Examination and Environmental Assessment statement prepared by BLM on the Decker North Extension Coal Lease Application.

Sincerely,

Allen Rowland, President
Northern Cheyenne Tribe

cc: Guy Martin
Forrest Gerard
M. R. D. C.
Bill Zaiglin

1. The sections of socio-economic impacts (beginning of Page 2016, and also on page 4-11) make no mention at all of the Northern Cheyenne Tribe. Yet, clearly, Tongue River water is an extremely important economic resource to the Northern Cheyenne. If the storage capacity of the Tongue River Reservoir were reduced, as the TSEA states will occur (page 7-1), then it would certainly seem necessary to assess the potential economic impacts this action would hold for the Tribe.

IB-1

2. The Tribe is also very concerned about the effect that mining of the low-lying extension area will have in limiting future expansion of the reservoir. The need for a new Tongue River dam has already been widely recognized. Many have recommended that a higher dam with increased storage capacity be built. This would seem desirable from many perspectives. Yet mining this low-lying area adjacent to the reservoir could possibly preclude expansion of the reservoir. Even if mining were completed before expansion of the reservoir occurred, a very serious contamination situation would likely result, with uncontrolled spoil banks, contaminant-loader and former settling pools forming an easily-leached shoreline reminiscent of any expanded reservoir.

IB-2

3. Secondary social impacts which might result to the Tribe from potential first level impacts, such as peer water quality, are not considered.

IB-3

4. The NSRC vs. Bushee decision does not intend the short-term leasing criteria (bypass and extension) to include a situation such as the Decker North Extension. This was not yet ever perceived a state permit, nor have adequate federal criteria been formulated to determine whether Decker North even represents an extension of Decker West, or whether the two mines, with their separate pits and associated infrastructures, actually constitute two separate mines.

IB-4

5. It is impossible to determine from the TSEA even what portion of the proposed 680 acre lease would actually be mined. Page 1-1 states: "Only 464 acres of the 680 acres under consideration fall within the proposed mining plan (Map AI-2). Coal in the remaining 96 acres is too near the reservoir to be mined." Yet 464A and 96A equals only 560 acres. Is the intent here to have the reader believe that there is less land involved in these operations than is in fact will be the case? Has BLM conducted this entire assessment with incorrect figures as to the basic acreages involved? It is in somewhat indicative of the overall quality of this "Technical Examination and Environmental Assessment" that even the basic arithmetic is incorrect.

IB-5

6. The level of analysis throughout the document is very poor. Numerous examples of inadequate or perfunctory "analysis" could be cited. One example which is by no means unique is the concluding paragraph of the section entitled

"Short-term Uses vs. Long-term Productivity." This statement reads:

> "The long-term productivity of the lease consideration area should recover the pre-mining conditions upon successful completion of the reclamation." (page 4-1)

IB-6

This unsupported conclusion summarily dismisses long-term impacts and with this permanently guileless statement Chapter 6 of the TSEA concludes its three paragraph "analysis" of "Short-term uses vs. Long-term Productivity.

This statement is preposterous enough by itself. However, the shoddiness of the TSEA analysis as a whole becomes even more apparent when the above statement is compared with others in the TSEA. Until, again illustrating the inconsistent the conclusions of Chapter 6 as quoted above. Page 5-4 of the TSEA itself for instance, acknowledges that:

> "Pre-mining ecological characteristics would not likely be completely recovered, but the extent of permanent loss cannot be accurately assessed due to limited evaluation of mine reclamation success in the Northern Great Plains."

IB-7

7. The TSEA inadequately addresses the potential water quality problems caused by flooding the lease area following mining, should the reservoir be enlarged. The TSEA on pages 1-3 states that since the Montana SHPO has not reported a time frame for decisions regarding construction of a new high dam and since the area has permitted the siting of facilities at the East Decker mine site below the higher spill way elevations, that any possible increase in reservoir elevation is sometime in the distant future. The Tribe does not feel this is an adequate assessment and fears that permitting mining of the proposed lease area will jeopardize options to construct a higher dam. Future inundation of a mined area could seriously affect the quality of irrigation water supplies the Tribe pays for in the reservoir.

We would like to point out that the TSEA, in its cursory addressing of this issue, is inconsistent with the response of the U.S. Geological Survey and State of Montana to the Tribe's letter of comment in the Final EIS for the East and North Decker mines. That response (copy enclosed) states that the terms of the Yellowstone River Compact, "Provide for adequate water for maintenance and fluctification of construction of an enlarged Tongue River Reservoir..." The damage to the existing structure caused by the May, 1978 flood give further reason to construct a new dam.

IB-8

If the reservoir elevation is increased, we fear that there could be long-term salinity and heavy metals impacts to the reservoir when the mined area is flooded, or, if the mined area is dried, that there would be a continual source of sediment to the reservoir resulting in storage losses. Salinity impact assessment work by Meyer Van Voast did not include this proposed federal lease area, nor did it examine the impacts associated with a new high Tongue Dam. We feel this kind of analysis should be done in the TSEA.

7. Alluvium in the valleys of Spring and Pearson Creeks proposed for mining is present to a depth below current water level in Tongue River Reservoir. Moreover, permeable clinker occurs throughout the study area. It is recognized in the EIS that these highly conductive zones may contribute to increased leaching of spoils into the reservoir. Less-permeable barriers have been proposed to minimize this influx. However, even these recommended barriers (which were predesigned after Decker Coal Company's proposed barriers were deemed ineffectual would only be 60% effective at best (p. 197, North Decker EIS). Substantial flushing of spoils may still occur due to changes in lake level. Moreover, is Decker Coal Company implementing these recommended barriers or using only their original designs? Will these barriers be removed after mining stops?

IB-8

Have consultants looked into the possibility that differences in head between the pit and the lake may cause water to well up from underneath the mine pit as well as from the sides where barriers are proposed? Bedrock layers are not completely impermeable and faulting does occur in the area.

8. If the first bow cut in the federally owned proposed extension is coincident to be 1,000 ft from the reservoir (p. 1-1, Map AI-1) and the plan is to mine towards the west, it is logical that overburden spoil would be piled to the east of the bow cut between the bow cut and the reservoir. What procedures will be taken to keep this material from entering the reservoir and causing sedimentation problems which would decrease storage and impair the fish population and recreation value of the lake? The proposed diversion channels and waste dumping areas (Map AI-2) do not seem to address this question. Moreover, it appears as if the proposed dumping area in the SW ¼ of Sec. 31 is actually in the reservoir. The proposed transportation corridor (Map AI-3) also seems to fall within the narrow strip between the bow cut and the reservoir. Associated construction can be expected to create spoil which may also be eroded.

IB-9

9. It is apparent that the plan proposes mining the valley floors of Spring and Pearson Creeks in which considerable silluvium has been deposited (Figure 32, p. 121, Final EIS, East Decker and North Decker Extension Mines). The TSEA has not addressed the question over definition of silluvial valley floor which needs to be determined before any mining such as that proposed takes place.

IB-10

10. We are very concerned about possible mercury and other heavy metal contamination of the reservoir from the proposed mining operation. The TSEA recognizes the potential mercury problem and proposes a two-settling pond system as a mitigating measure. It is apparent from Map AI-2 that the settling ponds are to be built in the Spring Creek drainage. Yet, the early Spring Creek flows will be inadequate of the impacts if a settling pond at higher elevation is inevitably flooded by a new higher reservoir level or affected by groundwater seepage. The U.S. Geological Survey has collected mercury data at the Stateline, Tongue River Dam and Tongue River below Hanging Woman Creek sampling stations during the 1975, 1976 and 1977 water years. Why were these data not utilized in the analyses? Our own water quality data indicate there may already be mercury levels that cause concern for aquatic life in the Tongue River at certain times. We have recorded levels in the Tongue River as high as 0.0065 mg/L, near the level recognized as potentially hazardous to aquatic life in the TSEA. We would like

IB-11

the TSEA to assess both the cause of current mercury levels and the impacts of the mercury potentially available from all mining sources around Decker. No matter where the heavy metals in the mine effluent are temporarily stored, they will always be in close proximity to the Tongue River system and pose a threat for decades to come. The problem deserves more considered treatment given the potentially severe long-term impacts on downstream aquatic life, irrigation water, crops, animal and human life.

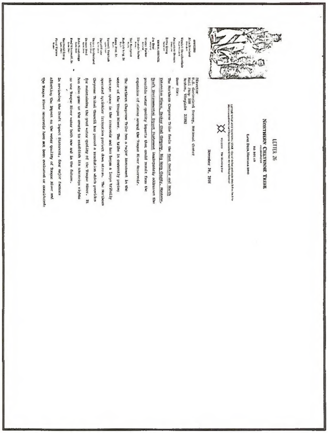
11. The TSEA does not address how water quality impacts from the proposed lease area will interact with other likely impacts to effect net water quality released from the reservoir. Since the State of Wyoming is able to use more water than it is at present under the terms of the Yellowstone River Compact, there will likely be further increases in the salinity of the inflow water to the reservoir.

IB-12

Although increases in TDS concentrations in the reservoir due to this proposed lease may be small in themselves, serious degradation of a cumulative nature could occur as new mines are established in the area. Wests water from East Decker, Decker, Spring Creek, Youngs Creek, CX Ranch, Pearl, Whitney Benefits and Bighorn mines could all discharge mine effluent into the Tongue River Reservoir. Groundwater discharge from these mines will cause elevated TDS levels for hundreds of years.

IB-13

We must be concerned with the total impact since this is what will determine if the water is suitable for sprinkler irrigation and other uses of the Tribe. We strongly feel that environmental impact statements and assessments such as this one must address these cumulative impacts in order to comply with the law and make the analyses meaningful to the public.



LETTER 26

NORTHERN CHEYENNE TRIBE

[illegible]

Lame Deer, Montana 59043

[illegible]

November 24, 1976

OFFICERS
Allen Rowland
[illegible]

TRIBAL COUNCIL
[illegible]

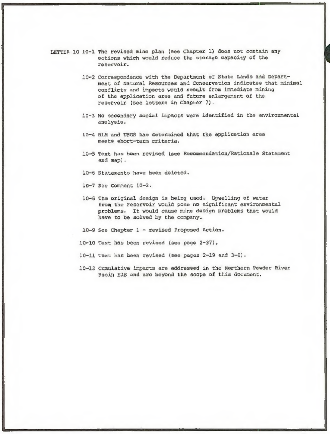
Director
U.S. Geological Survey, National Center
Mail Stop 108
Reston, Virginia 22092

Dear Sir:

The Northern Cheyenne Tribe feels the East Decker and North Extension Mines, Decker Coal Company, Big Horn County, Montana, Draft Environmental Impact Statement inadequately addresses the possible water quality impacts that could result from the expansion of mining around the Tongue River Reservoir.

The Northern Cheyenne Tribe has a major investment in the water of the Tongue River. The tribe is currently paying storage space in the reservoir and has begun a large tribally operated sprinkler irrigation project down stream. The Northern Cheyenne Tribal Council has passed a resolution which provides for maintaining the good water quality of the Tongue River. It has also gone to the courts to establish its sovereign rights to use Tongue River water both now and in the future.

In reviewing the Draft Impact Statement, four major factors affecting the impact to the water quality of Tongue River and the Tongue River reservoir have not been evaluated or considered:



LETTER 10 10-1 The revised mine plan (see Chapter 1) does not contain any actions which would reduce the storage capacity of the reservoir.

10-2 Correspondence with the Department of State Lands and Department of Natural Resources and Conservation indicates that minimal conflicts and impacts would result from immediate mining of the application area and future enlargement of the reservoir (see letters in Chapter 7).

10-3 No secondary social impacts were identified in the environmental analysis.

10-4 BLM and USGS has determined that the application area meets short-term criteria.

10-5 Text has been revised (see Recommendation/Rationale Statement and map).

10-6 Statements have been deleted.

10-7 See Comment 10-2.

10-8 The original design is being used. Upwelling of water from the reservoir would pose no significant environmental problems. It would cause mine design problems that would have to be solved by the company.

10-9 See Chapter 1 - revised Proposed Action.

10-10 Text has been revised (see page 2-37).

10-11 Text has been revised (see pages 2-19 and 3-6).

10-12 Cumulative impacts are addressed in the Northern Powder River Basin EIS and are beyond the scope of this document.

-2-

1\. The contention of this E.I.S that there will be no measurable impact on the water quality of the Tongue River Reservoir and River has not been explained to the Tribe's satisfaction. The Tribe believes that water degradation associated with mineralized ground water discharging to the reservoir from spoil piles adjacent to the mining areas will be measurable. The report also does not clearly indicate how this mineralized water will be assimilated and where water would be sampled to detect the presence or absence of water quality degradation. 1

2\. The spoil flushing effect of stage variation of a large Tongue River Reservoir was discussed, however, the probability of a similar effect resulting from the present large fluctuations of the reservoir was not addressed. It is probable that drainage of highly mineralized spoil water will measurably effect the water quality of the reservoir and river at low reservoir stage. 2

3\. The real potential that large scale withdrawals of water above the reservoir will reduce the reservoir inflow and in turn significantly reduce the flushing and dilution function of the reservoir has not been assessed. It is believed that during the life of the proposed project and after its completion upstream energy and agricultural use of the stream will consume large quantities of water which will then not be available for dilution of discharging mineralized spoil water. 3

4\. If degradation of reservoir and river water does occur the methods of correcting the degradation and compensating water users has not been assessed. 4

The Northern Cheyenne Tribe feels that the Draft Environmental Statement must further consider the impact of highly mineralized ground water discharge, the inevitability of reduced Tongue River inflow, the effect of a fluctuating reservoir stage, and plans to abate and compensate for degradation of the water quality of the Tongue River before a true environmental impact can be assessed for the proposed mines.

Sincerely,

For- Allen Rowland, President
Northern Cheyenne Tribal
Council

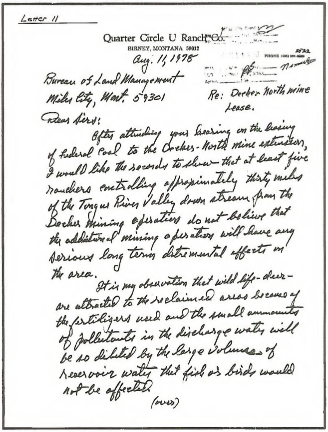
cc: Leo Berry Jr.
Montana State Lands

1 Your comment has been noted. Mass balance calculations indicate that simultaneous release of mine effluent from the existing and proposed mines would be so small as to have virtually no detrimental effect on the use of the reservoir or its water [illegible] (fig. 65). The same conclusion was reached by Van Voast and Hedges (1975) in their appraisal of the effect of mining on the quality of water in the Tongue River Reservoir. Water quality monitoring stations on the Tongue River downstream from the Decker area are described in an open-file report by the U.S. Geological Survey entitled, "Water-resources investigations of the U.S. Geological Survey in the Northern Great Plains Coal Region of Eastern Montana, 1975-76."

2 The Decker Coal Co. proposes to construct ground-water barriers in both the East Decker and North Extension areas (see sec. IV.B.3.a.(1) (c)) to minimize inflow from the Tongue River Reservoir to the adjacent mine cuts. These barriers, if not removed after mining is completed, would greatly retard any sustaining cyclical circulation between the reservoir and the spoils aquifer in response to water-level fluctuations in the reservoir. The effect would be to virtually eliminate any spoil-flushing effect as a result of stage variation in the existing reservoir. Breaching these barriers after mining is completed would partially restore cyclical circulation; however, movement of water into the spoils during high reservoir stage and back to the reservoir during low stage very probably would not exceed a few hundred acre-feet annually. The effect of that small amount of flushing on the quality of water in the reservoir would be inconsequential.

3 The Yellowstone River Compact apportions the waters of the Tongue River between the states of Montana and Wyoming. The terms of that compact prevent excessive withdrawal of water from the river upstream from the Tongue River Reservoir and, according to Rick Bondy (Montana Department of Natural Resources and Conservation, oral communication), provide for adequate water for maintenance and justification of construction of an enlarged Tongue River Reservoir as described in the environmental statement in section I.B.1. It is highly unlikely, therefore, that the river flow, and thus the reservoir contents, will be sufficiently depleted in the foreseeable future to the extent that inadequate dilution of the ground-water discharge from the spoils aquifers would occur.

4 As described in section IV.B.6.d. "Environmental monitoring," the water quality of principal surface-water and ground-water sources would be continuously monitored throughout the life of the proposed operation. Any degradation to water quality should be detectable before impairment to water use becomes serious. Should this situation become a reality, the Company, in consultation with appropriate permitting and regulatory agencies, would identify the source and initiate necessary corrective measures.



Letter 11

Quarter Circle U Ranch Co.
BIRNEY, MONTANA 59012
PHONE (406) [illegible] 2522

Aug. 11, 1978

Bureau of Land Management
Miles City, Mont. 59301

Re: Decker North mine
Lease.

Dear Sirs:

After attending your hearing on the leasing of federal coal to the Decker-North mine extension, I would like the records to show that at least five ranchers controlling approximately thirty miles of the Tongue River Valley down stream from the Decker Mining operations do not believe that the additional mining operations will have any serious long term detrimental effects on the area.

It is my observation that wild life-deer-are attracted to the reclaimed areas because of the fertilizers used and the small amounts of pollutants in the discharge water will be so diluted by the large volumes of reservoir water that fish or birds would not be affected.

(over)

I would also like the record to show that the cool pits both at Acme and at Colstrip, constructed thirty years ago, have been the habitat for trout and recreation activities for 4-H camps and other youth groups.

Sincerely,

Burton Brewster

Letter 12

STATE OF MONTANA
ENVIRONMENTAL QUALITY COUNCIL
CAPITOL STATION
Helena, Montana 59601

Terrence D. Carmody, Executive Director

August 15, 1978

District Manager
Miles City District
Bureau of Land Management
P.O. Box 940
Miles City, MT 59301

Gentlemen:

I have read your draft of the Technical Examination and Environmental Assessment of the Decker North Extension and submit this response as a representative of the Environmental Quality Council staff.

The draft addresses the impacts in the area near and including the Tongue River Reservoir with sufficient detail to warrent the question of whether the need for the extension of the coal mine to include a portion of the land in closer proximity to the reservoir is worth the environmental degradation that strip mining would cause. Specifically the impact assessment admits to the fact that the settling ponds are very susceptible to flooding and there could be leakage of heavy metals in solution during high water levels which would endanger the water quality of the reservoir. The statement continues on supporting the previous remark by saying that "the sediment of the pond might be potentially toxic and could be introduced into the reservoir in the event of flooding. This is a major impact and could cause significant degradation to the Tongue River System."

12-1

Key wildlife habitat alienation occuring along the shoreline of the Tongue River Reservoir is another reason for questioning shoreline mining operations. If mining is allowed I hope that the alternative to lease west of the transportation corridor with all the listed mitigation measures is strongly considered.

12-2

Thank you for the opportunity to comment.

Sincerely,

TERRENCE D. CARMODY
Executive Director

By Duane Noel
Duane Noel

TDC/DN/bj

LETTER 12 Comments have been noted.

LETTER 12 12-1 Settling ponds have been relocated to the west of the transportation corridor (see Chapter 2 - Proposed Action).

12-2 Leasing west of the corridor is the recommendation.

Letter 13

MONTANA COOPERATIVE FISHERY RESEARCH UNIT
TELEPHONE (406) 994-2430

DEPARTMENT OF BIOLOGY — MONTANA STATE UNIVERSITY, BOZEMAN 59715

7 September 1978

Mr. Jerry Gill - Wildlife Biologist
Miles City District Office
Bureau of Land Management
Miles City, Montana 59301

Dear Jerry:

I have taken a critical look at the Technical Examination and Environmental Assessment of the Decker North Extension Coal Lease Application. I recommend the following changes.

(1) Delete all of p. 3-8 and the paragraph ending at the top of p. 3-9. Substitute the following:

Metals that have been detected at relatively high concentrations in mine drainage include aluminum and mercury (Phillips and Gerrison 1977). The mean value for mercury (0.002 mg/l) exceeded the level recommended for the protection of aquatic life by a factor of 18 while the worst value for aluminum was three times higher. However, aluminum levels in Tongue River water, above the influence of the west Decker mine were actually slightly higher than the levels reported for mine water (0.40 mg Al/l compared to 0.31 mg Al/l); thus, the mine was not contributing aluminum to the Tongue River. The average mercury concentration in the mine discharge was about sevenfold higher than that reported for the Tongue River (0.0003 mg/l) over the same time span. However, it should be pointed out that mine water undergoes considerable dilution in the Tongue River. This level of dilution (about 2000-fold average) currently negates any measurable change in the mercury concentration in Tongue River water.

B-7

Hydrologists predict that with the expansion of mining at Decker as much as a 10-fold increase in discharge could result.

B-2

Even this rate of discharge would not significantly influence the mercury concentration of the Tongue River; nevertheless it must be remembered that many mines in addition to those at Decker, are projected to become operational in the Tongue River drainage over the next several decades. Their combined influence could become significant.

COOPERATIVE
MONTANA FISH AND GAME DEPARTMENT
MONTANA STATE UNIVERSITY
U.S. FISH AND WILDLIFE SERVICE

LETTER 13 13-1 Comments have been noted and text revised (see page 2-19).

13-2 The purpose of this TECH is to address only those impacts which would occur from mining the Decker application area. Cumulative impacts from the mining in the surrounding area will be addressed in the Regional EIS

13-3 Comments have been noted and text has been revised (see pages 3-5 and 4-2).

Jerry Gill, Letter

The Tongue River Reservoir is most likely to be impacted because conditions exist in reservoirs that promote the methylation of mercury to methylmercury, the most toxic and bioaccumulative form. Moreover, fishes from the Tongue River Reservoir already contain relatively high mercury concentrations (possibly due to an innately high amount of mercury in the watershed) thus, further contamination could result in a serious problem.

(2) Delete the last sentence of the middle paragraph on p. 3-17. No substitution required.

(3) Delete the first two sentences at the top of p. 3-21. Substitute the following:

Heavy metals, such as mercury, can have a significant impact on the environment. The potential for further mercury contamination in the Tongue River Reservoir is of concern because of the planned expansion of mining in the watershed.

B-3

(4) Delete the first sentence of the second paragraph on p. 4-4 and substitute the following:

If expanded mining is found to result in unacceptable amounts of mercury being discharged into the Tongue River, then the problem could possibly be mitigated by means of the improved waste treatment systems proposed by Torbek and Olsen, 1977.

I believe that these changes put our reported findings in the proper context.

Sincerely,

Glenn E. Phillips
Biologist

GEP:gh

Letter 14

BIG HORN COUNTY

HARDIN, MONTANA
September 12, 1978

Mr. George Neuberg
District Manager
Miles City District Office
P. O. Box 940
Miles City, Montana 59301

RE: Decker North Extension Coal Lease Application

Dear Mr. Neuberg:

The Big Horn County Commissioners wish to express their support for the issuance of coal lease M-39736 to Decker Coal Company.

It is our opinion that the coal in the area of the lease application ought to be mined in conjunction with that of the existing leases. Such mining would cause only limited additional impact beyond that which would occur as a result of mining the existing leases.

The taxes and royalty of leases as a result of mining the area in question would help Big Horn County to mitigate any impacts due to growth for many years to come.

LETTER 14 Comments have been noted.

re: Decker North Extension Coal Lease

Coal is the only reliable long term resource of energy that we have in the United States, and it is essential the we proceed with an orderly and feasable process.

Yours truly,

Senator Carroll Graham
District 29

Letter 15

The Big Sky Country

MONTANA STATE SENATE

September 13, 1978

SENATOR CARROLL GRAHAM
P.O. BOX 1
LEWIS TOWN, MONTANA 59083

COMMITTEES
AGRICULTURE, LIVESTOCK AND IRRIGATION, CHAIRMAN
LEGISLATIVE AUDITS
LEGISLATIVE ADMINISTRATION
LEGISLATIVE COUNCIL, MEMBER

Mr. George Neuberg
District Engineer
Miles City District Office
P.O.Box 940
Miles City, Montana 59301

Re: Decker North Extension Coal Lease Application

Dear Mr. Neuberg,

I am unable to attend your hearing in Ashland, Mt. on the 13th of Sept. due to other commitments.

I have examined the area and studied the feasability of issuing a lease to the Decker Coal Company. I believe that Coal lease m-35736 should be issued to the Decker Coal Co. This small block of coal is adjacent to their existing coal mining properties and should be mined in conjunction with their present and proposed mining plans.

If this area can be mined in conjunction with their existing operation the reclamation will be easier and more complete. Once the coal is removed and the reclamation is completed, the area would not have to be disturbed again.

I am of the opinion that it would be a mistake to by pass this small area at this time, and then perhaps have to go back at a later date to remove the coal and go through another reclamation project.

LETTER 15 Comments have been noted.

Letter 16

NANCE CATTLE COMPANY
BIRNEY, MONTANA 59013

September 15, 1978

District Manager
Miles City District
Bureau of Land Management
Box 940, Miles City, Montana 59301

RE No. Decker TEEA

Dear Sir,

The denial of this lease could very well result in a waste of natural resources because the amount of minerals used in this lease may be uneconomical to come back to.

The permission to mine this lease should be and will be interited by the Office of Surface Mining (O.S.M.) and, or the state of montana.

Sincerely,

Nance L. Nance

Nancy L. Nance

Letter 17

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
BILLINGS AREA OFFICE
316 North 26th St
BILLINGS, MONTANA 59101

IN REPLY REFER TO:
Environmental Quality

SEP 13 1978

Memorandum

To: Byron G. Villarreal
Acting District Manager
Bureau of Land Management
Miles City District Office

From: Office of the Area Director

Subject: Review of Draft Technical Examination and Environmental Assessment for Decker West Extension, Coal Lease Application

We appreciate the opportunity to have reviewed the subject. The TEA is well prepared and adequately presents substantive information for analysis of regional impacts to Indian lands and people.

17-1 Of prime concern to this office is the probable introduction of water, sodium and pressure due to the proposed location of the settling pond and placement of spoils below the spillway elevation of the Tongue River Reservoir. Both the settling pond and spoils will be susceptible to flooding and inundation at 100-year stream flows. Subsequently, the above named and possible other contaminants into the waters of the reservoir and the Tongue River.

17-2 As you are aware mercury is accumulative, i.e. invertebrates, microorganisms and woodlay plants assimilate various levels of mercury into their tissue systems. Consumers of these organisms, such as fish, accumulate the mercury into their systems to possible lethal levels. Other higher level consumers of fish, such as birds and man, may ingest sufficient quantities of mercury to cause disability or even death. The mercury may also be introduced to man and livestock from the ingestion of plants over the water source or from irrigated crops.

17-3 This office would submit that strong mitigative measures be taken to insure water quality. These may include the possible construction of a pre-settling pond system as discussed in the text or relocation to the west of the transportation corridor. We would also suggest that consideration be given to for more sufficient mixing areas adjacent to the reservoir to prevent contaminated ground water movements into the reservoir. As a minimum, the mission plan should be modified to incorporate elaborate water sampling of ground water, settling pond waters, organisms,

Acting Area Director

LETTER 16 Comments have been noted.

2

plant life, fisheries, and to include a sampling area of sufficient distance downstream of the reservoir in order to insure that water quality remains undisturbed.

17-4 Waters of the Tongue River Reservoir and the Tongue River are of unquestionable value to the Northern Cheyenne Indians. The waters are used for livestock, irrigation, bathing and fishing and in some instances as a source of potable water. Any contamination or pollution as presently contemplated would have disastrous effects on the Indian people and their way of life.

The Northern Cheyenne as well as other Tribes of the Great Plains hold that, and the Courts have sustained, that have prior and paramount rights to the waters of all rivers, streams, or other bodies of water, which may flow through, arise upon, underlie or border upon their reservation. These rights further qualify that such waters shall be of sufficient quantity and quality to fulfill the purpose for which they were reserved. Historically, non-Indian users of water have made developments utilizing or relocating waters in complete disregard to the prior and paramount rights of Indian Tribes. The Department of the Interior has been charged with the responsibility for the development, conservation, and wise management of the resources of the Indian Tribes. Consequently, we are hopeful that you will give this matter due attention it rightfully deserves.

LETTER 17 17-1 Settling pond has been relocated to the west of the transportation corridor (see comment 8-1 and Chapter 11).

17-2 Comments have been noted.

17-3 An intensive monitoring program has been proposed by Decker Coal Company. See last page of letter 19 - Decker Coal Company.

17-4 Comments have been noted.

MROPD-M 14 September 1978
Mr. George Neuberg

e. Fill in spawning areas during spawning seasons should be avoided.

b. Fill should not restrict or disrupt the movement of aquatic species indigenous to the waters, or the passage of normal or expected high flows or cause the relocation of the waters (unless the primary purpose of the fill is to impound water).

c. The fill creates an impoundment of water, adverse impacts on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow should be minimized.

d. Fill in wetlands areas should be avoided.

e. Heavy equipment working in wetlands should be placed on mats.

We would appreciate receiving a copy of the draft environmental impact statement and any supporting documents when they become available.

Sincerely yours,

John E. Hildebrand, P.E.
Chief, Planning Division

2

Letter 18

DEPARTMENT OF THE ARMY
OMAHA DISTRICT, CORPS OF ENGINEERS
601A U.S. POST OFFICE AND COURTHOUSE
OMAHA, NEBRASKA 68102

MROPD-M 14 September 1978

Mr. George Neuberg
District Manager
U.S. Department of the Interior
Bureau of Land Management
Miles City District Office
P.O. Box 940
Miles City, Montana 59301

Dear Mr. Neuberg:

Our office has reviewed your Draft Technical Examination and Environmental Assessment for the Decker North Extension Coal Lease Application.

Environmental concerns are adequately covered in the assessment. However, under Section 404 of the Federal Water Pollution Control Act as amended (F.W.P.C.A.), individual or nationwide Department of the Army permits are required for activities that involve the discharge of dredged or fill material in our nation's waterways, lakes, and wetlands. Based on the information submitted, the proposed activity will not involve the filling of a wetland area and is located on creeks which have an average annual flow of less than five cubic feet per second. Accordingly, the activity for the purposes of Section 404 of the F.W.P.C.A. is hereby authorized under the "Nationwide Permit" without further processing provided the following conditions are adhered to.

a. The fill will not destroy a threatened or endangered species as identified under the Endangered Species Act, or endanger the critical habitat of such species.

b. The fill will consist of suitable material free from toxic pollutants in other than trace quantities.

c. The fill created by the discharge will be properly maintained to prevent erosion and other nonpoint sources of pollution.

In addition to the conditions specified above, the following management practices should be followed to the maximum extent practicable in the performance of the work.

LETTER 18 Comments have been noted.

Lemar 19

GENERAL OFFICE
Sheridan, Wyoming 82801
P. O. Box 591 3049

DECKER COAL COMPANY

P. O. BOX 3049
SHERIDAN, WYOMING 82801

MINE OFFICE
Decker, Montana 59025
P. O. Box 10

TELEPHONE 307-672-3401

Address reply to: GENERAL OFFICE

September 15, 1978

Mr. Lance Mimno
Surface Protection Specialist
Bureau of Land Management
Miles City District
P. O. Box 940
Miles City, Montana 59301

Dear Mr. Mimno,

Enclosed you will find a copy of the testimony which I presented on behalf of Decker Coal Company at the public hearing in Ashland on September 13, 1978. Part II was presented as oral testimony that night and the rest turned in as written testimony. However, I inadvertantly had forgotten to include the mercury analysis data which we had compiled on the Tongue River drainage. The enclosed copy of the testimony does include the data. I hope that this data and testimony will help you in your analysis of the mercury situation in the Tongue River.

If you have any questions regarding the testimony or data, please feel free to contact me.

Sincerely,

DECKER COAL COMPANY

Roger A. Burton
Aquatic Biologist

RAB/dr

Enc.

I-Water Quality Testimony to be presented at the Public Hearing on the North Decker Extension Environmental Impact Statement

In the last month we have been advised that certain interest groups are of the opinion that a serious mercury problem now exists in the Tongue River Reservoir and that the sources of the problem are the Decker mines. We are aware of an unpublished study conducted by the Montana Department of Health and Environmental Sciences during 1975 and 1976 which measured the total mercury content of the West Decker Mine effluent and of waters at various locations along the Tongue River Reservoir. It appears that the conception by these interest groups of a mercury problem is substantially based on these data and we would like, at this time, to discuss our own analysis of it.

The data, in the form presented to us, show that the mercury levels in the mine discharge are, in most cases, very similar to those of the reservoir inflow. However, during four sampling periods: 10-6-76, 10-18-75, 6-24 and 25-76, and 8-5 and 6-76, substantially higher levels of mercury were recorded in the mine discharge than were recorded in the reservoir inflow. The effect of those high levels appears to be reflected by very high levels in the outflow of the reservoir. We feel that the levels reported for these are highly questionable. For three of the dates: 10-18-75, 6-24-76, and 8-5-76, we have flow information for the mine discharge and for the USGS station on the Tongue River at the State Line which would essentially be the inflow to the reservoir. With these data and the mercury values presented for inflow and mine discharge, we have calculated simple mass balances for those dates to determine what effect the mine discharge would have upon the river system. Flow values in the river for these dates were 253 cfs, 1800 cfs, and 390 cfs, respectively, while flows from the

-1-

mine were .42 cfs, .67 cfs, and .92 cfs, respectively. Even using the high values of mercury reported, the mass balance calculations show that it would be impossible for the mine discharge to increase the mercury levels to those reported at the reservoir outflow. Increases reported would be three to four orders of magnitude higher than the calculated increases. It is our contention that the values reported for the reservoir outflow during these dates are incorrect and more than likely are the result of sample contamination or analytical error. This contention is in part, supported by a personal communication to us from M. K. Botz, former chief of technical investigations of the Water Quality Bureau, Montana Department of Health and Environmental Sciences. Mr. Botz stated that discussion with a sampler on this study (D. Klarich, Montana Water Quality Bureau, Billings, Montana) showed that at least one occasion (8-5-76), samples could have been contaminated by a mercuric chloride preservative used for nutrient samples being taken at the same time. Due to the data inconsistencies noted through use of mass balance calculations and because analytical problems and sample contamination appear to have influenced the results of this study, we feel that these data should not be used as part of any scientific investigation.

-2-

DATE	MINE DISCHARGE Total Hg (µg/l)	Flow (CFS)	RESERVOIR INFLOW Total Hg (µg/l)	Flow (CFS)	RESERVOIR OUTFLOW Total Hg (µg/l)	CALCULATED MASS BALANCE Total Hg (gm)
10/18/75	8.9	0.42	1.0	253	14.0	1.02
6/24/76						
6/25/76)	11.2	0.67	0.5	1800	1.8	0.3003
8/5/76)						
8/6/76)	335.8	0.92	2.3	390	380.0	2.2

Flows from USGS records and Decker Mine NPDES records.
* Mercury values from unpublished data supplied by Montana Dept. of Health & Environmental Sciences.

Table 2. The point mercury content of the Decker mine effluent relative to its receiving waters, Goose Creek, Tongue River Reservoir, and Tongue River, Montana, 1975. Concentrations are in ng/l (parts per trillion). Count represents the number of samples collected during 1975. Samples were taken at the surface (S), midwater (M), and bottom (B) reservoir sites of Montana Department of Health and Environmental Sciences.

Date	Mine discharge	Res. inflow	Concentration of total mercury (ug/l) Reservoir — at dam: surface S	M	B	at middle: surface S	M	B	at inlet: surface S	M	B	Res. outflow
1-3-75	0.3											
3-13	<0.1	0.4										2.4
3-1	<0.2	0.3				<0.7	<0.7	<0.7	<0.2	<0.2	<0.2	0.3
3-16							<0.7					<0.2
3-23	<0.2	<0.2										<0.2
3-28	<0.2	0.4	<0.2	<0.2	0.5	<0.2	<0.2		<0.2	<0.2		
4-10	<0.2	<0.2										<0.2
4-11			<0.2			<0.2			<0.2			
4-8	<0.2	<0.2										<0.2
4-7		<0.2										
4-8						<0.2	<0.2		<0.2	<0.2		
4-14	2.1	<0.1				<0.2			<0.2			2.9
4-16	2.1	1.9				3.8			<0.2			10.0
4-21	<0.2	<0.2										<0.2
4-21	<0.2	0.5				<0.2			<0.2			0.5
4-1												
4-4												<0.2
4-14	2.0	0.4				0.5			0.4			0.4
4-15	0.3											
4-18	0.3	0.3										<0.2
4-15						<0.2	1.4	0.9				

Taken From: First Progress Report, April-July 1975. The Potential for Long-Term Mercury Contamination of the Tongue River Reservoir Resulting from Surface Coal Mining. Montana Cooperative Fishery Research Unit.

Table 3. The total mercury content of the Decker mine effluent relative to its receiving waters, Goose Creek, Tongue River Reservoir, and Tongue, Otter Creek, Pitchercreek, Tower Reservoir and Yellowstone, major tributaries, and Tongue River Reservoir, Montana during 1976. Samples from each of the three reservoir stations were collected at the surface (S), midwater (M), and bottom (B) reservoir sites of Montana Department of Health and Environmental Sciences.

Date	Mine discharge	Res. inflow	Concentration of total mercury (ug/l) Reservoir — at dam: surface S	M	B	at middle: surface S	M	B	at inlet: surface S	M	B	Res. outflow
1-13-76	0.3	1.8				0.8						2.0
3-25	<0.3	<0.3				<0.3	<0.2	<0.3				<0.2
3-31	<0.3	<0.3				0.4	0.4	0.6				
4-13	<0.3	<0.1										
4-16						<0.2	<0.2		<0.2	<0.2		<0.2
5-1	<0.2	<0.3				<0.2	<0.2		<0.2	<0.2		<0.2
5-13	2.0	<0.2										<0.2
5-25			<0.1	<0.2		<0.3	<0.2		<0.2	<0.2		
5-26	0.8	0.9										
6-9	1.2	0.3										
6-16			<0.2[a], 0.3	0.2	<0.2	0.3	<0.2[a], 0.4	<0.2	<0.2[a], 0.5	0.5	<0.2[a], 0.5	<0.2
6-24	1.2	0.9										
6-29			(0.4[b]	)					(0.5[b]	)		1.0
7-7	<0.2	0.4	2.7	0.8	0.2	0.7	0.3	0.2	5.8	3.3	2.3	1.0
8-3	100.0	2.1				(0.4[b]			(178[b]	)		150
8-4												
8-30	0.6	<0.2	<0.2	<0.2	<0.2	2.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
9-24	0.4											

[a] Image for control situation examples.

[b] Composite sample from surface, midwater, and bottom.

Taken From: First Progress Report, April-July 1976. The Potential for Long-Term Mercury Contamination of the Tongue River Reservoir Resulting from Surface Coal Mining. Montana Cooperative Fishery Research Unit.

Part II

There is no denying that mercury does occur in the waters of our environment. In his paper entitled "Mercury in the Aquatic Ecosystem', D'Itri states that, "Based on the available data, the concentrations of mercury which can be assumed to be due to natural environmental mercury range from 0.03 to 6.00 ppb with a normal mean value varying near 0.03 ppb."

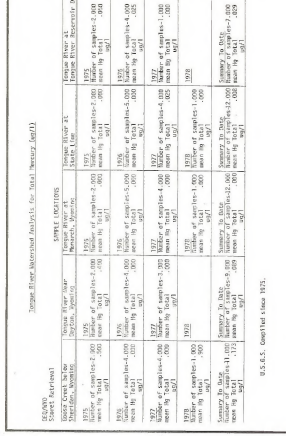
Sampling for mercury has been conducted in the Tongue River drainage by a number of organizations. The U.S. Geological Survey has sampled for mercury from above Dayton, Wyoming to below the Tongue River Reservoir since 1974. Their results have shown that the mean values of total mercury are 0.17 ug/l in Goose Creek below Sheridan and 0.09 ug/l in the Tongue River near Dayton, while in the Tongue River at the State Line and below the Tongue River Reservoir Dam, the mean values are 0.008 ug/l and 0.008 ug/l, respectively. These data tend to indicate that the higher mercury levels are located in the upper regions of the drainage and that the lower portions of the drainage have more of a decreasing effect through dilution by the influx of other waters and through adsorption to the sediment which then settles out. This data is further substantiated by a spot check conducted by Peter Klewit Sons' Co., Mining District hydrology and reclamation personnel in August, 1978. They found 0.1 ug/l of total mercury in Goose Creek below Sheridan, in the Tongue River below Dayton, and in the Tongue River below the confluence of the two streams, but were unable to detect mercury in the Tongue River just above the reservoir. The West Decker mine discharge was not sampled because there has been no discharge since around June of 1978.

Monitoring of Total and Dissolved mercury has been conducted by Peter Klewit Sons' Co., Mining District personnel on a regular basis since

August, 1977 from just above the Big Horn Mine on Goose Creek and the Tongue River to above the Tongue River Reservoir. All results show mercury levels to be below the detectable limit of 0.1 ug/l.

Sources of mercury in these upper reaches have not been identified, however, the Wyoming Department of Environmental Quality did conduct a short mercury study on Goose Creek in February, 1978 which contained some interesting results. They found total mercury levels of 1.2 ug/l and 1.3 ug/l in the stream below the Sheridan Sewage Treatment Plant outfall and values of 2.6 ug/l and 0.6 ug/l, respectively, in the Sheridan Sewage Treatment Plant raw effluent and final effluent. These effluent values agree quite closely with the studies of D. R. Klein at Holland and Grand Rapids, Michigan where he found that raw effluent and final effluent mercury values ranged from 1.0 - 4.6 ppb and 0.6 - 2.0 ppb, respectively, for the Grand Rapids Sewage Treatment Plant and 1.0 - 2.2 ppb and 0.8 - 1.6 ppb, respectively, for the Holland Sewage Treatment Plant.

The Argonne National Laboratory has conducted mercury sampling in Goose Creek and the Tongue River above, within, and below the Big Horn Mine. To date, the mercury levels in those stretches of stream have been below their detectable limits.



Tongue River-Determined Analysis for Total Mercury (ug/l)

DECKER
Sweet Fairview

SAMPLE LOCATIONS

Upper Creek Below Decker, Montana

Various River Flow Conditions, Upstream

Tongue River near Decker, Montana

Tongue River at Interstate Bridge

Tongue River at Tongue River Reservoir Dam

1975
Number of samples=2 .000
mean Hg total .000
ug/l .0000

1976
Number of samples=2 .000
mean Hg total .000
ug/l .0000

1977
Number of samples=4 .000
mean Hg total .000
ug/l .0000

1978
Number of samples=1 .000
mean Hg total .000
ug/l .0000

Summary to Date
Number of samples=11 .000
mean Hg total .000
ug/l .0000

1975
Number of samples=2 .000
mean Hg total .000
ug/l .0000

1976
Number of samples=2 .000
mean Hg total .000
ug/l .0000

1977
Number of samples=3 .000
mean Hg total .000
ug/l .0000

1978

Summary to Date
Number of samples=5 .000
mean Hg total .000
ug/l .0000

1975
Number of samples=2 .000
mean Hg total .000
ug/l .0000

1976
Number of samples=2 .000
mean Hg total .000
ug/l .0000

1977
Number of samples=4 .000
mean Hg total .000
ug/l .0000

1978
Number of samples=1 .000
mean Hg total .000
ug/l .0000

Summary to Date
Number of samples=11 .000
mean Hg total .000
ug/l .0000

1975
Number of samples=2 .000
mean Hg total .000
ug/l .0000

1976
Number of samples=2 .000
mean Hg total .000
ug/l .0000

1977
Number of samples=4 .000
mean Hg total .000
ug/l .0000

1978
Number of samples=1 .000
mean Hg total .000
ug/l .0000

Summary to Date
Number of samples=11 .000
mean Hg total .000
ug/l .0000

U.S.G.S. Compiled since 1975.

JIM DONLON
cor/8/31/78

WATER

	Dissolved	Total
LC	<.0001	<.0001
BG	"	"
GC at Port of Entry	"	0.0001
GCC	"	<.0001
GC2	"	"
TR9	"	"
TR1	"	"
TR3	"	0.0001
TR below Ranchester	"	<.0001
TR below Dayton	"	0.0001
TR above Dayton	"	<.0001

SEDIMENT

	Water soluble	Total
GC at Port of Entry	<.0001	.0167
GCC	"	.0150
GC2	"	.1936
TR9	"	.0593
TR1	.0001	.0167
TR3	.0001	.0150
TR below Ranchester	<.0001	.0533
TR below Dayton	"	.0067
TR above Dayton	.0001	.0173

LC - Little Goose Creek
BG - Big Goose Creek
GCC - Goose Creek at Bridge on road between WYO 338 and Interstate 90
GC2 - Goose Creek just above Acme
TR1 - Tongue River at Bridge between I-90 and Big Horn Mine
TR3 - Tongue River at Bridge on WYO 338
TR9 - Tongue River at USGS Station, at State Line near Decker

TABLE

Hg Sampling
Performed by PAS Hydrologists

Site	Date	Total Mercury (mg/l)	Dissolved Mercury (mg/l)
TR 1	8/29/77		<.001
	12/7/77		<.001
	3/29/78		<.001
	4/25/78		<.001
	5/8/78		<.001
	5/22/78		<.001
	6/6/78		<.001
TR 9 (at USGS gage)	8/26/77	<.001	<.001
	12/6/77	<.001	<.001
	3/30/78	<.001	<.001
	4/26/78	<.001	<.001
	5/9/78	<.001	<.001
	5/23/78	<.001	<.001
	6/7/78	<.001	<.001
GC 1 approximately 1 mile downstream of GCD	12/5/77	<.001	<.001
	3/28/78		<.001
	4/25/78		<.001
	5/8/78		<.001
	5/23/78		<.001
	6/6/78		<.001
GC 2	5/8/78		<.001
	5/22/78		<.001
	6/6/78		<.001

JB/dr

Well And Discharge Water Quality Analysis
For Hg In The Vicinity Of The Decker Mine

Well or Sampling Site Location	Formation	Date Sampled	Dissolved Mercury Conc. (Mg/l) (1)
DS-3	Spoils	7/15/76	<.3
DS-E	Spoils	3/24/76	<.3
DS-E	Spoils	10/2/75	<.3
DS-1B	Spoils	2/28/77	<.3
DS-1B	Spoils	6/24/76	<.3
DS-W	Spoils	12/3/76	<.3
DSP-W	Spoils	12/15/75	<.3
Mine Cut	Base of D-1 coal	12/16/76	<.3
DS-2A	D-2 coal	6/4/76	<.3
DS-6A	Spoils	7/16/76	<.3
DS-6B	Spoils	7/15/76	<.3
MW-4	D-1 coal	2/21/77	<.3
Willis Elder Well	D-1-overburden	6/4/76	<.3
Decker Mine Effluent		7/15/76	<.3
Decker Mine Effluent		6/4/76	<.3
Decker Mine Effluent		5/4/76	<.3
MRE-29	D-2 coal	11/22/76	<.3
MRE-26	D-1 Lower coal	11/22/76	<.3
MRE-27	D-1 Upper coal	11/22/76	<.3

(1) samples collected and analyzed by Montana Bureau of Mines and Geology

JB/dr

8/31/78

STATE OF WYOMING
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
CHEYENNE, WY.

LABORATORY ANALYSIS REPORT

SAMPLES COLLECTED BY: TC DATE: 2/16/78
SAMPLES RECEIVED BY: dlt DATE:
STATION: Goose Creek Hg Study CODE:
LOCATION: nr Sheridan
REMARKS: all grab samples

	Section Designation	UNITS	Hg	mg/L
A	Little Goose	µg/l	<0.15	<0.0015
B	Lt. Goose @ Sheridan		<0.15	" "
C	Big Goose @ Sheridan		<0.15	<0.0015
D	Goose Creek @ Sheridan		1.2 *	0.0012 *
E	Coldwater @ WY 338		1.3 *	0.0013 *
F	Clear Creek @ Dietz Bridge		45	"
G	Sheridan STP effluent		(0.6)	"
H	Sheridan STP influent		(0.6)	"

* EPA criteria is 0.05 µg/l for T-S sections

REFERENCES:

ANALYST: [signature]
DATE: 2/28/78

DECKER MINE STUDY
March 1, 1978

Sample Number	Sampling Site Description	Time	O_2	SC	Type	Total Hg ppb (1)	Dissolved Hg ppb (1)
1	settling pond before monitoring flume	9:15	23.0	532	water at surface	<.0001	<.0001
2	settling pond before monitoring flume	9:15	NA	NA	Sediment 0-10"	0.053	
3	settling pond before monitoring flume	9:20	NA	NA	water near bottom	<.0001	<.0001
4	ardath sludge pond	9:45	22.0	1649	water depth integrated	<.0001	<.0001
5	lower sludge pond	9:45	22.0	1702	water depth integrated	<.0001	<.0001
6	lower sludge pond	9:45	NA	NA	Sediment 0-24"	0.013	
7	pond near water headout	10:00	22.5	1453	water at outlet	<.0001	<.0001
8	pond near water headout	10:00	NA	NA	Sediment 0-6"	0.081	
9	pike marsh	10:20	22.5	1074	water	<.0001	<.0001
10	pike marsh	10:20	NA	NA	Sediment 0-12"	0.038	
11	East Decker settling pond	11:00	22.0	1985	water, 12" staff-pipe depth integrated	<.0001	<.0001
12	East Decker settling pond	11:00	NA	NA	Sediment 0-12"	0.046	

(1) analysis by Northern Testing Lab

JM/de

Part III

During the spring of 1978, personnel from the Montana Cooperative Fisheries Research Unit during the course of their ongoing studies at the East Decker Mine, collected samples for mercury analysis. These samples were taken at the inflow and outflow of the reservoir and at the inflow and mid-point of the pike rearing marsh. This program has not revealed any unusually high mercury levels relative to the reservoir inflow or outflow. Mean values for the reservoir inflow and outflow were 0.43 and 0.47 ug/l while the marsh inflow water averaged 0.82 ug/l. We are unable to determine the amount of flow entering the marsh on 2 out of the 3 days sampled since our flow records indicate that there was no flow on those days, April 6, 1978 and June 29, 1978. Water for the pike rearing marsh is primarily to be supplied from the West Decker Mine discharge. This spring, however, because of unusually high river flows, large amounts of river water entered the pike marsh through its control gate. Thus, all the water quality data collected on the pike marsh waters during the 1978 season should not be looked upon as solely reflective of the mine discharge waters.

In August, 1978, Peter Klewit Sons' Co., Mining District hydrology and reclamation personnel collected water and sediment samples from various settling and evaporation ponds on the West and East Decker mines, including the pike marsh. These samples were analyzed for Total and Dissolved mercury. In all cases, the mercury levels in the water samples were below the detectable limits of 0.01 ug/l. Sediment samples ranged from 38.0 ppb to 61.0 ppb. These sediment samples are well within natural limits as reported by D'Itri who states that, "Normally, river, lake, and ocean sediments contain below 70 to 100 ppb because they do not receive substantial amounts of mercury from geological weathering or direct man made pollution."

-1-

Part IV

The Montana Cooperative Fishery Research Unit is now in the process of conducting a study on the potential of mercury contamination of fisheries from mine effluent. In 1977 Northern pike were raised in the Decker mine settling pond from May 9, 1977 to October 7, 1977. Significant amounts of mercury were found to accumulate in the fish over the five month period although levels were not found to be unusually high. Decker Mine, in cooperation with the U.S. Fish & Wildlife Service and the Montana Game & Fish Department, then constructed a pike rearing marsh into which mine effluent could be discharged. In April, 1978, the pike marsh was stocked with Northern pike fry and their progress was to be monitored throughout the summer. Unsuccessful attempts were made to seine pike from the marsh in May, but because of the heavy rains during that month, river water flooded into the marsh increasing its area considerably. So that some further metals uptake work could be done, MSU personnel obtained an additional 100 fingerlings and placed them in a live box enclosed along the shoreline of the marsh. Two groups of fish were collected on June 26, 1978 and analyzed for mercury. One group which was kept in an enclosure near the store of the pike marsh was analyzed as whole fish homogenate and levels of mercury were found to average 0.86 ug Hg/g. The other group of fish which was seined from the marsh itself, was analyzed for mercury content in the dorsal-lateral muscle. Results of these analyses were somewhat lower than the first group, averaging 0.10 ug Hg/g. Reasons for the difference are, at this time, unknown. Further analyses over the next several months will hopefully further delineate the mercury uptake patterns of pike in the marsh.

-1-

Part V

A mercury uptake study has been conducted by MSU personnel on game fishes from the Tongue River Reservoir. Samples of Northern pike, walleye, sauger, black crappie, and white crappie were taken during April and May, 1978. Results of muscle tissue analysis showed on occasion large size black crappie, white crappie, walleye, and sauger exceeded FDA limits of 0.5 ug Hg/g. Large size Northern pike were more consistent in their excesses above the FDA standard. Since pike are at the end of the food chain, it is not unusual to find higher concentrations of mercury in them. Levels up to 2,000 times greater than the level of the water from which they are taken have been reported in the literature.

High levels of mercury in fish tissue are not isolated to the Tongue River Reservoir. In a study funded by Peter Kiewit Sons' Co. and Argonne National Laboratories, the Wyoming Water Resources Research Institute collected fish samples from the Tongue River Reservoir and Goose Creek just above the confluence of the two streams. Tissue analysis done at the Argonne Laboratories found high levels of mercury in a large portion of the fish with seven of the samples being in excess of the FDA standard. The mean value for the eleven fish taken from Goose Creek was 0.48 ug Hg/g, while the mean value for the 19 fish taken from the Tongue River was 0.31 ug Hg/g. It appears that high levels of mercury in fish are not a phenomena limited to the fish of the Tongue River Reservoir. Because fish samples taken above the Big Horn Mine also show some mercury accumulation, it is our feeling that this may be a phenomenon that exists throughout the Tongue River drainage.

-1-

Part VI

We at Decker Coal Company appreciate the opportunity to present this information here today. Our intention in presenting it is not to make light of the situation, but rather to put it into a proper perspective.

We are as concerned as anyone on the effects of coal mining on the aquatic ecosystem. It is for this reason that we have developed a continuing monitoring program along the Tongue River drainage. It is also the reason that we have developed close working relationships with such organizations as the Montana and Wyoming Game and Fish Departments, U.S. Fish & Wildlife Service, Montana Cooperative Fishery Research Unit, Wyoming Water Resources Research Institute, and Montana and Wyoming Water Quality Divisions. If, through our research or through the research of any of these other organizations or agencies we find that our mines are having a detrimental effect on the aquatic ecosystem, we will do everything within our power to correct the problem.

Again, I want to thank you for the opportunity to be here today.

-1-

D'Itri, Frank M. 1972, April. Mercury in the Aquatic Ecosystem. Technical Report No. 23, Institute of Water Research, Michigan State University, East Lansing, Michigan, pp. 1-87.

LETTER 19 Comments have been noted and incorporated into the TREA where appropriate.

Letter 20

AGENDA
for
Public Meeting on
Draft
Technical Examination/Environmental
Assessment Record. Coal Lease
Application M-35736

Purpose - The purpose of this meeting is to accept public comment on the Draft Technical Examination/Environmental Assessment (TEEA) for Coal Lease Application M-35736.

Proposal - Decker Coal Company has made application to lease 680 acres of Federal coal within the proposed North Extension Mine at Decker, Montana.

Public Comment - The Bureau of Land Management is now accepting oral comments on this Draft TEEA. Written comments will be accepted through September 27, 1978, at the Miles City District Office, P. O. Box 940, Miles City, Montana 59301.

Written Comments - Written comments can be made in the space below and given to any BLM representative at the close of this meeting. Please include name and address on any written comments.

Name Jack Hackett Address Sarpy Mont. 59072

I believe the BLM has met its responsibility with the Technical Examination and Environmental Assessment on the Decker North Extension Coal Lease Application. It was apparent from the meeting at Ashland that the T, EAR, A, has made the people aware of the major problems and inputs that could result from mining the lease application area.

The coal lays in an area that if bypassed now it may be uneconomical to mine at a later date. If it is mined at a later date, it will cause additional environmental impact.

I feel the lease should be granted but with the condition that the mining be limited to only such areas as can be mined in an environmentally safe manner. That manner to be determined by the State of Montana, under its obligation and right to administer the federal and state strip mining regulations.

I feel any further attempt by the BLM to define the area to be mined would be an unnecessary expense in both time and money for everyone involved. It may also be considered by some to be an infringement by the Federal Government on the states right to administer the strip mining regulations. It would certainly be unnecessary duplication of work for the BLM to do studies and file impact statements that are already required under the mining permit system.

Thank you for your attendance and participation.

LETTER 20 Comments have been noted.

Letter 21

AGENDA
for
Public Meeting on
Draft
Technical Examination/Environmental
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Application M-35736

Purpose - The purpose of this meeting is to accept public comment on the Draft Technical Examination/Environmental Assessment (TEEA) for Coal Lease Application M-35736.

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Written Comments - Written comments can be made in the space below and given to any BLM representative at the close of this meeting. Please include name and address on any written comments.

Name Patty Kluver Address Forsyth, Montana

At the hearing in Ashland, Sept. 13, this year, there was considerable emphasis placed on the economics of mining the Decker North Extension. I asked the question, Who's economics? Obviously it was the Mining Interests. , NOT the sportsmen or Agricultural interests who might very well be adversely affected in the future.

The coal vein bordering Tongue river should never be mined because it could possibly filter the chemical impurities, Mercury, Arsenic, Sulpher, Cadimum, etc, which are known to be in the clinker and mine refuse used to replace the aquifer. (pg3-4,3-7).

Again, I urge the BLM, Dept. of Interior to do a more comprehensive study of the hydrology of So. E. Montana before any more contracts for mining of coal are signed. The studies by Van Voast and Hedges are inept and inadequate. Please! Please!

Thank you for your attendance and participation.

LETTER 21 Comments have been noted.

Letter 22

Department of Health and Environmental Sciences
STATE OF MONTANA Environmental Sciences Division

Dr. A. C. Knight
Director

P.O. Box 30296
Billings, Montana 59107

September 21, 1978

Miles City District Office
Bureau of Land Management
United States Department of the Interior
Post Office Box 940
Miles City, Montana 59301

Re: Comments on the Technical Examination and Environmental Assessment (TE and EA) of the Draft Decker North Extension Coal Lease Application

Dear Sir:

The Water Quality Bureau of the Montana Department of Health and Environmental Sciences is of course cognizant of the potential water quality impacts that can be associated with strip mining activities in any particular region. As a result, this Bureau, in conjunction with the Cooperative Fishery Research Unit at Montana State University, has undertaken a two-year study directed to the Tongue River Reservoir as it might be impacted by strip mining activities and operations along with considerations of the Tongue River inflow to and outflow from this body of water. The objective of this project was two-fold: (1) to provide baseline physical-chemical characteristics of the reservoir for beneficial uses, and (2) describe in some detail the possible water quality effects of the adjacent strip mining activities on this delta-lentic system. Prior two will cover the possibility of mercury and aluminum problems that were described in the TE and EA plus a variety of other aspects.

The field work and the sampling phase of this study are now completed with the project in the data assessment and report writing phase at the present time. The Water Quality Bureau does not wish to specifically comment on the TE and EA until these analyses have been completed, but the Bureau would like to point-out that this report will be available to any interested parties once it has been published. The completion date of the report is somewhat tentative due to a manpower shortage, but it should be available sometime during the first part of 1979.

Sincerely,

Duane A. Klarich
Water Quality Specialist
State Water Quality Bureau

DAK/dk

Letter 23

District Manager
Miles City District
Bureau of Land Management
P.O. Box 940
Miles City, MT 59301

ART HAYES JR.
R BAR RANCH
BIRNEY, MONTANA 59013
Sept. 23, 1978

Dear Sir;

I have presented a statement concerning the TEEA Draft of the Decker North Extension Coal Lease Application At the September 13, 1978 meeting in Ashland, Montana. I expect that statement will be recorded and considered. Again I would like to say that our main concern is the lack of information regarding the accumulative effects of mercury on the Tongue River and Reservoir. The TEEA states that terrestrial plants (irrigated bayblade and pasture) and herbivores (cattle and horses) can accumulate mercury in their systems. We do not believe that this coal lease application should be granted. To do so would jeopardize the agricultural economy which depends on the waters of the Tongue River and Reservoir.

Sincerely,

Art Hayes Jr.
Mrs Art Hayes Jr.

LETTER 22 Comments have been noted.

LETTER 23 Text has been revised (see page 3-6).

Letter 24

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80203

SEP 2 5 1979

District Manager
Miles City District
Bureau of Land Management
P.O. Box 940
Miles City, Montana 59301

Gentlemen:

We appreciate your consideration in sending us the Draft Technical Examination and Environmental Assessment for the coal lease application M-36736 submitted for the proposed northward extension of mining near Decker, Montana. The TEEA has been reviewed by members of our staff and the observations and recommendations follow. The Environmental Protection Agency is in favor of short term Federal coal leases when it is found that the coal to be leased will be an "environmental asset" to an otherwise environmentally acceptable mining operation. Though the TEEA does not present convincing documentation that the proposed coal lease of 680 acres (or lesser acreage) is an environmental asset to an approved mining operation, the geology of the area as our staff knows it suggests that avoidance of the coal during mining operations in the west would place the subject coal in an uneconomic and environmentally difficult location where future mining would inappropriately recistrain the trend.

24-1 However, the TEEA reflects an inadequate evaluation of the Federal coal resource since the O. coal seam is not evaluated. This lack of evaluation appears to be in conflict with the 1976 amendments to the Mineral Lands Leasing Act of 1920. Section 8A of the amending Act now requires a "comprehensive exploratory program designed to obtain sufficient data and information to evaluate the extent, location and potential for developing the known recoverable coal resources within the coal lands subject to this Act."

24-2 We also call your attention to section 714 of the Surface Mining Control and Reclamation Act of 1977 (30 USC 668) by which the Secretary is prohibited from entering into "any lease of Federal coal deposits until the surface owner has given written consent... and the Secretary has obtained evidence of such consent" (§ 714 (c)). Though we are under the impression that the Decker Coal Company controls much of the land, the TEEA is inadequate in demonstrating that this requirement is met.

24-3 Further, and in relationship to wise use of the public coal resource, the TEEA appears incomplete in its elimination of 80 acres of Federal coal lands reported to lie below the present spillway elevation (p. 1-10). The incompleteness arises since the reasons for eliminating this lower land are not listed and the effect of mining and reclaiming this area is not analyzed.

The final TEEA must identify the physical and chemical impacts of mining the area within those areas surrounding the reservoir that may be flooded and provide adequate documentation for the exclusion based on appropriate standards. This recommendation should not be construed as opposition to deletion of coal reserves lying within reasons but rather a request that the adverse effects of such mining be identified.

24-4 The TEEA is in error in its conclusion regarding compliance with 30 CFR 715.17 (j). First the TEEA provides inadequate data regarding the presence or absence of alluvial valley floor. Second, the SEO acres shown as the "Lease Application Area" contain areas already mined by Nelda and Taylor (as well as by Herdaway et. al.) as alluvial valley floors. The TEEA must provide information demonstrating that irrigation (surface or subsurface) cannot occur in the area, and that vegetative growth would not be enhanced by such irrigation practices prior to making the allegation on page 2-7 of the TEEA.

24-5 It is recognized that BLM has chosen to address only that portion of the North Decker mine affected by the 680 acre application. As EPA noted in its comments on the final EIS addressing mine plan approval, the final topography of the mining and reclamation plan for the Spring Creek watershed drainage was inadequate. Since the passage of the Surface Mining Control and Reclamation Act of 1977, the post-mine topography proposed in that plan appears to be in violation of Section 515 (b) (10) of the Act. This potential violation is based on the final topography incorporated a permanent diversion of surface water from Spring Creek to Pearson Creek (which did not minimize disturbance of the hydrologic balance). The TEEA states (p. 2-10) that "construction of a single diversion channel to carry the combined runoff from Spring Creek and Pearson Creek watersheds around the mine area would not increase channel erosion..." "Experience shows higher peak discharges make it more difficult to build a stable channel that will function properly over a wide range of flow conditions." The subsequent discussion in the TEEA leads us to believe that the TEEA assumes the diversion will be temporary. Unless the mining plan has been revised, the diversion appears to be permanent. If it is permanent, or if the longitudinal profile of the natural streams is significantly changed, we consider mine plan approval to be in violation of Public Law 95-87 and further leasing without concurrent change in the lease stipulations to prohibit such modifications to the surface water flow system should not be permitted.

24-6 We also find the "tentative" conclusion regarding an apparent beneficial impact of moving the Spring Creek outlet (p. 3-11) to be unsubstantiated by the necessary sediment and current flow analyses.

24-7 The Environmental Protection Agency supports the Bureau in requiring elimination of box cut spoils placed so as to have a high potential to violate sections 515 (b) (3) and (10) of the Surface Mining Control and Reclamation Act. We believe that both alternatives (orientation of the box cut or rehandling of box cut spoils p. 4-2 of the TEEA) should be further evaluated and that those evaluations should involve assessments of the post-mining topography over the entire mine site (including the final cuts)).

This office also supports the two lift topsoil salvage process whereover adequate soil and soil horizons development exists to facilitate such soil handling (p. 4-3 of the TEEA). Other proposed mitigating measures are commented on as follows.

24-7 -Careful timing of soil salvage and seeding is needed and we are pleased to support quantitative guidelines (p. 4-3 of the TEEA).

-Adequate planning should be done to avoid unnecessary disturbance of ground water. Section 717 of the Surface Mining Control and Reclamation Act requires and therefore supports the recommendation to provide replacement water (p. 4-3 of the TEEA). However, the operator must be required to install facilities that truly replace the effected water supplies in terms of long term maintenance and reliability.

-Settling ponds should be designed either to hold all sediment using the design volume or to be routinely cleaned out. We favor clean out whenever the sediment holding capacity is filled to 60 percent of its total capacity. Please note that this sediment holding capacity is in addition to the volume, depth and detention time necessary to allow particles to settle to meet applicable effluent limits for discharges (30 CFR 715.17).

-Mulching is required-it is always necessary and appropriate in terms of stabilizing the reground soil prior to emergence and sustained growth of vegetation (See 30 CFR 715.20).

-Monitoring of reclamation is necessary and should include quantitative measurements of vegetation (species, productivity, and cover), runoff, infiltration and erosion at routine time intervals.

-We are unsure as to the criteria to be used to determine the utility of irrigation. Quantitative water balance indicators of the need for supplemental irrigation should be identified if, in fact, such irrigation is necessary at the Decker site.

Sincerely,

Alan Merson
Regional Administrator

LETTER 24 24-1 The USGS has determined that the O. coal seam cannot be economically stripmined at this time (see GS letter in Chapter 7).

24-2 Text has been revised and a surface ownership map included (see page 1-8 and Map 1-1).

24-3 An MFP decision not to lease coal below the spillway elevation was made prior to receipt of the lease application. This planning decision was based on multiple resource analysis and concluded mining was not the highest and best use of the land involved.

24-4 Text has been revised (see page 2-37).

24-5 Revised mine plan provides for reconstruction of the original stream channels to be in compliance with SMCRA.

24-6 Statement has been deleted.

24-7 Comments here been noted.

Letter 25

DIAMOND RANCH
RUSSELL AND GENIE MAY GARFIELD
FORSYTH, MONTANA 59327

September 25, 1978

Bureau of Land Management
Draft . . . . . A., Decker North Extension
P. O. Box 940
Miles City, Montana 59301

Gentlemen:

For many years, we lived in a New England town situated at the confluence of the Connecticut and Ashuelot rivers for a century or more, both rivers furnished water for and accepted waste water from such industrial users as paper mills, foundries, tanneries, etc. The rivers' fish population gradually declined, and those few surviving became unfit for human consumption.

Then, in the 1960's, the clean-up of rivers in New England began - at an astronomical cost in money, manpower and time. Great progress is being made, and a few salmon are once again running up the Connecticut. The Ashuelot is no longer "colored" by the paper mills upstream.

Ask the New Englanders. They are now paying the price to attempt to clean up their rivers. ASK them if 17 million tons of coal would be a fair trade for 50 miles of polluted river. If these were the last 17 million tons of coal available in the Fort Union formation, there might be some hesitancy in a Yankee's reply, but with billions of tons of coal available remote from such a major river as the Tongue, there is no economic justification for this proposed mine.

The short-term economic benefit to the mining company would be outweighed by the possibility of mercury, aluminum or unknown pollutants released into the Tongue River.

Yours truly,

Genie May Garfield

LETTER 25 Comments have been noted.

Letter 26

AGENDA
for
Public Meeting On
Draft
Technical Examination/Environmental
Assessment Record. Coal Lease
Application M-33736

Purpose - The purpose of this meeting is to accept public comment on the Draft Technical Examination/Environmental Assessment (TEEA) for Coal Lease Application M-33736.

Proposal - Decker Coal Company has made application to lease 880 acres of Federal coal within the proposed North Extension Mine at Decker, Montana.

Public Comment - The Bureau of Land Management is now accepting oral comments on this Draft TEEA. Written comments will be accepted through August 15, 1978, at the Miles City District Office, P. O. Box 940, Miles City, Montana 59301.

Areas

Coal Evaluation - U.S. Geological Survey will conduct a meeting on coal evaluation.

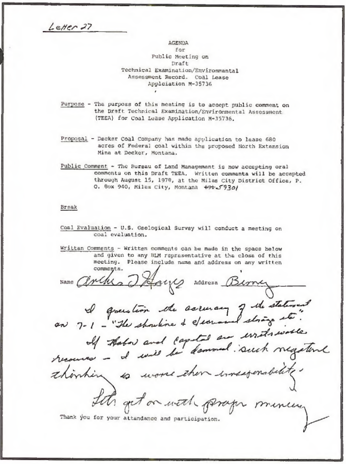
Written Comments - Written comments can be made in the space below and given to any BLM representative at the close of this meeting. Please include name and address on any written comments.

Name Edgar B. Cocklin Address 1815 EDWARDS DR. SIDNEY, MT 59270

I would like to give my full support to the comments of Mr. Vincent Goodstein given here tonight. I feel his statement put my feelings on the matter into the words I would like to have said.

Thank you for your attendance and participation.

LETTER 26 Comments have been noted.



Letter 27

AGENDA
for
Public Meeting on
Draft
Technical Examination/Environmental
Assessment Record. Coal Lease
Applciation M-35736

Purpose - The purpose of this meeting is to accept public comment on the Draft Technical Examination/Environmental Assessment (TEEA) for Coal Lease Application M-35736.

Proposal - Decker Coal Company has made application to lease 680 acres of Federal coal within the proposed North Extension Mine at Decker, Montana.

Public Comment - The Bureau of Land Management is now accepting oral comments on this Draft TEEA. Written comments will be accepted through August 15, 1978, at the Miles City District Office, P. O. Box 940, Miles City, Montana ~~691~~ 59301

Break

Coal Evaluation - U.S. Geological Survey will conduct a meeting on coal evaluation.

Written Comments - Written comments can be made in the space below and given to any BLM representative at the close of this meeting. Please include name and address on any written comments.

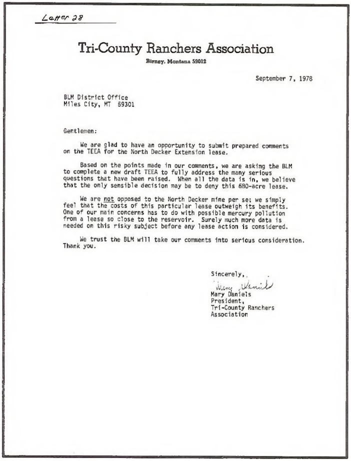
Name Archie J Hayes Address Birney

I question the accuracy of the statement on 7-1 - "The shoreline & [illegible] storage etc".

If labor and capital are irretrievable resources - I will be damned. Such negative thinking is worse than irresponsibility.

Let's get on with proper mining

Thank you for your attendance and participation.



Letter 28

Tri-County Ranchers Association

Birney, Montana 59012

September 7, 1978

BLM District Office
Miles City, MT 59301

Gentlemen:

We are glad to have an opportunity to submit prepared comments on the TEEA for the North Decker Extension lease.

Based on the points made in our comments, we are asking the BLM to complete a new draft TEEA to fully address the many serious questions that have been raised. When all the data is in, we believe that the only sensible decision may be to deny this 680-acre lease.

We are not opposed to the North Decker mine per se; we simply feel that the costs of this particular lease outweigh its benefits. One of our main concerns has to do with possible mercury pollution from a lease so close to the reservoir. Surely much more data is needed on this risky subject before any lease action is considered.

We trust the BLM will take our comments into serious consideration. Thank you.

Sincerely,

Mary Daniels
Mary Daniels
President,
Tri-County Ranchers
Association

LETTER 27 Comments have been noted.

Tri-County Ranchers Association

Birney, Montana 59012

The Tri-County Ranchers Association (an affiliate of the Northern Plains Resource Council) has prepared an analysis of the Technical Examination and Environmental Assessment (TEEA) . Contrary to the expressed expectations of the Miles City BLM office, the comments primarily are directed to the specific issues raised by the granting of this specific federal coal lease. First, however, we have several comments of a general nature regarding the TEEA as a whole.

That BLM has failed to distribute the document in a timely manner and to actively solicit public input. The "public meeting" held in Sheridan, Wyoming on a coal lease for a mine in Montana is a specific case in point. Attendance at the meeting was dominated by BLM, USGS and Peter Kiewit Co. officials. The BLM will probably receive more public input by scheduling a meeting in a more convenient location downstream on the Tongue River (Ashland) and providing adequate notice of the meeting.

The first meeting was publicized in the Sheridan newspaper a few days in advance, and in the Billings Gazette just before the meeting. No mention appeared in the local county papers, the newspapers read by most of the residents of the Tongue River area. Such inadequate notice made it difficult for water users in the area, many of whom live more than 126 miles from Sheridan, to attend the meeting (especially during the height of the haying season.)

It is unfortunate that the meeting was so poorly publicized. If citizens had known of the TEEA and the public meeting in time, many more would surely have been there to make comments.

The lease consideration process depends heavily on the quality of the information used in reaching the decision. In the case of the North Decker Extension, both the "public comment" and the TEEA itself are very inadequate.

28-1 The TEEA itself acknowledges some serious implications of the lease, but fails to deal with them fully, or to face up to their potential for trouble. For instance, there are serious doubts as to whether the federal coal lease application meets the short-term criteria set down in the NRDC v. Hughes decision. In our opinion, this lease area does not meet the short-term lease criteria, and the lease does not appear to be in keeping

with the intent of the Hughes settlement.

The BLM seems to be under the impression that it is compelled to act on this lease immediately. However, there is no indication that any threat of bypassing the coal resource would compel such haste. There is no mine now at North Decker. In fact, there is not even a final mining plan available. The sense of urgency seems to come only from the applicant 28-2 company, and perhaps the BLM is reacting to this pressure, rather than acting like a responsible, public resource manager.

Contrary to the TEEA's statement that "an immediate decision by the BLM is mandatory," we feel that a public agency should be dedicated to accuracy and thoroughness rather than to expediency. Unfortunately, the rest of the document gives one the impression that the environmental assessment is merely a formality.

The supposed reason for the BLM's urgency is found in the final EIS for the Decker mines in volume I. On page 97 it states "It is not by accident that the existing and proposed mine areas are located near the reservoir in and adjacent to the principal stream valleys where the slopes are minimal. It is here that the coal is closest to the surface and mining is most economical." Given that there are no beneficial (or adverse) 28-3 socio-economic impacts from leasing this tract of coal (TEEA page 3-19) the rationale for leasing now is not strong. The final Decker EIS shows clearly that mining at a later time might be feasible. We contend that the coal in question would not be "committed to non-use forever" if it is bypassed now for environmental reasons.

Even if the area is eventually offered for lease at some later date, the inadequacies of this TEEA dictate that another draft be prepared. And, 28-4 given some of the preliminary findings of this document, it may seem inadvisable to lease this area at all.

Until the mining plans and transportation corridors are finalized, it seems to us to be impossible to draft a current and adequate TEEA. This draft TEEA will bear little resemblance to the final TEEA because of the alterations being done as this writing. No preferred route for the 28-5 transportation corridor has been clearly identified yet. No mining plan has been finalized. Another draft TEEA will be warranted when the applicant's plans are finalized, so that definite conclusions can be made about the impacts involved.

In much the same vein, the question of mining the D_2 coal seam

needs to be addressed . The TEEA is deficient in this regard. A determination should be made at once concerning mining the D_3 seam. A new draft
28-6 TEEA which assesses impacts of mining this seam is needed. A TEEA should at least know how much coal will be mined in a particular seam so that proper assessments can be made in the final statement.

The Tongue Dam question is not adequately adressed either. The Montana Department of Natural Resources and Conservation has indicated that repair of the dam is necessary. During recent floods in the area, water rose five feet above the spillway level of the dam. There is no discussion in the TEEA of such events and their possible effects on any strip-mining that might take place. The TEEA only indicates that repair or reconstruction of the dam is "...some time in the distant future." Testimony at the recent
28-7 BLM meeting by a spokesman for DNR&C brings that statement into question.

It is interesting to note that the Final EIS for the Decker mines indicates that the original mining plan (which did not include the proposed lease in question) would not be in conflict with construction of a "stage one" dam. We can then only conclude that the TEEA is unsatisfactory, because it assumes maintenance of the status quo indefinitely. The present status of dam repair plans should be better examined before this coal lease is acted upon.

Regarding alluvial valley floors, the statement in the TEEA that there are no alluvial valley floors in the area is premature at best. The Montana Department of State Lands is now investigating the extent of alluvial valley floors in the lease area. Such valley floors are known to
28-8 exist in the lease area, only their extent remains to be determined. The draft TEEA, because of an inaccurate assessment, completely ignores the present and probable future impacts of coal leasing on alluvial valleys. To proceed now with a final TEEA, complete with a decision statement, would be a waste of time until all the information is in.

Throughout the TEEA, the BLM seems to ignore the possible impacts on Montana's largest industry--AGRICULTURE. The effects of the lease on wildlife, etc., are documented (albeit briefly) in the TEEA. However, the impacts on agriculture downstream on the Tongue are not addressed. The
28-9 Tongue River is vitally important to ranchers and farmers in Southeastern Montana. Even the possibility of mercury contamination could have serious effects on the marketability of local agricultural products. The BLM needs

to face up to these possibilities and to the fact that people (users of Tongue River water) are more important than economic viability.

In short, a good decision depends on good information. Without proper notice of meetings, there can be no significant public input. Without closer attention to the intent of the Hughes case, there isn't really an acceptable legal basis. Without consideration of agriculture, there is no complete assessment of impacts.

Our specific item-by-item comments on the TEEA follow. Thank you.

Tri-County Ranchers Association

Birney Montana 59823

The following are our specific comments on the draft TEEA:

From page 1 of the TEEA: "To provide for these 'short term' needs some exceptions to the delay are permitted according to standards established by the Court." There seems to be a question about the BLM's understanding of the Hughes decision. "Delay" usually means a temporary halt in an ongoing process, the process of coal leasing. However, one of the determinations in the Hughes case was that the Department of the Interior had failed to demonstrate a need for further federal coal leasing in its programmatic EIS. The results of a new programmatic EIS may indicate no need for further coal leasing. If this is the case, no more federal leasing would be recommended. The drafters of the TEEA seems to have already made their decision as to the outcome of the programmatic EIS. They assume the current moratorium on leasing is merely a delay, a temporary halt in an ongoing process. We question this assumption.

2E-10

Page 11--"The additional Federal coal is desired as it could be efficiently and economically mined as part of the North Extension area. The BLM feels it is necessary to act on this application in order to prevent bypassing coal as the company completes mining the adjacent area and moves to another location." The BLM provides no supporting documentation that it is necessary to lease this federal coal now. We need to know whether there are any alternative mining plans (or sequences) that would leave the coal to be mined at a later date.

2E-11

Page 11--"Subsequent to the court ruling (NRDC vs Hughes), the Secretary of the Interior has reached an agreement with the plaintiffs which allows USGI to resume limited coal leasing in the West. The Decker Coal Company application was one of the lease named in this agreement."

This statement is incorrect.. The Decker Coal Company was mentioned only in a press release from the Department of the Interior as being one of the leases that might possibly meet the short-term criteria. No applications were specifically mentioned in the agreement as meeting bypass criteria. (See also the attached memo from our staff attorney to T-CRA president Mary Daniels.)

2E-12

Page 11--"An 'Environmental Assessment Record' (EAR) is the documentation of environmental assessments BLM makes on proposes actions. A "Technical Examination' (TE) is documentation of environmental and other technical analyses made on mineral disposal actions. Since there are only minor

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differences between the two processes, the TE can be easily merged with the EAR, as has been done with this analysis. The comprehensive land-use planning for the Decker-Birney Planning Unit was completed in 1974."

The state director of the BLM has indicated that the planning unit for the Bull Mountains region of Montana needs revision to comply with the Hughes case. (This planning unit recommended no federal coal leasing for large strip-mines in the area. However, leasing for small-scale local production was approved.) Until comprehensive land-use planning for the Decker-Birney Planning Unit be re-evaluated as well? (The Decker-Birney Planning Unit recommended leasing enough coal to supply 12 strip-mines that would ring the small agricultural community of Birney.) When will the planning be brought into line with Hughes?

2E-13

Page 11--"Following public review (including State and local governments) of this Technical Examination and Environmental Assessment (TEEA), and initial conclusions, a "decision statement" is completed. The "decision statement" will include the final recommendation to lease or not to lease; a review and discussion of use of public input; and a reiteration of criteria from initial conclusions."

We question whether the public (as well as state and local agencies) can adequately review the TECA if they do not have copies of the document, or receive the TEEA with little time to prepare careful comments. For example, the State Department of Health and Environmental Sciences did not even have the TEEA two days before the "public meeting."

2E-14

Page 111--"The foregoing discussion explains the process being used for the Decker Coal Company application.....The following text is the documentation of the process. This publication of the text will not include the decision statement. The statement will be done as a supplement to this document. Public comment received will be used in making the final dec ision and will be discussed in the decision statement."

This passage suggests the the BLM has already decided what it wants to do and what impacts will be acceptable. Frankly, it makes us wonder if our efforts are worthwhile.

2E-15

Page 0-1 "...Production is scheduled to start on the North Extension Mine in 1978. Consequently, an immediate decision by the Bureau of Land Management and USGI is mandatory. If the decision is not made in a timely manner the coal would be bypassed; the area would still be impacted by surrounding coal mining, and the coal resource would be committed to non-use because it

specific comments--page three

would not be economically feasible to mine the bypassed coal in the foreseeable future. The reserves are needed to meet existing contracts between Decker Coal and Detroit Edison, Commonwealth Edison, and Austin Power of Austin, Texas."

How can production be scheduled to start on the North Decker Extension in 1978 when the area has not been permitted for mining by the Montana Department of State Lands? Once again, no evidence is presented to show that it would be impossible to mine the coal in question in the foreseeable future. Which reserves are necessary to meet existing contracts? Would this coal be "blended" with other coal to meet existing contracts? These vital questions remain unanswered.

Page 0-2--This map would be more useful if the present leases were indicated.

Page 0-3--No supporting evidence is given here that the leases in question do not form an independent Logical Mining Unit, or fit in with a separate LMU.

Also, a final mining plan has yet to be submitted to the Department of State Lands.

Page 0-4-- The TEA's authors have little basis to make the statement that mining the additional coal would cause only limited additional environmental impacts.

"Present and foreseeable mining economics may not permit a later return to mine the remaining coal after the adjacent area has been mined and reclaimed." The presence of the word "may" indicates that the possibility of mining the coal later does exist. More data is needed on the question of whether or not later mining would be economic.

Page 0-4--Who would be held responsible if mitigating measures fail or "unforeseen catastrophes" occur? What impacts would occur to the Tongue River system? These questions need further exploration.

Page 1-1-- The maps apparently show the initial box cut passing through some bays and estuaries of the Tongue River Reservoir. This could be a cartographic error, or the initial box cut may not be outside the boundary of 1000 feet from the reservoir as intended. Before action is taken on the lease, we need to know, will the box cut maintain a 1,000 foot distance from the reservoir along its entire length?

Page 1-3--"Only 498 acres of the 640 acres under consideration fall within the proposed mining plan (Map A1-2). Coal in the remaining 86 acres is too

specific comments--page four

near the reservoir to be mined." We have the following observations:

1-Map A1-2 is not a representation of a mining plan per se.
2-How was the determination made that the 86 acres were "too near" the reservoir to be safely mined? What criteria were used in making this judgment?
3-Why is the application for the lease for 640 acres rather than the 484 to mined?
4-640 minus 86 equals 554, not 484. We have a discrepancy of 110 acres here.

Page 1-3--The mining of the additional tracts will extend the life of the mine seven years. We think that there is a substantial difference between extending the life an planned mine by leasing adjacent tracts, and leasing to continue an existing mine. This is crucial to determining whether this operation fits the Hughes definition of "bypass."

Page 1-4--Where would the settling ponds be in relation to the 1970 flood level of Tongue River Reservoir? Has this been considered?

Page 2-5--What specific determinations have been made as to the reclaimability of the lease area?

The section on related activities is inadequate. What should be the impacts of leasing sections 3 and 36 and relocating Highway 314 and spanning a railroad spur adjacent to the lease area and the reservoir?

Also note that there is no Map A1-6 in the TEA.

Page 1-8 and 1-9 Tongue River Dam

This section is inadequate. The TEA should address itself to the acreages that might be inundated by increases in spillway elevation. This could include areas to be mined under this lease. More information is needed. Particularly helpful would be maps indicating which sections would be flooded at which stages of dam repair and construction.

Also, the TEA does not give an adequate description of the Montana Department of Natural Resources and Conservations position on the dam. Richard Bondy, of DNR&C's engineering department, made the following points at the Sheridan meeting:

1-DNR&C has been working on plans for increasing the size of the reservoir for 10 years. A completed project could be seen in about 20 years.

2-Considerations should be made so that mining activity will not obstruct dam construction or repair plans.

Also, the TEA ignores the possible dangers involved with flooding the mined area after mining is completed. The reservoir could

specific comments--page five

be seriously contaminated by contact with open mines, spoils or even spoils used to make dikes or railway grades.

Also, the BLM should remember the floods of 1976. The statement that the "spillway of the dam is in a deteriorated condition and urgently needs replacement to provide for the safety of the reservoir" was emphasized by this year's floods. SR-37

Pages 2-4 and 2-5--Before the BLM reaches any conclusions about the impacts of this lease, it should determine whether the applicants intend to mine the D_3 Coal seam. Ton-to-ton strip-mining ratios (overburden to coal) are generally considered economically feasible in the Northern Plains. The fact that the profit margin is lower does not necessarily preclude it from mining. The BLM has been less than thorough in determining impacts if it has not made a determination as to how much coal will be mined in the lease area. This should be addressed before a final decision is made. SR-38

Page 2-11--What is the source for the quote on Total Suspended Particulate levels? SR-39

Page 2-7--Alluvial valley floors--"The lease consideration area does not contain any alluvial valley floors as determined from the criteria established in 30 CFR 710.5 and 30 CFR 715.17 (a) (2). " The Montana Department of State Lands is, at this writing, making a determination as to the extent of alluvial valley floors in the lease consideration area. The statement, then, is rather premature.

There is ample evidence that could lead an observer to the opposite conclusion about the presence of alluvial valleys. For example, the USGS in its open file report #76-162 determined the extent of alluvial valleys in the Spring Creek and Pearson Creek drainages. (A Xerox copy is attached.) The alluvial valleys in the lease area are highlighted in yellow. SR-40

Similarly, the final EIS on the Decker mines provides some supporting proof as to the alluvial lands in the lease area. A geologic map on page 121 clearly shows the alluvium to be in the area. A soils map on page 139 displays alluvial lands in the area as well. There is a discussion on page 130 of the alluvial soil deposits. We also find on page 133 the statement that "irrigated hayfields on deep alluvial soils in the broad lower reaches of Spring Creek valley in the North Extension area; are highly productive." Alluvial soils are discussed again on page 163. Estimated flow of groundwater through the alluvium is noted on page 165.

In light of all this, it seems as though the BLM's flat denial

specific comments--page six

of the existance of alluvial valleys in the lease area is in error. SR-41

Page 2-7--Please define more clearly "high intensity precipitation events."

Page 2-9--A surface ownership map of the area would be helpful. SR-42

Also, there are two maps labelled A2-3. This should be corrected. The maps appear on pages A2-6 and A2-7.

Page 2-10--It might be noted that the only known threatened species in the area are known as "ranchers."

Page 2-10--The section dealing with pheasant observations should be documented better, as should the use of the alfalfa fields by upland game birds. SR-43

Page 2-12 and 2-13--Estimates of fish populations in Kukuchka Bay should be documented more fully. SR-44

Page 2-15--"No valid figures are available regarding recreation use but the lease consideration area probably receives very little use. The use that does occur is probably limited to hunting activities." Mining could have adverse affects on recreation in the entire surrounding area. Disrupting bird nesting sites in the lease area could harm hunting in nearby areas, for example. SR-45

Page 2-18--What is the basis for the statement that "the cultural conflicts between the pre-mining residents and the mining-associated residents is not as great in the Decker area as has been experienced in other coal areas of Southeastern Montana."? This should really be explained in more detail. SR-46

The simple fact that our group, the Tri-County Rancher's Association, is active in opposing reckless coal development in the Decker area is indicative of the strong feelings of some ranchers toward strip-mining.

Page 2-19--Although there is some discussion of the issue of "prime farmland" , the analysis is inadequate and no supporting facts are used.

The TEEA cites "30 CFR 716.6 (a) (1)" as the statute it relies upon for saying that the area is not "prime farmland." This seems to be in error. 716.6 refers to "Coal mining in Alaska." What the drafters of the TEEA probably had in mind was 716.7, which does discuss "prime farmland." SR-47

The TEEA also cites "30 CFR 715.3 (c) (6) and (7)" as specifically excluding alfalfa from the definition of "cultivated crops." We would appreciate seeing this citation reproduced. So far, our reading of the federal register has failed to locate this citation.

Page 3-3--Earlier the TEEA discussed TSP levels in terms of micrograms per cubic meter. To then give tables of particulates in tons per year SR-48

specific comments--page seven

makes comparison difficult. Also, a determination needs to be made as to whether the fugitive dust particulate levels exceed federal standards.

SP-47 Page 3-7--If drainage will occur through the spoils, where will channels be located, how many will there be, and how much water will they drain? Also, what determines an "appropriate" location?

SP-48 Page 3-44--Spoils--This discussion ignores possible impacts due to raising the Tongue Dam.

SP-49 Page 3-6--A map showing topsoil depths in the lease area is needed to adequately evaluate the effects of strip-mining.

SP-50 Page 3-6--The electrical conductivity of the spoils material must be indicated, along with the SAR and the dissolved solids.

SP-53 Also, why would inflow to the pit decrease as the pit is moved closer to the reservoir? More explanation is needed here.

SP-54 Page 3-7--Would placement of the spoils between the active pit and the reservoir allow direct leaching into the reservoir?

Page 3-7--Will water from the mine dewatering settling pond be used for dust control in the mine area? What is the quality of this water? Approximately what quantity will be used daily? Who would be held responsible if toxic runoff caused degradation of the Tongue River system?

SP-55 What would be the impacts be of introducing toxic substances into the reservoir? What could the effects on fish, cattle and crops (as well as humans) be? There is no discussion of the effects of nitrogen on surface waters, as is done in the Ecology section pages 3-20 and 3-21.

Page 3-8--Possible mercury contamination

The statement "With the addition of the lease consideration area, the total amount of these metals introduced to the Tongue River Reservoir in the mine effluent would increase proportionally" is rather vague. (And we can't afford to be vague with this subject.)

SP-56 A recent "progress report" from a study done by MSU's Cooperative Fishery Research Unit and submitted to the U.S. Fish and Wildlife Service raises many questions that need to be answered before this coal is leased.

1-Some fish from Tongue River Reservoir (especially northern pike) have mercury concentrations which exceed the FDA guidelines for

SP-57 human consumption. As the report puts it "...a mercury problem... currently exists in the reservoir."

2-Mine discharge from the Decker mines contains a higher

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average mercury content than inflow into the reservoir.

3-Pike reared in the Decker mine settling pond contained "high residue levels considering the short duration of exposure, providing evidence that mine water is contaminated with mercury."

SP-58 These, obviously, are serious issues which demand more study. Mercury contamination of the Tongue River is such a serious potentiality that we think this alone should prevent any new coal leasing near the reservoir until we know the facts.

We urge the BLM to complete a new draft TEEA including a full examination of the potential mercury pollution problem.

SP-59 Page 3-9--How would the added impact on the reservoir of increasing total dissolvedsolids be diluted due to the large amount of water in the reservoir, if the total amount of water in the reservoir remains the same?

SP-60 Page 3-10--What size must a settling pond be to ensure only minimal impact on the reservoir? What are the physical parmeters? Where will it be located?

Page 3-11--How can all of the foregoing factors be weighed when no figures are given to intelligently weigh them?

SP-61 Wildlife--Missing from this section is a discussion of impacts on upland game birds. Also lacking from the fisheries section is a determination similar to the one found on page 3-11. Also needed is a species specific discussion of the effects of heavy metals accumulation.

SP-62 Using overburden spoils and fill for the transportation corridor in the bays and estuaries of the reservoir should be unacceptable. Alternatives must be considered.

SP-63 Page 3-15--How will heavy metal-laden sediment ponds affect wildlife?

Page 3-16--Bald eagles and ospreys feed on fish. If the fish accumulate mercury, then the eagles and ospreys accumulate it, too. There must be a

SP-64 discussion of the effects of heavy metal accumulation on these two species. If the potential for mercury contamination of fish poses a significant threat to mink, why doesn't it pose a threat to bald eagles and osprey, too.

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Also missing is some analysis of the impacts reduced wildlife and fish habitat will have on the recreational economy of the area. Record size fish have been caught in the reservoir. SE-45

Page 3-10--What are the measurable impacts of increasing nitrogen levels in the reservoir and the Tongue River system? This should also be adressed in the groundwater section of the TEEA. What are the synergystic effects (if any) of nitrogen, aluminum, mercury and sulfates? These are all present (supposedly) in the mine discharge waters of the Decker mines. SE-46

Page 3-21--There is no discussion of heavy metals accumulation in hay crops or livestock that use Tongue River water downstream from the mine site. SE-47

Also, if dust control water is taken from the mine settling ponds, where will the runoff go, and what harmful effects might there be? After all, studies have indicated high levels of mercury in the settling pond water of the existing Decker mines. SE-48

Page 4-2--The discussion of mitigating measures on topography lacks an analysis of why the company can't reconstruct the box cut or rebackfill the box cut spoils. This is essential if there is to be a rational discussion of alternatives. SE-49

Page 4-3--It would seem that an analysis of the economic recoverability of the D_2 seam is absolutely necessary here. SE-50

Page 4-4--The two-pond settling system for dealing with the "mercury problem" has not been tested on a pilot level, as far as we know. We need to be sure that it would be a sufficient mitigating measure.

The same "progress report" mentioned in the TEEA also suggests that the "conditions existing in the settling pond promote solubilization rather than precipitation of mercury." It continues, "this supposition also requires further exploration." If this is true, the mercury may not settle out in the ponds, but would instead travel into the water supply in a soluble form. Caution dictates that more research be done in this area. SE-51

Page 4-5--Who would pay for the replacement wells? SE-52

Page 4-5--The TEEA does not seem to indicate where the settling pond sediment that is dredged will be placed. SE-53

Page 4-10--Mitigation of aesthetic impacts was indicated in different mining sequences on page 4-2. (topographical mitigating measures.) This is missing from the aesthetics mitigation section. SE-54

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Page 4-11--It is important to note that there are no beneficial socio-economic impacts to be derived from leasing these sections of federal coal. No additional jobs would be created. SE-55

Page 5-1--The residual impacts of a flatter slope and a higher Tongue River dam should be identified. SE-56

Page 5-3--The impacts on wildlife due to increasing human populations in the area should be addressed. This residual impact affects the quality of recreation as well. SE-57

Page 6-1--The statement that "The proposed action would contribute to an extended economic viability of the area in terms of employment and income from the operation of the mine" apparently contradicts the statement on page 3-19 dealing with socioeconomic impacts. SE-58

Also, the above statement could only be true if one ignores the presence of a stable, sustained-yield agricultural economy in the area. Imposition of a "boom and bust," transient industrial economy on an agrarian culture results in disaster.

Page 7-1--How much will the storage capacity of Tongue River Reservoir be decreased by the mining activities? SE-59

Page 7-1--A net energy analysis is necessary to rationally determine the benefits of this mining project. SE-60

Page 8-1--The first and second paragraphs are somewhat contradictory. On one hand, a buffer zone between mines and the reservoir would be created by turning down this lease. But, on the other hand, the "no action" alternative is not seen as significantly reducing impacts which would occur if the lease was mined. Both of these statements cannot logically follow. SE-61

Pages 8-1 and 8-2--Where is the transportation corridor? Where also is the mining plan? How can the TEEA be done on a proposal which keeps changing? How can the impacts be sufficiently determined? SE-62

Pages 8-2 and 8-3--What acreages are involved here? What will the actual extent of mining be? These questions need answers, too. SE-63

Page 10-1--For a determination of the intensity and direction of existing public sentiment, the BLM needs to ensure timely distribution of the TEEA and provide proper notice for a conveniently located hearing. SE-64

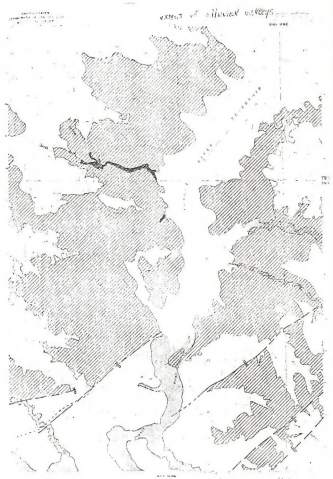
Map A1-1--Will the box cut pass through bays and estuaries of the reservoir? If not, is this map in error, or are we misreading it? SE-65

Map A1-3--When this map and map A1-1 are superimposed, the boxcut would

specific comments--page eleven

seem to be to the East of the transportation corridor. Is this correct
2F-fb It would be helpful to indicate the power line right-of-way, the railroad
and the highway on the map.

Thank you.



LETTER 2E 28-1	The BLM and OS have determined that the lease application meets the short-term criteria.
28-2	Comments have been noted.
28-3	See Comment 28-1.
28-4	Comments have been noted.
28-5	The preferred location of the transportation corridor has been finalized. The mining plan cannot be submitted to the State until the company has obtained the lease (see map 1-6).
28-6	The USGS has determined that the D_2 seam is uneconomical to mine at this time (see USGS letter, Chapter 7).
28-7	Comments have been noted and the text revised (see page 2-21 and DNRC letter in Chapter 7).
28-8	The text has been revised to indicate the existence of alluvial valley floors (see page 2-37).
28-9	Comments have been noted and the text revised (see page 3-6).
28-10	Comments have been noted.
28-11	The BLM and the OS have determined that it meets the short-term criteria.
28-12	Statement has been deleted.
28-13	The land use plan for the Decker-Birney planning unit has been updated to include the unsuitability criteria and will be revised by 1985.
28-14	Records indicate a copy of the TEIS was sent to the State Department of Health and Environmental Sciences on July 5, 1978, 21 days before the meeting.
28-15	Comments have been noted.
28-16	Production will begin when and if the North Decker Extension is permitted by the Montana Department of State Lands and Office of Surface Mining.
28-17	Map has been revised (see map 1-3).
28-18	OS has determined that the application area does not have an LMU (see page 1-5).

28-19	A mining plan for the application area cannot be submitted to DSL until the lease is obtained.
28-20	Comments have been noted.
28-21	See Comment 8-2.
28-22	Bond would be posted by the successful bidder.
28-23	Maps have been revised to show all proposed mining activity to the west of the transportation corridor.
28-24	Map has been revised (see map 1-6).
28-25	See Comment 26-3.
28-26	Application was submitted by Decker Coal Company.
28-27	Figures have been corrected (see Chapter 1 - Proposed Action).
28-28	Comments have been noted.
28-29	Settling ponds would be protected by being to the west of the transportation corridor (see Comment 8-3).
28-30	See section on Reclamability, page 2-60.
28-31	See Chapter 3, Environmental Impacts. Relocation of Highway 314 and railspur are beyond the scope of this document.
28-32	Map has been included showing transportation corridor (see map 1-6).
28-33	Text has been revised (see page 3-7 and letter from DNRC in Chapter 7).
28-34	Comments have been noted and text revised (see page 3-21 and letter from DNRC in Chapter 7).
28-35	Comments have been noted.
28-36	Comments have been noted and text revised (see page 3-7).
28-37	Comments have been noted.
28-38	See Comment 28-6 and letter from OS in Chapter 7).
28-39	FEIS, 1977.
28-40	Text has been revised (see page 2-37).

28-41	Definition is as clear as possible (no precise figures available).
28-42	Maps have been corrected.
28-43	Text has been revised (see page 2-39).
28-44	Section has been deleted.
28-45	Comments have been noted.
28-46	Statement has been deleted.
28-47	Text has been revised (see page 2-37).
28-48	Fugitive dust particulate levels will be the same with or without the mining or the application area (see Summary of Impacts Table).
28-49	These questions will be addressed before a mine permit is issued.
28-50	Impacts due to raising the dam height are covered in the Hydrology section, page 3-7.
28-51	Maps and tables have been included (see map 2-8, Tables 2-9, 2-10 and 2-11).
28-52	Text has been revised (see Table 2-6).
28-53	The thickness of the saturated clinker, through which most of the inflow is expected, is reduced as the pit is moved closer. See Final EIS, East Decker and North Extension Mines.
28-54	No. The transportation corridor limits mining activity to the east and would act as a buffer.
28-55	Text has been revised (see page 3-6).
28-56	Text has been revised (see page 2-19).
28-57	Comments have been noted and text rewritten (see page 2-19).
28-58	Comments have been noted.
28-59	Compared to the quantity of water in the reservoir, the groundwater discharge to the reservoir would be so small as to not significantly influence the water in the reservoir (see Van Voast, 1975).

28-60	These are questions best answered by OSM and DSL at mine-permitting time. Sized of settling ponds is covered by OSM regulations.
28-61	Since heavy metals is a watershed problem and not specifically a mining problem, it is beyond the scope of this TEIS for a species-specific discussion.
28-62	Comments have been noted.
28-63	They would have an adverse effect on wildlife.
28-64	Comments have been noted.
28-65	Fish habitat would not be reduced; wildlife would be temporarily displaced.
28-66	Text has been revised (see page 3-6).
28-67	Text has been revised (see page 3-6).
28-68	Runoff would be negligible.
28-69	Boscut spoils would be rehandled under the current mine proposal.
28-70	USGS has determined it is uneconomical to mine the D_2 at this time (see OS letter, Chapter 7).
28-71	Research in this area is continuing.
28-72	Decker Coal Company, the surface owner.
28-73	It would be buried per federal and state laws.
28-74	The new proposed action calls for a rehandle of the boscut spoils, the mitigation.
28-75	Comments have been noted.
28-76	Text has been revised.
28-77	See comment 28-75, "no additional jobs would be created".
28-78	Statement has been deleted.
28-79	With the new proposed action, none.
28-80	Comments have been noted.
28-81	Text has been revised.

28-02 See map 1-6 and Chapter 2.

28-03 See Summary of Impacts Table, also text has been rewritten.

28-04 Comments have been noted.

28-05 No, map has been revised (see map 1-6).

28-06 No, maps have been revised (see maps 1-4 and 1-6).

estimated 17 million tons of coal in the proposed lease area in conjunction with the planned North Extension Mine may mean the total loss of this energy resource. At best, it will require more energy to recover reserves if the proposed lease area has to be mined separately at a later date.

In an era where energy requirements are increasing and energy development is being stifled through excessive environmental enthusiasm, it only seems logical to recover resources in areas presently under development especially when the additional mining will create negligible additional impacts.

In conclusion, we can find no logical or rational reason why these leases should not be granted. Further delays in the decision making process will do nothing more than jeopardize the recovery of this much needed energy and add additional economic burdens to the American public.

We urge you to issue the lease as soon as possible.

Thank you.

-2-

Lever 29

My name is Sam Scott and I am here on behalf of the Decker Coal Company.

Decker Coal wishes to emphasize the importance of a timely and favorable decision on our ~~many~~ recom., 1976 short-term lease application (M-35736).

We believe that the several environmental documents already in existence adequately cover all phases of environmental analysis related to the proposed action. Included in these documents are environmental analyses of plans to mine the proposed lease area.

Several questions arose during your July 26 Sheridan hearing regarding possible physical environmental impacts related to our original North Extension Mine plans. Since our original submittal, the mine plan has been changed. Environmentally, sensitive areas have been withdrawn from mine plans. Present mine plans stipulate that no mining will take place east of the transportation corridor, no spoiling will occur within the Tongue River Reservoir and no settling pond will be constructed within the Tongue River Reservoir high water elevation.

Decker Coal Company also wishes to stress the fact that no significant environmental impacts above those already expected for the planned North Extension mine will occur if the requested leases are granted and the area is mined.

It should also be emphasized that no additional socio-economic impacts will occur if the lease is granted. Personnel scheduled for the planned North Extension Mine will adequately handle the additional mining area. No additional employees will be required to mine the proposed lease area.

As pointed out in the draft TEEA, the area itself does not constitute a logical mine unit and by itself, the area is unmineable.

It is extremely important to remember that failure to recover the

-1-

LETTER 29 Comments have been noted and incorporated into the TEEA where appropriate.

Letter 30

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Billings Area Office
Federal Building, Room 3035
316 North 26th Street
Billings, Montana 59101

IN REPLY REFER TO:

ES

November 3, 1978

George Neuberg, District Manager
Miles City District
Bureau of Land Management
P.O. Box 940
Miles City, MT 59301

Dear Mr. Neuberg:

The Fish and Wildlife Service (FWS) has completed a draft report of the cumulative effects of surface mining on the fish and wildlife resources near Decker, Montana. However, the report is not of the quality necessary to meet the Bureau of Land Management's planning needs. Rather than miss an opportunity to respond to the proposed Decker North Extension, consider this letter the position of the Fish and Wildlife Service regarding the proposed Decker North Extension lease application.

The FWS does not oppose leasing of the proposed Decker North Mine Area. However, in allowing this lease, the FWS urges your agency to consider and attach the following stipulations:

1. No mine effluent should be discharged to the Tongue River Reservoir unless it is free of mercury.

2. No pond or pond system containing or receiving mine effluent should be located on any area within 50 meters of the 100 year floodplain of any throughflowing stream, river, or reservoir.

3. A buffer strip between the reservoir and mine should be based on the hydraulic conductivity of aquifer materials, i.e., where the ability to transmit water is high, a wider buffer is needed.

4. Diversion and reclamation of Spring and Pearson Creeks should be accomplished to maintain the streams natural characteristics.

5. The reclamation plan be so designed as to provide equal or better habitat and forage for wildlife species than currently exists.

6. No mining or spoiling be allowed within the highest water level of the reservoir.

7. The road and railroad relocation be placed outside the highest water level of the Tongue River Reservoir but between the mine and the reservoir.

There are some additional suggestions that may be considered in allowing this lease. These include:

1. Suggesting the opening box cut begin away from the reservoir and work toward it.

2. A series of settling-evaporation ponds be designed to contain mine effluent. In the absence of these ponds, ion exchange methods or chlorelhabit plant treatment methods may be tried.

Should continued research reveal that potential mercury problems are not a reality, many of the above proposed stipulations could be relaxed.

The FWS will provide your office with a final copy of the report mentioned above as quickly as it is completed. Thank you for the opportunity to provide recommendations on the proposed North Decker Extension.

Sincerely,

Burton W. Rounds
Area Manager

cc: Bob Stewart, Coal Manager, Washington D.C.
Harold Tyus, OSS, Denver, CO
Ed Zaidlicz, State Director, BLM, Billings, MT
Bob Streeter, Coal Project Manager, BLM, MT
Dick Jortuson, Department of Fish and Game, Helena, MT
Bob Vertchas, Department of Fish and Game, Helena, MT
Sam Scott, Acting-Wildlife Resources Branch, Peter Kiewit Sons Co., P.O. Box 7486, Sheridan, Wyoming 82801

LETTER 30 The new proposed action, limiting the mining activity to the west side of the transportation corridor, incorporates many of the requested stipulations already. The rest would best be handled prior to the issuance of the mining permit.

Opening Remarks - Sheridan Public Meeting on Draft Decker TEIS - July 26, 1978.

Bob Bennett. Good evening, I am Bob Bennett, Area Manager of the Powder River Resource Area, part of the Miles City District, Bureau of Land Management. I would like to take the opportunity to welcome you all here on Sheridan for our comments period on our Environmental Analysis and Technical Exam on the Decker Coal Extension proposed lease.

Briefly, there is coffee and tea in the corner. Feel free to help yourselves at any time. I know it is warm and is going to get pretty dry in here tonight.

What we would like to do this evening is to take a few minutes and let you folks address the TEIS that we have prepared in terms of the quality of its theme about that you think should be improved, and whether the mitigating actions are appropriate and that type of thing. We recognize that an impact statement has already been prepared on the Decker extension by USGS and the State of Montana. However, the proposed lease area was scrutinized as an alternative when we were under then the part of the preparation and we felt there was additional information available, and therefore, we sought to go ahead and evaluate that.

Also, I would like to point out that what we have here is in fact a draft and we have an opportunity to take your comments and work those into the draft for the final, so feel free to tell us what you think. Also, the comment period has been extended through the 15th of August and those comments either can be submitted orally or writing or here tonight. You can either do it in writing or we will pass the microphone around and we have a tape recorded and will try to record all the comments and State will also take them in shorthand in case the tape recorder goes on the fritz. So, really, I think we have ample opportunity for you folks to come to comment. Those that don't feel they want to comment tonight, we'll agenda sheet and carry any names in there. Go ahead and put a few comments down and give them to Amy of the BLM people here and we will take those as well.

Let me take just a minute to explain the lessee process here. What we have is a proposal that was sent to us by Decker in 1976 and for one reason or another it was not acted upon until the USGS and the Department of the Interior opened to exploration it. At that point, we were told to go ahead with it. What we have, as I said, is a draft. The next step is the preparation of the final and the preparation of the stipulations that, if it does go to lease, we feel must be incorporated into the lease. Those stipulations will be based on the mitigating actions from the TEIS, on what we are going to do, the next step, is to prepare the final. Following that we will meet with the State Lands Department in Helena. The State Lands people will then review our proposed stipulations to insure that they conform and comply with the State of Montana laws and rules.

If these tracts are not leased, then Decker presently holds the coal lease in this area to the west, and if the tracts are not leased, the coal development will start on these boundaries and progress eastward. This would leave these two tracts in a bypass situation. The economics of coming back to over pick these up are probably pretty small, and if they are, the impacts would be much greater because some of the reclaimed areas would ultimately be disturbed. If these tracts are leased, then Decker's plan is to start work of the transportation corridor and proceed westward. We evaluated these tracts through our environmental process and this Technical Exam/Environmental Analysis was the result of that. That was done in conjunction with various state and other federal agencies. We used all the technical expertise we could. In the back there is a list of all the agencies that have been contacted and we have worked with on this.

That brings us up to where we are at tonight with the draft and we are asking for your comments on this draft and we will go back and produce a final Environmental Analysis and Technical Examination of the recommendation, with that, will produce any recommendations whether to lease, not to lease, or any other alternatives, and if a recommendation is to lease in any form, then we would also recommend any mining stipulations to protect the environmental aspects.

I guess we'll turn it back to Bob.

Bob Bennett. I would like to ask John White to come up and explain the USGS's piece of the pie here.

John White, USGS - As the Conditional Survey we authorized by the Mineral Leasing Act of 1920 to administer and regulate mining operations on federal mineral leases. As this particular point, that is before the lease is awarded, we are functioning as advisers to the Bureau of Land Management in terms of advising them, for instance, on what the royalty rate for the extraction of the coal ought to be, on what the bonding requirements for damage on the surface ought to be, and so forth.

After the lease is issued, then we will take over from the Bureau of Land Management and they become our advisers. So the Conditional Survey's functions at this point are there:

We are determining what the fair market value of that coal is. We have a staff in Denver that does this sort of thing; we have a man who is formally a professor of economics in the Colorado School of Mines and so forth. We will be transmitting a recommendation as to what the minimum bid ought to be to the Bureau of Land Management State Director in the near future.

As I mentioned before, we have already recommended as to what the royalty rate ought to be and what the bonding requirements ought to be at this time.

Those will then be sent forward to the State Director with a recommendation from our District Manager. As that point, the State Office hands that on USGS; they have a review of it and a recommendation is prepared by BLM State Director, and then is sent to our Washington, D.C. for a reviewal again and then sent to the Department of Interior. The Secretary of Interior, after consultation with the Governor of the State of Montana, makes a decision on whether the leases be offered or not. Presumably, those are the steps in the lease.

Anybody who comes in late, we have got a sign-in roster. There is no big rush, but we really would appreciate it if you go ahead and take a minute to sign in. You can do it now or afterwards.

Right now I would like to introduce the folks that we have here. Mr. John White, with USGS, who is overseeing the Area Mining Supervisor; Don Gilcrest, also with USGS; Bill Volk, Soil Scientist with the Bureau of Land Management; Lance Nimmo, who is a Surface Protection Specialist with the BLM; Peter Skrobach, who is the Hydrologist with the BLM, Gerry Gill, Wildlife Biologist with the BLM; Ed McTaggart, who is a Recreation Specialist with the Bureau of Land Management; and Jerry Clark, an Archaeologist with the BLM; and for a while I thought we were going to outnumber you — it was one those things.

Right now what I would like to do is give this 30 lesse and let him explain specifically what the proposal is and the approach that he took in preparing the Environmental Analysis.

Lance Nimmo. Briefly, what the proposal is here, is Decker has filed, as Bob mentioned, a short-term lease application. It is within the confines of the North Extension Hire. The lease application is three areas here in detail. The North Extension Hire is this dotted line. As Bob mentioned, they filed this application in 1976 and it has been held up for various reasons and recently USGC and the Department of Interior has given the agreement on short-term criteria and they have released this for further processing. Initially we have been working with the Decker-Spring Planning that they have done by the BLM and checked for their recommendations and their concerns. What that showed was that the areas within the spilway elevation on the Tongue River Reservoir were recommended not to lease coal, whereas those areas above the spillway were designated as potential leasing and development areas. One of the reasons the areas within the reservoir itself will have to go surface and with the planning unit recommendation, we couldn't carry them any further. However, the areas above the spillway elevation we can consider for leasing.

In addition to this lease tract or the two tracts here, there is proposed a rail line and the relocation of a highway there. Now, the rail line is for the Spring Creek Mine and that line comes through here in the transportation corridor that is proposed now. Decker's mine plan indicates that mining will take place west of that transportation corridor.

Our second function then is to examine the company's mining and reclamation plan to determine if the plan as best maximizes the recovery of the coal and therefore maximizes the amount of the royalty which is transmitted to the treasury.

So we will be looking then, when they submit the new mining plan, at what method they propose to mine to determine if it is in the best interest, for instance, of the taxpayer, and we will be looking also to determine if the mine plan agrees with applicable laws and regulations.

Our third function then is that we enforce upon the company the requirements of the mineral leasing act and what regulations have been issued in response to that act. We, for instance, inspect on behalf of the secretary, but not less than every quarter, the mine to determine if in fact the company is in full compliance. We inspect to determine if they are in compliance with the law, the regulations, the mine plan, and any stipulations that the BLM has attached to the lease and any stipulations that the Secretary of Interior has attached to the mining and reclamation plan.

Bob Bennett - thank you. What we would like to do is turn the program over to you folks. As I stated earlier, this is a draft. We would like to have you direct your comments toward the document in terms of the impacts, whether you feel they are adequate or should be strengthened, and also the mitigating actions, whether or not you have some specific ideas about mitigating action that you feel ought to be reflected in the TEIS as well.

So what I would like to do is ... the "mike" is on the table ... if we could just pass that around as much as possible and if you would kindly, because we are recording this, state your name and where you are from and go ahead and give us your comment and those in going to try to hang up with you and the tape recorder, and we hope everything will go fine with the tape recorder. As I said, again, the comment period has been extended until the 15th of August and any of you folks who do not wish to make an oral comment, feel free to make a written comment on your agenda and gave it to us. We will be happy to take them.

Essentially, it is your nickel, and if there are any questions for clarification on the presentation, we would be happy to talk about these, but really we are interested in what we can get from you folks. The "mike" is on the table and we will try to pass it around here.

Minutes of Public Meeting
Draft Decker North Extension TEIS
July 26, 1978, Sheridan College

Keith Bennett - Laramie, Wyoming

Keith - On page 1-5 you mention that the addition of this particular tract would extend the life of the mine 7 years. Do you have information on 7 years beyond what the shutdown date for the mine would be? What would be the shutdown date if they didn't do this?

Lamar - What do you mean by the shutdown date of the mine?

Keith - You mention that on 1-5 that the mining rate of excess of 3 million tons per year, the addition of this particular tract would extend the life of the mine 7 years. That is a little hazy or whether you are referring to the whole mining operation or just the North Extension mine, and if so, what would be the point in time when the mine would stop operations if you did not have this tract leased?

Lamar - The extension of 7 years would actually be at the front end of the mining because, as we showed on the slides, those tracts are where the mining begins, so it would just push the completion of the mine (and we are referring to the North Extension), it would push that 7 years into the future. This 7 years ahead from the mine plan and that is the time frame that the mine plan calls for; mining these two tracts.

Keith - OK, but even though, that it is on the front end, do you have any idea when the mine would stop operation if you did not lease this?

Lamar - I don't off the top of my head. In the mine plan on the North Extension itself, I believe they are looking at approximately 20 or 25 years life on the North Extension.

Keith - One more question - Page 3-18 - It says that currently the Decker operation employs 260 operational workers, 60 supervisors, and then on page 3-19, that the will, with the North Extension mine and with this particular tract, will go to 580 craft workers and 120 supervisor workers and I was wondering if you would do 2 things. First of all, break out how many of the workers would be directly related to this particular lease, and second, that on the bottom of the particular paragraph on page 3-19, it says, "However, it is estimated that with or without the lease consideration area, employment and their related impacts would be relatively the same. I don't see how they could be the same when you're doubling in employment.

Lamar - This here is something we have to bear in mind that the TEIS is on the lease tracts itself, not on the North Extension. How the doubling of employment will come as a result of mining the North Extension which we have no control of over with these lease tracts. They simply move to the work as I showed before and mine their existing leases. That will still double the employment of the area. The additional employment for these particular tracts; I don't see how this could be estimated. All this is going to be extended the life 7 years and I can't see where it is going to employ additional people.

The document also states on page 1D-1 that it expects the public responses in the lease area to be directed at primarily the broad areas of coal development rather than focusing on the merits or demerits of the specific tract of federal coal. Tri-County's general comment would be that we think it is probably better to encourage the leasing of federal coal where mining is already taking place, rather than to open up new areas for development. However, we do have specific and urgent concerns about leasing anything so close to the Tongue River Reservoir. There is, as the previous person mentioned, inadequate information about the amount of mercury and other heavy metals or trace elements that could be released in the reservoir. We are glad to see the ERA considers the potential carcinogenic of mercury pollution on the fisheries downstream and downstream waters which are used for irrigation. (para 3-8.

We feel, however, that the information is insufficiently documented and there remain too many questions. The TEIS states that the proposed lease tract is not an alluvial valley floor. Again, with no supporting documentation. We are curious as to who made that determination, and when. The document also states that the proposed lease tract was mentioned in the Buyers agreement between the Interior and the Plaintiffs, as meeting the requirement of a bypass exemption. To our knowledge, no tracts were specifically mentioned in that agreement, and we have serious questions as to whether it does in fact meet these criteria.

It is our desire to be able to work with the BLM, and our frustration is that the willingness to cooperate with directly affected people does not seem to be present on the part of the Bureau of Land Management. Thanks for your attention.

Bennett - Thank you Carolyn. Just as a side comment, the State agencies including the Department of Natural Resources were notified. The TEIS was sent out to them the first of July. We have a record of that and I don't know why it didn't get to the appropriate reviewer but it was sent out.

Thank you Carolyn, we appreciate it.

Vincent Johnson - Real Estate Broker - Sheridan, Wyoming.

Vincent Johnson talked about his personal feelings about social economics, recreation, etc. of the mining taking place around Sheridan. These comments were not directed at the TEIS, but at coal development in general; therefore, these comments are only summarized.

He stated that Sheridan is not a bad place to have the meeting. He said most of the people who work in the Decker mine live in Sheridan, but the people downstream should be considered.

He commented that the reclamation of the Decker mine is commendable.

Keith - Can we get any estimation of when, if you grant this lease or not, when they will either start on this particular lease tract or when they will start mining the west area that you mentioned. When will we get the sealed and commercial bids on other sections.

Lamar - Well, that is a question that is really hard to answer. If this lease goes through, the cals date and the lease will depend on the political facts in Washington and then after the lease, Decker still has to obtain the mine plan from the State, and I think that the State is looking at 3 years for approval of the mine plan now. The actual work in that mine will probably be looking at a couple three years in the future.

Bennett - I think Keith, you have a good point in that if it is not clear to you then it is something that we should clarify in the final. The point that you brought up that we are talking about in the extension rather than the fact of doubling because of that lease. If you missed it, then others have too, and it's a good point. Thank you.

Richard Bond - Prepared Statement. (Nick read the statement as his comments. See letter #5).

Carolyn Alderson - Tri-County Resolve's Association.

Carolyn - My name is Carolyn Alderson and I am here tonight representing the Tri-County Resolve's Association. We would like to thank the BLM for the opportunity to comment on the document. We would be more considerative, however, if the BLM would honor our request for another meeting on this application in Ashland. Sheridan is a nice town and the central location for many people, but for some of us at the south end of the Tongue River drainage in Montana, the fact remains the proposed lease tract is in Montana and the Tongue River Reservoir. At least the headgate and waste of the Tongue River Water, as we just mentioned, are downstream from the proposed mine. Many of these people live too far to come to Sheridan literally at a moments notice. Many of the people who are likely to be affected by the proposed only received a copy of the document so late at last Saturday. As you learned, the several state departments and other individuals had not received it as all. The meeting was not noticed in any newspaper except the Sheridan press, and then only a week ago. There was a tiny article about it in the Billings paper Monday.

We in the Tri-County Resolve's Association have asked that there be a meeting in Ashland twice and twice our request was flatly refused. The reason we were given for holding the meeting in Sheridan is that Sheridan will bear the brunt of the social impact from the mine, yet, as we just heard, the social impact from this particular lease application will be negligible. The main social impact will come from the proposed Decker North already leased. The TEIS states on page 3-19, that the lease consideration area will have little effect on the aggregate social economic impacts associated with mining the existing lease tracts.

As a member of COHD (Citizens for Orderly Energy Development) he feels, like everyone else, that there must be conservation. One of the things that is pointed out in this report, is that it would be foolish at this time to bypass any coal that is economically recoverable within the mine plan because small pockets of coal that are bypassed at this time may not ever be economically recoverable in our life time, or in the time of many people to follow us. This is waste in its worst form.

He stated that one thing we should be aware of here tonight is that we should do everything we can to see that the environment, economic and social, is protected. We should do everything possible to keep the dollars for both the coal companies and agencies to a minimum.

"I would like to recommend here tonight as a citizen in Sheridan, as a businessman, as a parent and a grandparent to say this: That coal mining has brought economic stability to Sheridan and economic wealth to many people who might be working for subsistence wages or who might have to leave the area to find living wage. I would like to say that the businesses here are prospering and that the impact that I have studied, and the impact that I know as well in the Sheridan area has been good. The only concern here tonight is that (1) We do not waste coal that can be economically and feasibly recovered and that all parties be given a chance to be heard and considered, and then, after all necessary steps have been taken to protect the ground water, the reservoir water, that this coal, as much of it as possible, be recovered by the Kiewitt Company at this time."

Byron Mathilon - Manager, Chamber of Commerce

Byron - Our board met yesterday and they are unanimously in support of the Decker North Extension Coal Lease Application in 1978, and I would like to submit this testimony in behalf of them. (See letter #4)

Bennett - Thanks. We appreciate it.

Closing Remarks - Sheridan Public Meeting - July 26, 1976

Bob Bennett - I really hate to close it if there is anybody else who would like to say anything. Again, I would like to point out if you have any written comments and you don't want to speak in front of the group, feel free to submit them to the Bureau of Land Management, Miles City District. There is a type on the agenda on the slip sheet of Miles City. It should be 59101.

I would like to take the opportunity to thank you for coming down here and talking with us. If there is any questions, you may call us or whatever, we would certainly appreciate anything else we can get from you folks. If you haven't all signed the roster, we certainly appreciate it if you would before you leave, and we will try and make sure, senseless of what the outcome, that everybody gets a copy of the final as well.

Again, let me thank you for coming. We certainly appreciate it. Thank you very much.

Opening Comments - Ashland Public Meeting, September 13, 1978

Bruce Whitmarsh - I would like to welcome everybody here this evening. I must say, I am more than mildly surprised at the nice turnout we got. If you had any of that weather that we had in Miles City the last couple of days we didn't know what kind of turnout we were going to have here.

My name is Bruce Whitmarsh, I am the Chief, Division of Resource Management with the BLM in Miles City, Montana, and I am sitting in for Bob Bennett who was unable to be here this evening. We've got a couple items here I would like to start off with. I think Steve Adwell - I would like to remind everyone to sign the registration sheet. If that hasn't already done so. It is in the back of the room. I will make this announcement again at the end of the meeting. We have some coffee here, you are welcome to come up anytime during the meeting and help yourselves and the restrooms are right through this door and to the left. Somebody mentioned there was a truck outside, a green one with the lights on.

I would like to introduce the people that were with me this evening and will be assisting. First, we have Dlaga Blakesley, a Sioux who will be taking shorthand and attempting to put comments down in written in case our good electronic equipment breaks down. Next is Jay Nowlin, standing up, he is our Public relations Specialist in the district. He will be passing the "mike" around the audience this evening for people who have a comment or statement to make and finally Lesse Himmo, Surface Protection Specialist who works for Bob here in the Powder River Resource Area and he will have a presentation on some of the technical things of the meeting this evening.

Right now I would like to state what the purpose of this meeting is - to accept comments on the BLM Technical Examination and Environmental Analysis dealing with proposed leases of 640 acres of federal coal within the Decker North Extension. We wish to determine if the public is aware of any additional impacts or mitigating measures not covered in the Analysis. This is the public's opportunity to provide the basis of changing a document prior to publishing a final one.

Now, before I turn this over to Lesse for particulars on this lease area, I would like to explain what our leasing process is.

I guess this set on this flip chart so everybody could see as well as what I am trying to say. The steps in the leasing process - The first step, we prepare a draft Technical Examination/Environmental Analysis which is a combination document, that's the document that you folks have in your hands. The next step in our leasing process is a public meeting where we do and receive public comment. That is where we are at in the process now, and the document, of course, is changed as the outcome of constructive criticism or any public comment that we were not aware of.

Next we take this document to the State Lands Department and work out joint stipulations. Now, I will qualify that a little bit because at this point if it is determined that leasing is not a recommendation, of course, we skip this step.

Step #4 is publishing the Final Technical Exam and Environmental Analysis with stipulations and those of you who have registered at any of the meetings we have held for public comment would receive a copy of this document.

Step #5, at this time we recommend to the State Director in our Billings office whether or not we lease and include the stips.

Step #6, BLM reviews this proposed lease and gets recommendations from the U.S. Geological Survey. Going on to Step #7, we then pass our recommendations on to our Washington Office and then the Washington Office-BLM, makes recommendations to the Interior Department, and all this time it has been here within the Bureau, it goes on to the Department, and finally the Secretary of the Interior contacts the Governor, following the Governor's input, makes a decision on the lease. Now, those are the steps for one of these leasing arrangements that takes place.

At this time I will turn this meeting over to Lesse Himmo for an explanation of the lease area and its relation to the mine and transportation corridor.

Lesse Himmo - In October of 1976 Decker Coal has made an application with BLM to lease 2 tracts of federally owned minerals within the North Extension mine boundries. Now, the dashed line that you see in the proposed boundary of the North Extension mine. The solid lines are the 2 lease tracts that are under application at this time.

Subsequent to this application, the Department of Interior was enjoined from coal leasing by the Federal courts until the Department and the National Resources Defense Council reached an agreement on the short-term coal leasing criteria. The processing of this application was put on hold until the injunction. Once NRDC and the Department of Interior reached an agreement on the short-term leasing criteria this application could then be processed. This area was then checked against the recommendations from the BLM's Decker-Birney Planning Unit and found that the area below the spillway elevation of the Tongue River Reservoir was recommended not to be leased for coal development. The areas above spillway elevation was designated as potential lease areas. It was also addressed on the Decker EIS which was prepared by the Montana Department of State Lands and USGS. This was filed with both the Montana Environmental Quality Council and the Federal Council on Environmental Quality in July of 1977.

Additional proposals which affect this area are construction of rail line to the proposed Spring Creek mine, and the relocation of Highway 314. That is the line you see that goes up through the tracts. The latest proposal for these actions are to place the rail line and highway in a transportation corridor which will bisect the application area.

The area to the west of this transportation corridor involved approximately 464 acres of the entire lease application. The remaining 176 acres lie east of the transportation corridor and are too close to the reservoir to be mined. The North Extension mine, if the lease is not granted, is to begin mining on the east edge of the existing lease and progress westward. This would place the application area in a bypass situation and the application area would be uneconomical to mine at a later date. If economics were changed to make the area economical to mine, it would cause additional environmental impacts on new previously reclaimed areas.

If the lease is granted, the mining would start on the west boundary of the transportation corridor and progress in a westerly direction. This Technical Exam/Environmental Analysis was prepared to evaluate the impacts of leasing these tracts and to recommend mitigating measures should leasing and ultimate development take place. This brings us to the point where we are tonight and we are here at this meeting to accept any comments on the Tech Exam, anything anybody would like to bring up concerning the lease.

Bruce Whitmarsh - At this time I would like to mention some of the rules we would like to have you observe while you are giving your comments or statement. Jay Nowlin will be in the audience with the traveling "mike" so you will be able to speak into that without going very far.

We would like you to please speak into the "mike".

Please give your name and what organization you represent, if that is the case.

Would you please limit your comments to the Technical Examination/Environmental Analysis.

We will accept comments in writing from those who do not wish to do so publicly. Just fill out the comment portion of the handout which hopefully you picked up at the back desk and bring them forward after the meeting or else mail them to our District Office and we will accept them until the 7th of this month. Now, if there are no further questions, we will begin accepting comments.

Jim Holtenbeck - Montana People for Progress

I turn west on get it straight in my mind this area east to the road is 480 acres, but is kind of sweeps out along the west side of the road, right?

Lance - That's Right.

Jim - O.K. What would you say, like say take the lower portion at its widest spot, how wide would that be?

Lance - The tract is basically ¼ mile wide. The southern tract is ¼ section less 40 acres there about, and the North tract was ¼ section plus. I believe 240 into the west half of the section. The lines are basically ¼ mile wide.

Jim - You already had permission to mine what is west of that now?

Lance - No, not in the proposed lease tract.

Jim - The other area, I knew there was tracts are that we are talking about now. The area west of that, new if they don't get approval for this small tract here will they go ahead and move on to the west and put in a permit to mine what is next to it?

Lance - Yes, that is right. They will file a state permit. They have the existing license to the west of them there but this will be dependent upon the state approval for the mine application.

Jim - I just want to get that straight in my mind. As far as I am concerned my views on it if they handle this small section like you say, it would be uneconomical to go back and reclaim, so go back and get it because they have established land without going to it. They will have to strip it all again. In my view, they might as well go ahead and take it out.

Tom Osborn - Hydrologist

I am the hydrologist for the Northern Cheyenne Research Project. I guess I won't read the entire text of the comments but just summarize what our concerns are. It is a difficult problem to address the cumulative impact that this mining operation or any other mining operation has on local water resources and I can appreciate the difficulty that the BLM would have in addressing them, but I don't think that it is an excuse for not attempting to address them. Our own research shows that we have a lot of bad effects as a result of the mine effluents both from the pumping operation and from overland flow tank. Our research indicates, for example, that when you take 50 to 75 acre-feet of water annually to show up on surface water sources such as Tongue River, you begin to making plume up on the flats, the impacts could cover over 100's of years even though they may be low level and one of the things of concern

in the proposal is that the mining operation is very close on the reservoir on the thing that limits the amount of water for some of the some of the potential impacts of some of the mining operations is that there are limitations from Indian water and that there just isn't that much water in the aquifer system that will drain the mines of the area and will not be available for surface water body. The area, it is close to the reservoir and we are concerned that if on some later point in time the spillway elevation is raised after mining occurs, just what is that going to do to the surface water quality in the reservoir and down stream, both in terms of salinity and the heavy metals that the TEEA contemplated, potential mercury contamination and that is certainly a serious problem both in terms of effects on the environment and on human life on downstream for irrigation I would say. We are also concerned about that and I think there were sources of data that could be looked into, for example, USGS has collected several years worth of heavy metal data both upstream from Decker and downstream. I did not see any of that analyzed in the document. Our own water quality analysis have examples indicating that levels of mercury in the Tongue River sheep the division are about .3 parts per billion and that level is considered potentially harmful for aquatic life, but I think the safe water drinking standard bables are within .2 parts per billion. For whatever the reason, and I don't claim to know what the reason is, that there is some background mercury in the Tongue River now and I don't think we know what they are. That's the kind of thing I think the assessment should look at. There are sources of data, USGS has collected some, we have collected some, and I think there is some more work that could be done. This is something especially if the higher reservoir is constructed, and even if it isn't, the spoil bank is in very close proximity to the reservoir. So the potential for contamination is there unless directly if the reservoir is enlarged or indirectly for 100's of years and certainly seems up warrant a more indepth examination to the problem.

I guess in general the other area of comment concerning water quality is just the cumulative amount of impact in the reaches mining out. In particular, it requires that the impacts to the reaches mining out. In Decker addressed and that there is just quite a few mines planned for the Tongue River drainage and euro, particularly the potential scientific analysis might show up that there is no water quality degradation for any one particular mine, but what about all of them, what about all of the mines, what about upstream irrigation, what about expanded irrigation that could possibly take place in Wyoming. These are impacts that have not been addressed in just Environmental Impact Statements, but the magnitude of impacts that could occur and the way the laws are written, they are recently observed since these indicate that the kind of analyses is very important. I think is the end that's what we are all going to be concerned with, and what other people along the Tongue River are going to be concerned with. What is the sum of the total of the impacts of all the proposed developments? And that is the kind of thing I think the Environmental Assessment should be addressing.

Nancy Carson

My name is Nancy Carson and I'm representing the Tri-County Members Associates and I am also representing myself. While reading this technical assessment I found many errors which I will point out.

First, the maps are unclear. I can't tell what the mining plan is from the maps. The box cut A1-2 goes across some bays. Also, I can't tell exactly where the transportation corridor will go. A1-4 is mining and there are 3 maps labeled A2-3.

Second, the TEEA flatly says that there are no areas that that quality as alluvial valley floors within this lease. The department of State Lands is supposed to make that decision, and as far as we know, they have not made a decision yet. Also, the federal strip mining laws restricts mining on prime agricultural land. The TEEA give an incorrect citation for this part of the law. The citation they give refers to coal mining in Alaska.

Third, there is contradiction in this document. One part of the TEEA says that there will be increased employment with the lease and then on another page the TEEA states that with or without the lease, employment and relation impacts will remain relatively the same.

Overall, I would like to point out that this TEEA was not very professionally done and we says that another TEEA be done.

Art Hayes Jr. - Birney, Montana

My main concern is regarding the lack of information regarding accumulation effect of mercury on the Tongue River Reservoir and not the mine itself. It is stated that the mine discharges waters from the West Decker pit exceed the EPA recommended standard for mercury of .05. Although this represents only .05% of the water of the river, West Decker, nevertheless is only the second of six existing permitted discharges which will either be adjacent to the reservoir or situated along the Tongue above it. Regarding the mercury, there are many unanswered questions in the TEEA that the TEEA does not address - effects of mercury on terrestrial vegetation of crop lands. I would like to point out that the accumulation of mercury by plants will not only be confined to those within the mine area but proposes a threat to agricultural vegetation below the reservoir. The TEEA states that animals such as deer, antelope and many may accumulate mercury in their systems. What about domestic livestock. Wyoming has the right to 40% of the Tongue River flow. How will the mercury and the Alkalinity concentrations increase if Wyoming uses his share? What will be the effects of drought have on the concentrations of mercury. The studies on mercury are incomplete and ongoing. Further research is necessary. It would be unwise to lease this North Decker Extension at this time.

Mark Mazza - Representing himself. - Birney, Montana.

I am kind of confused on what the TEEA is supposed be, as far as an impact statement, is supposed to accomplish. I think by the conclusion, that this appears to be leaning a mining permit. I don't believe the TEEA is supposed to issue mining permits. Mining permits come from DSL or the State Department of Lands, one of the either or both and the fact that we don't know how much mercury, we don't have what the hydrological function is, has to be determined in an impact statements later on issued by DSL and also the State Department of Lands which will be analyzed very scrutinizing. It would be scrutinized very tightly I would say. I think all of this will be scrutinized very, very much closely of what an impact and effect it might have on the reservoir, raising the dam and all that at a later time, not the part of whether it should be leased or not is a differentiquestion.

I might add, I agree with that parliamentarian opened pits thing that I don't think there is any difference between conservation and mining, in my opinion, it is a waste of resources if we bypass this thing.

Gil Holtenbeck - Birney

I didn't do an in-depth a job of analyzing this as the fellow from Northern Cheyenne but I agree with what they have to say. My comments are on the NAG' ve, Hughes. The EIS claims that the agreed of federal lease falls under provisions of TSMC va. Hughes case settlement. This settlement talks the federal coal leasing in the west and allows only limited exceptions. The TEEA states that this particular lease was specifically named in the Hughes letter on page 2 in the preamble. This is not true. No lessee were named as meeting the bypass criteria. To meet the bypass criteria two requirements must be met. The mining operations must be in existance on September 27, 1977, and must be reworking coal as part of an orderly mining sequence and second, the operations must be such that if the lease is not mined now, it would be uneconomical to retain and remove the coal at a later date, or a significant increase in environmental damage would result. The above elements are not met by the Decker Coal application for several reasons. An essential element to qualify as a bypass lease is that the mine be in existence as of September 27, 1977. Presently, North Decker has neither filed a complete mining application with the Department of State Lands nor received a mining permit from that department. North Decker involves a new pit which is a considerable distance of approximately 2 miles from the existing North Decker mine. The lease application mine does not meet the required elements to qualify as a bypass. The amended decker requires that no mining alternatives are available. Certainly this must require some more evidence. The TEEA is silent on this point.

Let me finish by quoting from a letter to the Northern Plains Resource Council from Johathon Lash, Sierrer Project Attorney for NRDC - one of the parties in the Hughes settlement, he wrote. "From the materials you have sent and what I have seen from NPR va to whether they can in any way justify the North Decker lease, I doubt that they can. It doesn't look like an existing mine and it doesn't look like a bypass. As you know, under the amended party of the court in NRDC va. Hughes, 454

must give us 21 days notice before proceeding with any latex work. The bureau is on it to show that the lease fits under one of the provisions of order. BLM has given no notice to 6 leases, 2 in Colorado, one in North Dakota and one in Utah. Each has been small and has clearly fits within the provisions of the order. The last 2 leases they were sent over have been fairly well documented and explored so I have small qualms of hope that the North Decker lease will never be formally proposed by the Washington office."

Clearly the North Decker Kerzenlin lease application does not meet the requirements of the Hughes statement. I urge the BLM to preserve the integrity of the court order and keep Decker Coal Company within the letter of the law.

Dick Posthuma - Department of State Lands - Reclamation Division

The Department of State Lands, Reclamation Division, as you all may know, administers reclamation laws and after passage of the new strip mining law, we will be administering the reclamation laws in the state of Montana. We have been processing or reviewing application from Decker for the North Recreation Area for quite on three years now. Decker is now preparing a new application addressing the new federal requirements. We expect to see that application very soon. Before we do that, the Department of State Lands is taking an position as far as opposing or defending the leasing of these tracts. The only input we would like to make in that in order for us to make a sound mining plan and a sound reclamation plan we would hope that a decision can be made on this lease to lease or not to lease so that we can work up a final plan of mining and a plan of reclamation which will not have to be changed somewhere in the future.

I would like to make some comments to Mr. Reece. The Department of State Lands will be administering the federal Strip Mining Law in the State of Montana. Before we issued up on that, our Office of Natural Resources will be functioning and up and over-seeing. That provision in the law made concerning alluvial valley floor designation is true. The Department of State Lands will make that determination and has not made that determination yet. It will be forthcoming shortly.

Ray Loverage - Executive Director, Montana People for Progress.

I am not scientifically minded nor am I a scientist, so I will try to make my comments brief. I might mention that I have read the impact study here and it seems like in several cases we have counter-balance such as our overburden, in some areas, it is deep and in some it is shallow, and while we go back into reclaim we are going to level off so perhaps improve rather than damage. I might also say that in the statement it is talked about water contamination and what the volume of water would be in the reservoir at the time the mercury hit it and whether or not it would dilute this. As far as the wildlife goes, we came in from Colstrip

this evening and we seen quite a bit of it. I don't think you are going to have much trouble up here in North Decker with wildlife rehabilitation itself to the area once it is released.

I would like to submit to this committee, and I don't what you to think I am getting off the track here, a letter I have in my possession that was addressed to Mr. Chaval of the 8th from 40 of our congressmen, and when I am basically here for in development. In this particular letter, the congressmen are leaning pretty heavy on the EPA, the fact that they do not consider economical and social impacts. They feel that the EPA is not considering the economic impact of the rules and regs that are carried away with our impact statements. I wonder how many trees it took to put that stack of Impact Statements back there. We have a comment here from no regionality and social viewing like is probably the most dangerous thing to our environment, as we environmentalists. And I certainly wouldn't want to go that far, but it sometimes does make us wonder so I think sometimes when we get involved in these things the question isn't further impact statements. I believe BLM will handle this to the best of their ability, that the Decker Coal Mine has a right to say an increase their productivity and more especially to put people to work. But what amazes me is we never seem to have alternatives. The question is what about 120 years from now. My question would be, what is the end result if we don't develop?

Roger Burton - Decker Coal Company, Aquatic Biologist

I am here tonight to talk about the mercury situation that has been brought up in the TEIA. There is no one carrying that mercury flow survey in the water or environment. In this paper entitled Mercury in the Powder River Basin States that is based on the available data, the Conclusions of mercury which can be assumed to be due to the natural environmental mercury range from .03 to 3 parts per million with the normal range varying near .03 parts per million. Sampling for mercury has been conducted in the Tongue River drainage for a number of reasons. The USGS has sampled for mercury from Dayton, Wyoming to below Decker, Montana since October of 1975. Their data has indicated that the mean values of total mercury are .17 micrograms per liter at Goose Creek below Sheridan, .09 micrograms per liter in the Tongue River near Dayton, Wyoming with in the Tongue River at the state line and below the Tongue River Reservoir when the mean values are .008 micrograms per liter and .024 micrograms per liter. These data tend to indicate that the higher values are located in the upper regions of the drainages and that the concentrations of the drainage have more of a decreasing effect from dilution by the influx of other water and through a absorption to the sediment which they settles out. This data is further substantiated by a spot check made by Peter Klevitz & Sons hydrology and reclamation personnel in August of 1978. They found that .1 micrograms per liter of total mercury in Goose Creek below Sheridan, in the Tongue River below Dayton and in the Tongue River below confluence of the two streams, but were unable to detect mercury in the Tongue River just above the reservoir. The West Decker Mine discharges are not required because there has been no discharge since June of 1978.

Monitoring of total and dissolved mercury has been conducted by Peter Klevitz & Sons mining district personnel on a regular basis since August of 1975. Data just above the big Horn Mine on Goose Creek and the Tongue River to above the Tongue River Reservoir at the state line have shown mercury values to be below the detectable limit of .1 micrograms per liter. Sources of mercury in the upper regions have not been yet identified. However, the Wyoming Department of Environmental Quality did conduct a short mercury study on Goose Creek in February of 1978 which contains some interesting results. They found total mercury levels of 1.2 micrograms per liter and .3 micrograms per liter in a stream below the Sheridan Sewage Treatment plant, outfalls of 2.4 micrograms per liter and .2 micrograms per liter respectfully in the Sheridan Treatment Plant while at that point. The Argonne National Laboratory has conducted a mercury sampling program in Goose Creek in Dragon River above and within and below the Big Horn Mine. Data the data shows, in those stretches in the streams has been below the detectable limit.

We at the Decker Coal Company appreciate the opportunity to present this information here today. Our intention in presenting it is not to make light of the situation but rather to put it in a proper perspective. We are concerned as anyone on the effects of coal mining on the aquatic ecosystem. It is for this reason that we have developed a continuing monitoring program along the Tongue River and Goose Creek and the reason we have developed close working relationships with such organizations as the Montana and Wyoming Game and Fish Departments, U.S. Fish and Wildlife Service, US Cooperative Fishery Research Unit, Wyoming Water Research Center and the Montana and Wyoming Water Quality Divisions. If through our research or through the research of any of these organizations our agencies find that our mines are having a detrimental effect on the aquatic ecosystem, we will do anything within our power to correct the problem.

Burton Brewster - Birney, Montana

I am a life long resident of the Tongue River Valley and Birney. I would like to make a comment to the record. There are 6 ranchers occupying 30 miles of the Tongue River valley that are not opposed to coal mining and don't think that the contamination of the well will affect cattle or affect fish or affect agriculture because of the small amount of mercury that would be diluted by the value in the Tongue River. Furthermore, I would like to point out that with regard to coal mining and fish, the Celotrip Pits dug 40 years ago, strip mined 40 years ago, supplied the only water to Rosebud County as far as I know, for a good many years and that was at the bottom of the coal pit, so I don't see how the water of a coal mine could be so contaminating if trout can live in it, and this is also true at the Acme Mine out of Sheridan. The Sheridan people did a lot of fishing in the pits of the old Acme Mine.

Sam Scott

I am here on behalf of the Decker Coal Company. Decker wishes to emphasize the importance of the time length and favorable decision on the August

1976 short term lease application. We believe that the several environmental documents already in existence adequately covered all phases of the environmental analysis that is relevant to the proposed action. Included in these documents are Environmental Analysis plans to mine the proposed lease area. Several questions arose during your July 26 Sheridan hearing regarding possible physical and environmental impacts related to the North Extension Pine plan. Since our original submittal, the mine plan has been changed. Environmentally sensitive areas have been withdrawn from the mine plan. Presently the plan includes that no mining will take place east of the transportation corridor. No spoiling will be placed in the Tongue River floodplain. Coal crushing will be constructed within the Tongue River reservoir at high water elevation. Decker Coal also wishes to stress the fact that a significant environmental impacts above those already covered for the plateau North Decker Mine will occur if the request or leases are granted and the area is mined. It would also be a misstatement that an additional economic impact will appear if the lease is granted. The personnel schedule for the plan North Extension Pine area will essentially handle the additional mining area. No additional employees will be required to mine the proposed lease area. As pointed out in the draft TEIA, the area itself does not constitute a logical mine unit and by itself, the area is uneconomic. It is extremely important to remember that Decker is required to approximately 17 million tons of coal in the proposed lease area in conjunction with the planned extension mine may mean a total loss of this energy resource. As best, it will require more energy to recover the reserves that the proposed lease area has if it must be mined separately at a later date. In an area where energy requirements are increasing and energy development is being stifled through excessive environmental enthusiasm, it only seems logical to recover resources in areas presently under development, especially when the additional mining will create negligible additional impacts. In conclusion, we can find no logical or rational reason why these leases shouldn't be issued. Further delays in the decisions making process will do nothing more than jeopardize the recovery of this much needed energy, and add additional economic burden to the American public. We urge you to issue the leases as soon as possible.

Mick Gelder

I live south of Forsyth, north of the Cheyenne Reservation. I have just a couple of questions and perhaps Sam could answer them. By the map I see then you are going to mine , west to mine right next to the reservoir and I am wondering about the water flowing out of the reservoir and into the pit. It seems like it might be quite a problem if you get the right kind of a fault in there or something. I am not familiar, personally familiar with any of it. Another thing people are talking about mercury here. I thought there was quite a little problem with salinity and alkalinity which are quite reliable, as you know. I haven't read any part of this YEIA. I am just interested in the factors have to be addressed, or do you consider them a problem?

Sam - First, through the water quality work that has been done by Montana State University and Montana Cooperative Fisheries Unit and water quality work that we do, yes, there is an increase in some of the dissolved salts, Nick, but the data shows that this is going to be a negligible impact if any, and what was your other question?

Nick - I was wondering about the inflow into the mine . .

Sam - Oh, reservoir inflow into the pit. Through various mine designs a compacted trench and so on we expect some flow into the reservoir, from the reservoir into the pit, but through compacted trenches, and so on we believe we can minimize that. And essentially that water we plan to use and we expect it would be very high quality, as high quality as is presently discharging. It will be treated if necessary and we plan to use it is not in the Northern Tier Pipeline spending much.

Nick Bondy - Department of Natural Resources - Helena, MT.

I just have a couple comments. We have made several previous comments on this lease. First, I would like to thank the BLM for holding this meeting here tonight. In Sheridan we had probably 1/10 this many people and no one from the lower river where I feel the impacts will take place. It seems to me that the question we have here that BLM needs to answer is - What difference does it make whether they grant the lease or not? All it is is just a simple little strip of land that is there and it seems to me that it could be determined fairly easily. We don't need to go into the whole mining plan, State Lands is doing that, but we have several issues that were raised in the Technical Assessment including this mercury issue, and several water quality problems. We need to know what difference this small lease makes rather than what the whole scheme of things is for our purposes. We are just worried about what is going to happen to the reservoir. That's it.

Herb Mohly

I am Herb Mohly and I am a farmer, irrigator, and the president of the Tongue River Water User's Association, and I do want to thank you for having this hearing here where the impacts will be. I think our concern as irrigators is as much as Nick said. What are you going to do to our water? We recognize the rights of coal miners to mine their coal, but we want you people to keep our water clean as it is now and that includes everything, and there are several things pointed out in here on which it sure there will be an impact, and we don't like that. We don't want you to impact our lake.

Ray Lewarsa - Montana People for Progress

I would like to make one statement on the comment made who is really going to either gain or what is the impact going to be or what is really going to be on. I think we should understand that the removal of this coal probably is more vitally important in this day and age than it will be 100 years from now. Am I correct in the fact that you are talking both the first and second seams?

Lance - Petty, I believe there is a breakdown in there, but the federal royalties from any lease is 12½% of the mine mouth value and we are looking in excess of 17 million tons in three two tracts. That is a sizeable deal.

Petty - What because of that money? And then I want to ask you. After this is all over, who is going to pick up the tab?

Lance - What tab?

Petty - The tab for the land and the water that is destroyed. There is no groundwater thing in there. That's a joke.

Bill Parker - Northern Cheyenne Tribe

None of the comments I have to make are relative to tribal policy in any way. This is merely a private comment. In regard to the royalty situation on the coal, Spelunchis has been devastated by providing coal for the majority of the growth in the United States. There is very little provision for repairing the damage that has been done in Appalachia and I suppose the coal men can rightfully say "Well, that is in the day's gone by, we are good guys now, we don't do those things." I think that if the royalty that comes out this 12½% royalty is being attached to the value of this coal, that a higher royalty should go with it, so we can not only repair some of the damage back in Spelunchis, but also that we can reduce some of the impacts here, particularly on my reservation, of the coal development, in general. I think that everyone is help us with through the state tax money; and so I would like to present only on that part of this application, that the royalty is not high enough.

Closing Remarks - Ashland Meeting on Graft TIES, September 13, 1978

Bruce Whitmarsh - I would like to thank you all for coming. We certainly appreciate the comments that you gave us and we will use them, I can assure you. I would still like to remind those who didn't register to please do that so you be sure and receive any of the revised documents we will be sending out. If anybody has anything else they would like to bring forth? If not, we will consider the meeting closed.

Thank you for coming.

Lance - That is correct.

Ray - All right. I would like to make an example of Colstrip, and being from Colstrip I almost hesitate to say this, but there is a tremendous amount of money spent to reclaim the land up there and this is one of our biggest battles. We want to reclaim and we have alot of people who feel it is a failure. Modern technology will, in the future, find a way to use that second seam. Then we will turn around and tear it up again. Let's not let this happen in the Decker area.

Mary Daniels

I am Mary Daniels, we have a ranch at Birney and I am president of the Tri-County Ranchers Association and thank you very much for holding this meeting. We are glad to have an opportunity to submit these comments. Based on points made in our comments and the others here tonight we're asking the BLM to complete a new TIES to more fully address the many serious questions that have been raised. When all the data is in, we believe the only sensible decision may be to deny the 640 acre lease.

Please note, we are not opposed to the Decker North mine, per se, we simply feel the cost of the particular lease outway its benefits. One of our main concerns has to do with the mercury pollution from the lease and into the reservoir. Surely much more data is needed on this risky area before any lease action is considered, and we trust the BLM will take the time to make a responsible decision. I am sorry that people feel that the decision has to be made overnight. Of course it is bothersome for us to have to read these and comment, but the water in Tongue River, but it seems to me that to be expedient for Decker to get on with their mining, is no reason to make a quick decision on this, and thank you.

Nick Bondy

I would just like to make one more comment I forgot to make and that is we are getting to the point where delays in decisions are starting to cost us money and Sam can tell you probably how much it is costing them. Whatever the decision is, we would like to know so that we can approve various things they have asked us for, and so they can start getting under way for whatever they are going to be allowed to do.

Patty Kluver

I am Patty Kluver from Forsyth and I have a couple questions to ask. 1. Who will be so economically effected by this extension if it doesn't go through? I would like to know that, and then I would like to know how much royalty or whatever it is will the government derive from this little strip of land? Are you gentlemen in position to answer?

GLOSSARY

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AUM (animal unit month) - a standardized unit of measurement of the amount of forage necessary to sustain one animal for one month.

Alluvium - material, usually unconsolidated, deposited during comparatively recent geologic time by a stream or other body of running water.

Aquifer - A formation, group of formations, or a part of a formation such as a sandstone or coal bed, that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Aridisols - An order of soils common in arid climates, showing limited profile development and often have lime, salt, or clay accumulations in one or more combinations.

cfs - cubic feet per second.

Clastic - pertaining to rock or sediment composed principally of broken fragments that are derived from pre-existing rocks or minerals.

Clinker - Any rock which has been baked during the combustion of underlying coal beds.

Colluvium - Material accumulated at the base of steep slopes as a result of gravity.

Entisol - An order of soils in which profile development is minimal; characteristics are largely inherited from the parent material.

Ephemeral stream - A stream that flows only for a part of the year or in direct response to snow melt or storm runoff.

Groundwater - That part of subsurface water that completely saturates the rocks and is under hydrostatic pressure.

Interburden - Rock lying between the coal beds.

Ion - An electrified particle formed when a neutral atom or group of atoms loses or gains one or more electrons.

Lithology - The description of a rock with reference to such characteristics as color, structure, composition, and grain size.

Logical Mining Unit (LMU) - An area that contains a sufficient quantity of coal to justify the opening of a mine.

Mollisol - Soil order consisting of soils having a dark, thick A horizon with more than 1% organic matter and normally formed under grass vegetation.

Overburden - Material overlying the coal deposit, excluding topsoil, which must be removed prior to surface mining.

pH - A measure of acidity or alkalinity. Distilled water, which is neutral, has a pH value of 7; a value above 7 indicates the presence of alkalies, while a value below 7 indicates acids.

Paleontology - The study of life in past geologic periods, based on fossil plants and animals, and the chronology of the earth's history.

Residual soils - Soils formed from parent material that is in place, such as outcrops or ridge tops.

Specific Conductance - Measurement of the ability of water to carry an electrical current. It is used as a measurement for determining the concentration of the major ions in solution.

Spoils - Waste material removed in mining, i.e., the overburden and interburden.

Stratigraphy - Branch of geology dealing with the origin, composition, distribution, and succession of strata or layers of rock.

Trace Element - An element that is not essential in a mineral, but that is found in small quantities in its structure or absorbed on its surfaces.

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