# Public Scoping Report Western Energy Company's Rosebud Coal Mine Area F

Colstrip, Montana



# PUBLIC SCOPING REPORT WESTERN ENERGY COMPANY AREA F ROSEBUD MINE EIS COLSTRIP, MONTANA

#### Prepared for—

Montana Department of Environmental Quality
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#### Prepared by—

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#### **WESTERN ENERGY EIS**

#### SCOPING REPORT

#### INTRODUCTION

The Montana Department of Environmental Quality (DEQ) is preparing an Environmental Impact Statement (EIS) to disclose the potential environmental impacts of the proposed Area F expansion of the Rosebud Coal Mine in Colstrip, Montana. The EIS is being prepared to meet the requirements of the Montana Environmental Policy Act (MEPA); it will help DEQ managers determine whether Western Energy Company's (Western Energy) mine permit application for Area F should be approved or not. Under MEPA, the first phase in preparing an EIS is to conduct "scoping." Scoping is designed to help determine the scope or the number, range, magnitude, and importance of issues and alternatives to be addressed in the EIS.

During the formal public scoping phase of the project, DEQ sought input from the public and interested organizations and agencies. This report documents the results from the formal public scoping process, conducted between October 5 and November 5, 2012. The main sections of this report are:

- Public scoping activities
- Scoping results

#### PROPOSED PROJECT

The Rosebud Mine extends from east of Colstrip to about 12 miles west of Colstrip in Rosebud County. Situated in the northern Powder River Basin, it is generally north of the Little Wolf Mountains. Western Energy, a subsidiary of Westmoreland Coal Company, operates the Rosebud Mine. As it currently exists, the Rosebud Mine is a 25,576-acre surface coal mine producing 8 – 10.25 million tons of low-sulfur subbituminous coal annually. The four-unit, 2,100-megawatt Colstrip Steam Electric Station east of the mine uses most of the coal production, which is delivered by conveyor systems.

Area F is a proposed expansion of the Rosebud Mine. It would add coal reserves to the existing Rosebud Mine and extend mine life by an estimated 19 years. The proposed permit boundary for Area F would include an additional 6,746 acres (approximately 4,287 acres would be disturbed) in Township 2 North-Range 38 and 39 East, and Township 1 North-Range 39 East.

The land within the proposed Area F permit boundary is owned by state, federal, and private entities. Current land uses include grazing land, pastureland, cropland, and wildlife habitat.

Tributaries of Horse Creek and West Fork Armells Creek, including Black Hank Creek, Donley Creek, Robbie Creek, and McClure Creek, all of which lie within the drainage of the Yellowstone River, drain the proposed mine area. The ridge system that divides the Horse Creek and West Fork Armells Creek drainages lies in the western portion of the proposed mine area.

#### WESTERN ENERGY AREA F MINE EIS PUBLIC SCOPING REPORT

A county road, a gas transmission pipeline, and two high voltage electric transmission lines cross the proposed Area F. Key features of the proposed Area F mine area include the mine pits, scoria pits, soil stock piles, spoil piles, haul roads, haul road ramps, and the area of disturbance.

The Rosebud Mine staff, administration, and operations are based on-site and supported by the Westmoreland offices in Englewood, Colorado. The Rosebud Mine includes the following existing facilities.

- Four active mine operations Area A, Area B, Area C, and Area D
- A coal processing facility
- Conveyor belt systems
- Maintenance and operations complex
- Haul roads with aggregate surface
- Mine offices
- Mine entrance guard shack and vehicle weighing scale
- Four electric powered draglines, frontend loaders, excavators, and a fleet of haul trucks for removal of overburden, coal excavation, and coal transportation to the conveyor belt system.

The proposed operational start-up for Area F is in 2014. Mining would start in 2015 and would be completed in 2034. The coal mining method proposed for Area F would be the same area strip mining method that Western Energy currently uses in other permitted areas of the Rosebud Mine.

As proposed, initial operations in 2015 would be limited to mine passes in the northeastern portion of Area F and would sequentially progress toward the southwest then north to the final cuts (Figure 4). As mining progresses to each new portion of Area F, a boxcut would be made to expose the coal seam. Overburden stock piles, soil stock piles, and scoria pits would be developed adjacent to the active box cut pit area. After the initial cut, spoil from succeeding mine passes would be deposited in previous passes, including the boxcut. The sequence of operations is as follows:

- Sediment control
- Soil salvage
- Access and haul roads
- Blasting
- Overburden removal
- Coal recovery
- Highwall reduction
- Backfilling and recontouring
- Revegetation

Reclamation would be concurrent with and following mining and would facilitate the following post-mine land uses: grazing land, pastureland, cropland, and wildlife habitat.

#### **PUBLIC SCOPING ACTIVITIES**

Public scoping provides an opportunity for public and agency involvement during the early planning stages of the analysis. The intent of the scoping process is to gather comments, concerns, and ideas from those who have an interest in or that may be affected by the proposed action. Several methods were used to inform the public and solicit comments. These methods included a press release, distribution of a scoping newsletter, and public open houses. Each of these public involvement activities is described below.

#### **PRESS RELEASE**

On September 28, 2012, DEQ sent a news release announcing the scoping period and public open houses to 14 media outlets and the Montana Governor's Office via email (Table 1).

Table 1. Media Recipients of DEQ's Press Release.				
Associated Press* Independent Record				
The Billings Gazette	Miles City Star			
The Billings Outpost	Montana Public Radio			
Bozeman Chronicle	Newslinks			
Forsyth Independent Press	Northern Broadcasting Systems			
Hysham Echo KTVQ Billings				
High Plains News Service	KULR Billings			

<sup>\*</sup>Media that ran stories based on the news release

#### **SCOPING NEWSLETTER**

DEQ sent a newsletter announcing the scoping period and open houses. The newsletter was sent to a mailing list comprised of the following:

- Elected officials and local governments
- State and federal agencies
- Tribes
- Adjacent and nearby landowners
- Individuals that had expressed previous interest in the Rosebud Mine

The newsletter was distributed to about 75 people via postal mail on October 4, 2012. It briefly described the proposed Area F expansion of the Rosebud Mine, identified the project location and major linear facilities, provided the environmental review timeline, and provided information for the public open houses planned for October 16th. A written comment form was included as a newsletter insert. A copy of the scoping newsletter and comment form is provided in Appendix A.

#### **PUBLIC SCOPING OPEN HOUSES**

DEQ held two scoping open houses for the public to attend at the Isabel Bills Community Center in Colstrip on Tuesday, October 16. Representatives of government agencies, elected officials, businesses, and individuals attended the scoping open houses. The first open house, held from 2:30pm – 4:30pm, had an attendance of 8. The second open house, held from 6:30pm – 8:30pm had an attendance of 6. A list of attendees is in Appendix B.

At the beginning of each open house, DEQ's MEPA coordinator gave a brief introduction of DEQ resource specialists in attendance and the EIS/permitting processes followed by a brief description of the project by a Western Energy representative. Informational handouts were provided, including the scoping newsletter and comment form (Appendix A) and a flow chart of the EIS/permitting process (Appendix B). Resource-specific exhibits were on display around the room (Appendix C), and attendees were invited to visit each exhibit, gather information, write comments, and ask questions of resource specialists. The resource specialists included staff from DEQ and ERO Resources Corporation, the third-party consultant assisting DEQ with preparation of the EIS.

#### **SCOPING RESULTS**

#### **METHODS FOR COMMENT COLLECTION AND ANALYSIS**

The objective of the scoping process was to gather comments, questions, and concerns from the public regarding the proposed Area F expansion of the Rosebud Mine. DEQ collected comments in the form of written submissions sent via U.S. mail, email, facsimile, and the comment forms distributed at the public scoping open houses.

#### **SCOPING RESULTS**

During the course of the public scoping process, DEQ received 360 comment submissions. These were from organizations (the Cottonwood Environmental Law Center and the Western Environmental Law Center (WELC), which acted on behalf of the Montana Environmental Information Center (MEIC) and the Sierra Club); one business (PPL Montana, LLC); and 363 individuals (six submissions listed two signatories).

A majority (94%) of the submissions were one of two nearly identical form letters originating from MEIC and the Sierra Club (form letters 1 and 2, respectively). Of the 360 comment submissions received, 123 were based on form letter 1. Of these 123, nine submissions had additional and/or unique content. There were 214 submissions based on form letter 2. Of these, 14 had additional and/or unique content. The remainder of submissions, 23 or 6% of the total received, were unique letters. A list of all those who submitted comments can be found in Appendix D.

Based on an initial review of all the submissions, content analysis codes were developed and used to code and group comments by topic area. A summary of the comments is included in the next section. The content analysis codes, along with coded submissions (one representative of each form letter, all form letters with additional and/or unique content, and unique submissions) are included in Appendix D. All comment submissions can be found in the Project Record.

#### SUMMARY OF SCOPING COMMENTS

Public scoping comments are summarized below and grouped into categories to assist review. Following each summary statement is a corresponding content analysis code (e.g., "AIR 100") and the number of submittals that included a comment similar to the statement.

#### **Air Quality**

- Thoroughly evaluate and disclose impacts to air quality (AIR 100): 10
- Compliance with air quality standards, such as those for mercury and SO2, should be evaluated and disclosed (AIR 110): 341
- Thoroughly evaluate and disclose the potential for and impacts of methane emissions as a result of strip mining Area F (AIR 120): 1
- The Area F EIS should take into consideration air quality analyses in previous EISs (AIR 130): 1

#### **Acid Rain**

 Thoroughly evaluate and disclose the potential for acid rain as a result of coal combustion (AR 200): 1

#### **Alternatives**

Consider other potential consumers of Area F coal in addition to the Colstrip Power
 Plant and the means by which coal could be shipped to those potential consumers, such as by train (ALTS 300): 3

#### **Bonding and Financial Assurance**

- Thoroughly evaluate and disclose Western Energy's ability to pay for reclamation (general) (BOND 400): 1
- Consider proposed use and disposal of coal combustion waste (fly ash, scrubber sludge, and bottom ash) on the mine site in reclamation bond calculations (BOND 410): 1
- The EIS should consider and disclose bonding and financial assurances sufficient to cover the cost of remediation of coal combustion waste use and disposal (past, present, and future) at the Colstrip Power Plant (BOND 420): 1

#### **Climate Change**

- Consider the Impacts of coal mining on climate change (general) (CLIM 500): 9
- Thoroughly evaluate and disclose greenhouse gas emissions and impacts to climate from coal combustion in power plants (CLIM 510): 344
- Thoroughly evaluate and disclose the impacts of climate change on the land and resources within the state of Montana (CLIM 520): 340

- Thoroughly evaluate and disclose the impacts of climate change on Montana's economy (CLIM 530): 339
- Include a description of impacts currently occurring due to climate change in the EIS' affected environment section (CLIM 540): 1

#### **Colstrip Power Plant**

- Thoroughly evaluate and disclose the secondary and cumulative impacts of burning coal at the Colstrip Power Plant (CSES 600): 1
- Identify coal ash disposal locations (i.e., backfill in the mine, use on roads and parking lots) and impacts of that disposal (CSES 610): 1
- The EIS should consider how mercury pollution (water and air) from Colstrip Power
   Plant is impacting down-gradient and down-wind water resources (CSES 620): 2
- The EIS must address past, present, and future storage of coal combustion waste (fly
  ash, scrubber sludge, and bottom ash) generated by the Colstrip Power Plant, including
  storage facilities at the power plant, permitting, use and disposal of it at the Rosebud
  Mine, and transportation of it to other locations (CSES 630): 2

#### **Cultural and Historic Resources**

- Thoroughly evaluate and disclose the impacts to cultural resources and historic landscapes (CULT 700): 2
- Ensure compliance with section 106 of the National Historic Preservation Act (CULT 710): 1
- Thoroughly evaluate the impacts to the cultural/historical resources of the Northern
   Cheyenne, Crow, and other pre-European native peoples (CULT 720): 1
- Consult with neighboring tribes to determine what values should be focused on for the cultural resources impacts analysis (CULT 730): 1
- For the impacts analysis, a historical baseline that starts prior to any coal development should be used (CULT 740): 1

#### **Economics**

 The socioeconomic cost of mining (at the Rosebud Mine) and burning coal (general), including externalities, should be quantified (monetary amount) and evaluated in the EIS (ECON 800): 341  The socioeconomic benefits of mining coal (at the Rosebud Mine) and burning coal (at the Colstrip Power Plant) should be evaluated and disclosed in the EIS (ECON 810): 1

#### **Environmental Justice**

- The EIS should address health problems on nearby Tribal lands and adjacent landowners that may be caused by pollution from the Rosebud Mine/Colstrip Station energy complex (ENJ 900): 2
- The EIS should include data from Indian Health Services and other medical facilities/agencies on the current health of tribal members on nearby reservations (ENJ 910): 1
- When discussing effects of toxics, the EIS should use an impacts analysis area that includes the Northern Cheyenne and Crow reservations (ENJ 920): 1
- The EIS should address the impacts of resources development on native cultures (i.e. cultural and lifestyle losses, loss of identity, health losses, traditional ecological knowledge, lost opportunities for alternative development) (ENJ 930): 1
- EIS public meetings should be held in Lame Deer to include Native American Community members (ENJ 940): 1

#### Health & Safety

- Health hazards (general) of burning coal should be considered (HLTH 1000): 8
- In regards to shipping coal by train, the potential for derailments and other health and safety hazards, such as coal dust, should be evaluated and disclosed (HLTH 1010): 7
- Thoroughly evaluate and disclose the health risks of storing, using (pollution controls at the power station), and transporting toxic chemicals at the Rosebud Mine/Colstrip Station energy complex (HLTH 1020): 1
- Thoroughly evaluate and disclose the impact of arsenic on local populations (in terms of cancer risks) (HLTH 1030): 1
- Thoroughly evaluate and disclose the potential hazards of storage (in ponds) and transportation (by pipeline) of coal mining waste (slurry) (HLTH 1040): 1

#### **Impacts Analysis**

 The EIS must consider primary, secondary, and cumulative impacts to all resources (IA 1100): 1

- The cumulative impacts analysis in the EIS must include related past, present, and future mining projects (IA 1110): 1
- Do not include consumption of Area F coal in impacts analysis (IA 1120): 1

#### **Land Pollution**

Thoroughly evaluate and disclose the potential for land pollution (LND 1200): 2

#### **Light Pollution**

Thoroughly evaluate and disclose the potential for light pollution (LIT 1300): 1

#### Miscellaneous

Other topics, not easily categorized (MISC 1400): 3

#### Mitigation

- The EIS should consider ways to mitigate secondary and cumulative impacts (deterioration of air quality/climate change) resulting from combustion of Area F coal (MIT 1500): 1
- The EIS should propose mitigation measures for water pollution caused by coal combustion waste (fly ash, scrubber sludge, and bottom ash) from the Colstrip Power Plant (MIT 1510): 2
- The EIS should analyze means to decrease existing SO2 emissions (MIT 1520): 1

#### **Noise**

Thoroughly evaluate and disclose noise impacts (NSE 1800): 1

#### **Position Statements**

- The Rosebud Mine should be expanded (PS 1900): 0
- The Rosebud Mine should not be expanded (PS 1910): 12

#### **Purpose and Benefit**

- Thoroughly evaluate and disclose the proposed use and the location of the use of coal from Area F, including alternatives such as Asian markets (PURP 2000): 2
- Thoroughly evaluate and disclose the need for coal and coal-fired power production in the U.S. (PURP 2010): 4
- Consider alternatives to coal (in terms of energy production) (PURP 2020): 8

- Thoroughly evaluate and disclose who will benefit from mining coal in Area F (PURP 2030): 1
- Thoroughly evaluate and disclose the short-term benefits (i.e., local employment) versus long-term costs (i.e., reduced ranching potential or environmental degradation) to communities in Rosebud & Treasure Counties if Area F is permitted (PURP 2040): 5

#### Reclamation

Thoroughly evaluate and disclose the potential for successful reclamation (revegetation)
 (RECL 3000): 4

#### Recreation

• Thoroughly evaluate and disclose the impacts to recreation opportunities in the Area F permit area, such as hunting (REC 4000): 2

#### **Regulatory Issues**

- Thoroughly evaluate and disclose whether Montanans' Constitutional right to a clean and healthful environment will be impacted (REG 5000): 3
- DEQ's MEPA analysis should be prepared in cooperation with any required federal NEPA analysis to ensure that the environmental analysis meets both state and federal requirements (REG 5010): 1
- The EIS should include an explanation of how the Rosebud Mine will comply with the CWA and SMCRA (REG 5020): 1
- A MEPA analysis should be done for the coal lease (REG 5030): 1

#### Thank You for Your Comment

Not Substantive – Comment Noted (THY 6000): 8

#### **Toxic Waste**

- The EIS should disclose the current release of and storage of toxic waste at both the mine and power station (TOX 7000): 1
- The EIS should disclose who will be financially liable for toxic waste at closure and decommissioning of both the mine and the Colstrip Power Plant (TOX 7010): 1

#### **Transportation**

 In regards to shipping coal by train, the condition of transportation rail lines should be considered (TRANS 8000): 2

#### **Visual Resources**

 Thoroughly evaluate and disclose the impacts to visual resources, such as an undeveloped landscape (VSUL 9000): 1

#### Water

- Thoroughly evaluate and disclose the impacts to water (general) (WTR 10000): 12
- Thoroughly evaluate and disclose the impacts to surface water quality (WTR 10010): 340
- Thoroughly evaluate and disclose the impacts to ground water quality (WTR 10020): 341
- Thoroughly evaluate and disclose the impacts to surface water quantity (WTR 10030): 2
- Thoroughly evaluate and disclose the impacts to ground water quantity (WTR 10040): 2
- The EIS should identify all point sources associated with the mine and Colstrip Power Plant (WTR 10050): 1
- Thoroughly evaluate and disclose the impacts from storm water discharges from all industrial operations at the Rosebud Mine/Colstrip Power Plant energy complex (WTR 10060): 1

#### Wetlands

Thoroughly evaluate and disclose the impacts to wetlands (WET 11000): 1

#### Wildlife

- Thoroughly evaluate and disclose the impacts to wildlife (general) (WLDF 12000): 3
- Thoroughly evaluate and disclose the impacts to threatened, endangered, or candidate species that reside in Area F or that will be impacted by the direct, secondary, or cumulative effects of expansion (WLDF 12010): 1
- Include an assessment of any potential for take of any listed or candidate species. The
  analysis area should include the Rosebud Mine/Colstrip Power Plant energy complex
  area (WLDF 12020): 1
- Thoroughly evaluate and disclose the impacts to wildlife habitats (WLDF 12030): 2

#### SUMMARY OF FUTURE ACTIONS

Information collected during the scoping process will assist DEQ in the development of alternatives and impact analysis for the Draft EIS (DEIS). DEQ will develop alternatives or modifications in the DEIS that would appreciably accomplish the same objectives or results as Western Energy's proposal and reduce or eliminate impacts.

There will be a review period after the DEIS is released during which the public can submit comments on the DEIS. Open houses may also be planned for the DEIS comment period to provide members of the public the opportunity to ask DEQ resource specialists questions about the DEIS and to allow members to directly submit their written comments to DEQ representatives.

Table 2. Tentative EIS Schedule.				
EIS Stage	Timeframe	Public Information or Involvement		
1. Initiate EIS Process	Completed	Newsletter		
2. Hold Agency and Public Scoping Meetings	Completed	Agency and public scoping open houses – October 16, 2012		
3. Identify Alternatives to be Studied	Spring 2013			
4. Release Draft EIS	Fall 2013	Public open houses – Fall 2013		
5. Release Final EIS and Issue Record of Decision	Spring 2014			

Note: EIS schedule is tentative and subject to change. This is the anticipated schedule as of February 2013.

# APPENDIX A — OUTREACH MATERIALS

### Open House Schedule

DEQ has scheduled two scoping open houses. Each will start with a brief presentation of the proposed project by Western Energy representatives:

Tuesday, October 16th 2:30pm-4:30pm 6:30pm-8:30pm

**Isabel Bills Community Center** 

Multipurpose Room, 520 Poplar Drive Colstrip, MT

#### **Additional Information**

Additional information regarding the proposed Rosebud Mine Area F expansion, including Western Energy's application, can be found on or requested through DEQ's Coal Program website.

http://deq.mt.gov/ea/coal.mcpx

## **How to Provide Scoping Comments**

DEQ needs your input to identify issues or concerns that should be analyzed in the EIS for the proposed Area F expansion of the Rosebud Mine. You can provide comments in two ways:

- I. Attend one of the scoping open houses on October I6th and provide written comments to DEQ staff there
- 2. Send written comments to:

**Montana Department of Environmental Quality** 

Attn: Mr. Greg Hallsten, Director's Office

PO Box 200901

Helena, MT 59620-0901 Facsimile: 406-444-4386

E-mail: deqcoalcomments@mt.gov

Please include your address, phone number, e-mail address, or other personal identifying information in your comment. You should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time.

#### Please submit all comments by November 5, 2012.

For questions regarding the EIS process, please contact Greg Hallsten at 406-444-3276 or by e-mail at ghallsten@mt.gov.

PO Box 200901 Helena, MT 59620-0901



#### Western Energy Company's

# Rosebud Coal Mine Area F

**Environmental Impact Statement** 

### Scoping Newsletter 1 October 2012



Dear Interested Citizen,

You are invited to participate in the Montana Department of Environmental Quality's (DEQ) environmental review process for Western Energy Company's (Western Energy) proposed Area F expansion of the Rosebud Coal Mine. Approval of the surface mine permit application for Area F would result in an expansion of the Rosebud Mine operation west of Colstrip, Montana. The proposed Area F permit area is owned or controlled by Western Energy and encompasses approximately 6,746 acres. It would add coal reserves to the existing Rosebud Mine and extend mine life by an estimated 19 years. DEQ deemed Western Energy's surface mine permit application complete on August 1, 2012 and is now preparing an environmental impact statement (EIS). The EIS is being prepared to meet the requirements of the Montana Environmental Policy Act (MEPA); it will help DEQ managers determine whether Western Energy's mine permit application for Area F should be approved or not.

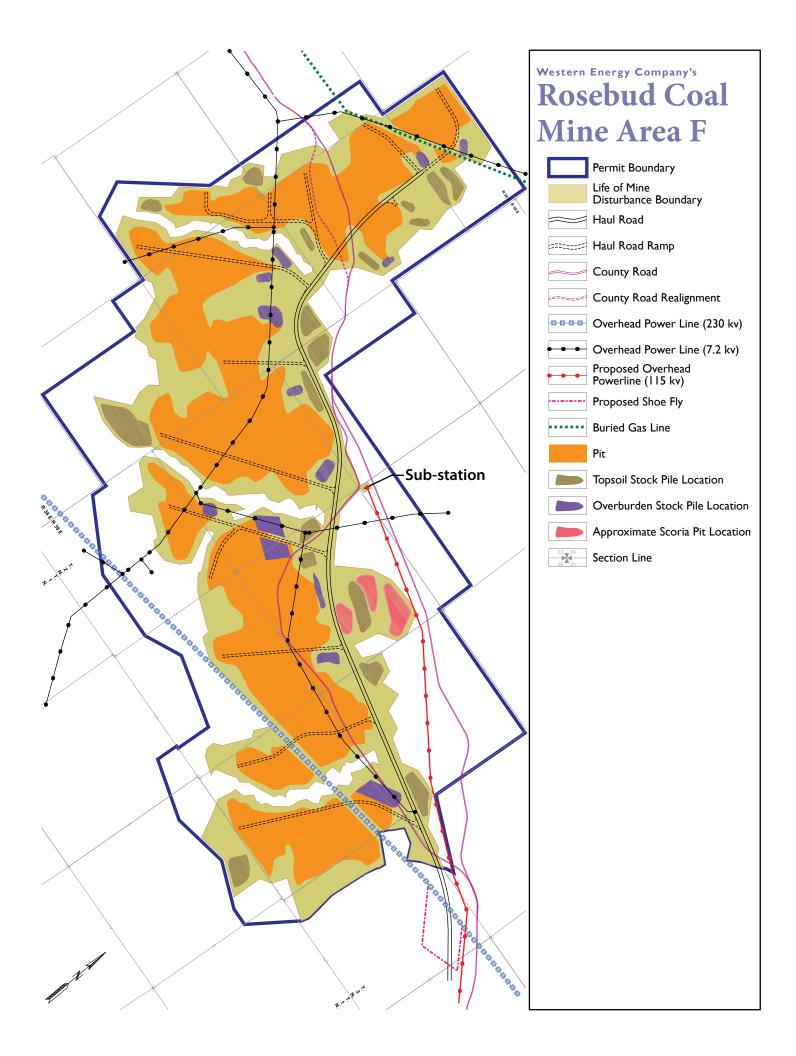
Under MEPA, the first phase in preparing an EIS is to conduct "scoping." The purpose of scoping is to identify the environmental issues associated with the proposed project. An interdisciplinary team of technical experts is currently working to determine the scope of the analysis to be contained in the EIS. DEQ is asking for your assistance with this process. Please send your thoughts, ideas, and concerns regarding this proposed mine

expansion and the issues that should be analyzed in the EIS to DEQ by November 5, 2012.

DEQ is hosting two open houses to provide you with information on the proposed project and an opportunity to submit written scoping comments directly to DEQ personnel. The open houses will take place on Tuesday, October 16th at the Isabel Bills Community Center (Multipurpose Room), 520 Poplar Drive, in Colstrip. The first open house will be from 2:30 p.m. until 4:30 p.m., and the second will be from 6:30 p.m. until 8:30 p.m. At the beginning of each open house, Western Energy representatives will present a brief overview of the proposed project. We encourage you to attend one of the open houses and to share your scoping comments with DEQ.

Sincerely,

Greg Hallsten, Environmental Science Specialist Montana Department of Environmental Quality



### **Project Location**

The proposed mine area is located in Rosebud and Treasure counties, approximately 12 miles west of Colstrip and lies generally north of the Little Wolf Mountains. The proposed mine area is owned by State, federal and private entities.

Current land uses include grazing land, pastureland, cropland, and wildlife habitat. Tributaries of Horse Creek and West Fork Armells Creek, including Black Hank Creek, Donley Creek, Robbie Creek, and McClure Creek, all of which lie within the drainage of the Yellowstone River, drain the proposed mine area. The ridge system that divides the Horse Creek and West Fork Armells Creek drainages lies in the western portion of the proposed mine area.

## **Project Description**

Western Energy utilizes an area strip mining method at the Rosebud Mine to extract coal. In advance of each mining pass, topsoil, subsoil, and tree soil would be removed from the area and stockpiled for use later during reclamation. Next, the overburden (sedimentary rock material covering the coal seams) would be drilled and blasted. After leveling the blasted material with a dozer to create a stable work surface, a dragline would then be used to strip the overburden from



the mine pass. Overburden would be cast into the mined-out pit created by the preceding pass.

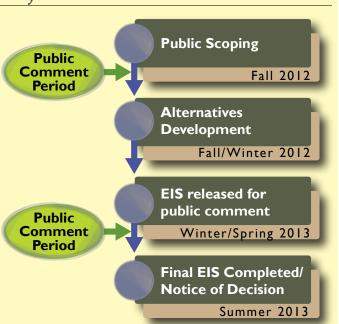
After the dragline exposes the coal seam in each pass, the coal would be drilled and blasted. A loading shovel, front-end loaders, or backhoe would load blasted coal into coal haulers. The coal would be transported on an established haul road to Area C. From there, per Western Energy's contract with PPL Montana, most of the coal would be sent via the existing 4.2-mile conveyor to the Colstrip Power Station. Coal with higher sulfur content would be sent to Rosebud Power, a power generating plant 6 miles north of Colstrip.

If approved, mining would commence in 2015 with completion in 2034. Reclamation would be concurrent to and following mining and would facilitate the following post-mine land uses: grazing land, pastureland, cropland, and wildlife habitat.

Additional information regarding the proposed Rosebud Mine Area F expansion, including Western Energy's application, can be found on or requested through DEQ's Coal Program website.

http://deq.mt.gov/ea/coal.mcpx

# **Project Timeline**





# **We Invite Your Comments**

# Western Energy Rosebud Mine Area F Expansion Environmental Impact Statement

Name	Date
(Please Print)	
Company /Organization	
Street Address	
City, State, Zip Code	
E-mail	
Comments:	

Please continue on reverse side

Comments (continued):			
<del>.</del>			

### Thank you for your comments

Please send any additional written comments to the mailing address or e-mail address below. Comments can also be hand-delivered to DEQ between the hours of 8:00 a.m. and 4:30 p.m. All comments must be received by **November 5, 2012**.

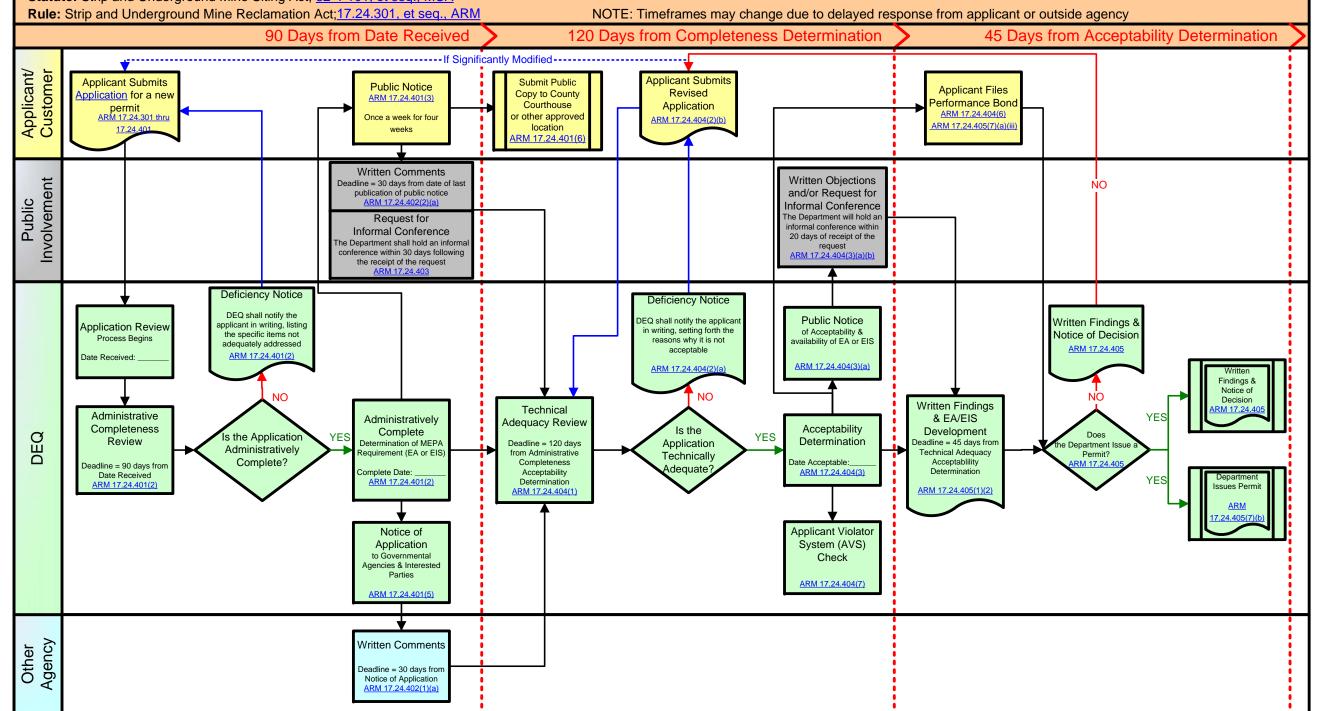
Attn: Greg Hallsten
Department of Environmental Quality
Director's Office
PO Box 200901
Helena, MT 59620-0901
email: deqcoalcomments@mt.gov

# APPENDIX B — HANDOUTS & SCOPING OPEN HOUSE ATTENDANCE

#### **COAL PERMIT APPLICATION PROCESS**

#### Montana Department of Environmental Quality - Coal & Uranium Program

Statute: Strip and Underground Mine Siting Act; 82-4-101, et seq., MCA



# SIGN-IN SHEET WESTERN ENERGY ROSEBUD MINE AREA F Public Scoping Meeting October 16, 2012

Please Print Legibly Name/Agency	Mailing Address	Email Address	Would you like to be on the Western Energy Project EIS Mailing List?
Name GLENN LOGAN	Address BOX 516 City/Zip Colstrip, MT	logangjeq.com	
Name Will Hobbell	Address III Garyowen ke City/Zip M.les city M.	d whibbelle blm.	gov Y
Name John White	Address PD Box 745 City/Zip Colstrip 59333		And the Jan.
Name Du ane Jukney HD 43 Representative	Address Colstrip 5823 City/Zip Box 2138	goodwindl. Lua rela	Demailice
Name Jim Parker	City/Zip Box 2138  Address Bo3 N Broadway  City/Zip Billings, mT 59401	jmparkere pp1 Web.com	-5 Y
Name Mike Peterson	Address Bux 2067 City/Zip Culstry, Mt. 53723		•
Name BRAD SAUGK	Address 4472 Hoy 39 City/Zip Forsyth, M7		Y
Name Keuin J Murphy	Address P.O. 735 City/Zip Colstrip Mt.		4
Name	Address City/Zip		
Name	Address City/Zip		
Name	Address City/Zip		

# SIGN-IN SHEET WESTERN ENERGY ROSEBUD MINE AREA F Public Scoping Meeting October 16, 2012

Please Print Legibly Name/Agency	Mailing Address	Email Address	Would you like to be on the Western Energy Project EIS Mailing List?
Name Hugh Broadus	Address 14 John Deer City/Zip Fors 4 Th		
Name Randell Smith	Address Box 457 City/Zip GK typ MT 59327	RA-Smith_SS	
Name Cluck Cashell Name	Address P.O.BOX 5929 City/Zip Heleng H.59604 Address III Garryowen Rd.	ccashell4000 MT.Nel	- У
Dan Benoit	City/Zip Miles City Mil		,
Name ED WALKER	Address 4221 Romock & City/Zip Blgs. Mt 59106	ewarea benbro.	com Y
Brad Kovach	Address 1456 N. Hanters City/Zip Bozeman 59718	6 Kova- Se Kcharny	į
Name	Address City/Zip		

# APPENDIX C — LIST OF DISPLAY BOARDS AT PUBLIC MEETINGS

- 1) MEPA EIS
- 2) Wetlands, Springs, Ponds & Cold-Blooded Vertebrates
- 3) Wildlife & Vegetation
- 4) Surface Water Quality & Flows
- 6) Ground Water Quality & Flows
- 7) Ground Water Modeling
- 8) Geology: Coal Seam Characteristics & Overburden Suitability
- 9) Geology: Cross-sections (part 1)
- 10) Geology: Cross-sections (part 2)
- 11) Soils
- 12) Land Use and Reclamation
- 13) Project Map

# APPENDIX D — SCOPING COMMENTS & CODES

# LIST OF SCOPING COMMENTERS

Commenter #	Organization	Name	Included in Scoping Report
1		Flavin, Patrick	*
2		Donofrio, Mac	*
3		Thomas, Kris	
4		Dodson, William	
5		Waight, Jean	*
6		Pilling, Helen	*
7		McGarry, Julieann	
8		McSloy, T.A.	*
9		Jessup, Wynn	
10		Dolman, Aart	*
11		Bateman, Guy	
12		Hecht, Nathan	
13		Jennings, Gerry	
14		Dostal, Mary	
15		Hazen, Libby	
16		Witt, Jill MacIntyre	
17		Swearingen, Jennifer	
18		Flanery, Bill	
19		Wachsmuth, John	
20		Siebel, Gonnie	
21		Eichwald, Linda	
22		Hyndman, Donald W	*
23		Hyndman, Donald	
24		Richardson, Gail Richardson, John	
25		Fella, Monica	
26		Starshine, Dorothy	
27		Thompson, John	
28		Sciolino, Anthony	
29		Hodges, Grace	
30		Kilmer, Thomas	*
31		Seaich, Jessica	
32		Leonard, Richard	
33		Blackler, Edd	
34		Gnam, Steven	
35		Thompson, Sally	*

Commenter #	Organization	Name	Included in Scoping Report
36		Gavey, Lydia	
37		Holder, Cindy	
38		Parnell, Ric	
39		Hoch, Joseph	
40		Jones, Charlene	
41		Richards, Belle	*
42		Barrett, Heidi	
43		Decker, Kenneth	
44		Barcus, Colleen M	*
45		Eggen, Eric	
46		Fujita, Peggy	
47		Bhimani, Sarah	
48		Rosenleaf, Patricia	
49		Mollohan, Kent	
50		Webb, Dean	
51		Milliken, Gerry	
52		Boettcher, Barbara	
53		Nueva, Hailee	
54		Tapp, Jane	
55		Dunkum, John	
56		Whiting, Betty	
57		Catlett, Duane	
58		Clark, Carl	
59		Edwards, Carol	
60		Braun, Stephen	
61		Hendrickson, Borg	
62		Ayoub, Charyn	
63		Sanders, Robert	
64		Davis, Jody	
65		Juedeman, Mark	
66		Ferguson, Laura	*
67		Marum, Elizabeth	*
68		Bishop, Norman	
69		Berry, Larissa	
70		Lienhard, Judith	
71		Jones, Brian C	
72		Hash, Colton	*
73		Sikorski, Wade	

Commenter #	Organization	Name	Included in Scoping Report
74		McDougal, Suzanna	
		Hoem, Harold	*
75		Hoem, Janice	
76		Fee, Kerry	
77		Sweaney, James	
78		Ravet, Suzanne	
79		Mackin, Mark	*
80		Taylor, Elizabeth A	
81		Bremer, John	
82		Marsh, Carol	*
83		Severtson, Molly	
84		Bergeron, Briana	
85		Follett, Thelma	
86		Maneta, Diana	
87		Mansfield, Clarissa	
88		Ray, John W.	*
89		Hurdle, Joan	
90		Kalur, Jerome	
91		Weaver, Nora	
92		Adams, Jane	
93		Dakin, Sarah	
94		Johnson, Derf	
95		Heckel, Jim	
96		Orms, Sarah	
97		Matthews, Jonathan	
98		Schwab, Susan	
99		Schultz, Christian	
100		Daum, Chris	*
101		Elkind, Linda	
102		Wirth, Jennifer	
103		Levit, Stu	
104		Alexander, Sarah	
105		Reck, Margie	
106		Crowley, Jeanne	
107		Hultgren, Raso	
108		Follett, Carol	
109		Barnett, Kyle	
110		Hastings, Katie	

Commenter #	Organization	Name	Included in Scoping Report
111		Hastings, Lynn	
112		McClain, Leslie	
113		Roberts, Shelia	
114		Helding, Linda	
115		Ellenberger, David	
116		Johnson, Sherri	
117		DeVries, Johanna	*
118		Fogarty, D	
119		Ross, Barbara	
120		Himebaugh, Glenn	
121		LaCasse, Craig	
122		Chessin, Bert	
123		Scarff, Steve	
124		Dayton, Shari	
125		Clow, Catherine	
126		Polequaptewa, Jean	
127		Banks, Anne	
128		Trauth, Claire	
129		Mapes-Jordan, April	
130		Craig, Sarah	
131		Gandulla, Julie	
132		Fry, Linda	
133		Pedersen, Johannes	
134	Cottonwood Environmental Law Center	Gorder, Andrew	*
135		Helding, Linda	*
136		Werner, J Kirwin	*
137		Johnson, Sherri	*
138		Christiansen, Howard	*
139		Garding, Louis	*
140		Miller, Harold	*
141		Mobley, M	*
142	PPL Montana, LLC	Parker, Jim	*
	Western Environmental Law Center, on behalf of the Montana Environmental Information Center and		*
143	the Sierra Club	Hernandez, Shilo	
144		Dillon, John	*
145		Trauth, Claire	
146		Marshall, Lisa Anne	

Commenter #	Organization	Name	Included in Scoping Report
147		Gordon, Julia	
148		Dillon, Hester	
149		Annear, Harry	
150		Castro, Sharon	
151		Ryan, Penny	
152		Laird, Wade	
153		Gerrard, Bruce	
154		Black, Laura	*
155		Glueckert, Bev Beck	
156		Sukut, Mark Sukut, Lisa	
157		Divis, David	
158		Kimbler, Elaine	
159		Dummond, Paul	
160		Dean, Sarah	*
161		Mallory, Regina	
162		Reese, Clare Schommer	
163		Moor, Jay	
164		Strode, Debra	
165		Slater, Leon	
166		Smith, Steven	
167		Stewart, Sarah	
168		Dunham, Janet	
169		Dewey, Robin	
170		Jarnevic, Michael	
171		Feeley, Kath	
172		Dettman, Jim	
173		Hayes, Gregory	
174		Crittenden, Karen	
175		Vignere, Joel	
176		Rosch, Re	
177		Schroedel, Edie	
178		Schultz, Wm	
179		Bianchi, Don	
180		Marolf, Megan	
181		Buchner, Scott	*
182		Blevins, Auzie	
183		Macy, Jennifer	

Commenter #	Organization	Name	Included in Scoping Report
184		Perryman, Toddy	
185		Giles, Anthony	
186		Goodman, Bonnie	
187		Gerrish, Marion	
188		Riddle, Dagmar	
189		Buehler, Lisa	
190		Mortimer, Wayne	
191		Nichols, Sandi	*
192		Krueger, Janice	
193		Voss, Jerry	
194		Bateman, Guy	
195		Gleaves, Glen	
196		Barnes, Douglas	
197		Kuntzelman, Richard	
198		Ogrinc, Timothy	
199		Carlson, Lorraine	
200		Jar, Sarah	
201		Sherman, Susan Sherman, Michael	
202		Miller, Robert R	
203		Sanders, Colleen	
204		Daniels, Joan	
205		Klotz, Friederike	
206		Nelson, Diane	
207		Hirsch, Katharina	
208		Tatz, Janet	
209		Bertelsen-James, Jan	*
210		Murphey, Jim	
211		Elliot, Susan	
212		Goehring, Dan	
213		Sikorski, Wade	
214		Starr, Ronna	
215		Jennings, Gerry	
216		Chandler, Lowell	*
217		Gloege, Randall	*
218		Blanchard, Rhiannon	
219		Becker, Dale	
220		Wayne, Lawrence	

Commenter #	Organization	Name	Included in Scoping Report
221		Dobesh, Barbara	
222		Hall, Madison Ambrose	
223		Trauth, Melissa	
224		Williams, Erin	
225		Mcclure, Marcella	
226		Spivey, Hudson	
227		Martini, Steve	
228		Horan, Tim	
229		Westphal, Natalia	
230		Lehnherr, David	
231		McDougal, Suzanna	
232		Blackler, Edd	
233		Baum, Bill	
234		Posey, Paula	
235		Michaud, Elizabeth	
236		Kewley, Sandi	
237		Sowell, Jenny	
238		Robson, Ella	
239		Cheroske, Andrea	
240		Ososki, Karen	
241		Marsh, Carol	
242		Angus, Billy	
243		Baker, Dawn	
244		Jones, Leland B	
245		Chastin, Jerri	
246		Chistenot, Paul	
247		Holbrook, John	
248		Weilage, Krystal	
249		Mcclure, Susan	
250		Pray, Tracy	
251		Chott, Elissa	
252		Lamma, Richard	
253		Michelman, Barbara	
254		Sweaney, James	
255		Merlesena, Michael	
256		Beeson, Margaret	
257		Jenkins, Kathrine	
258		Horne, Jr., Robert	*

Commenter #	Organization	Name	Included in Scoping Report
259		Mason, Julie	
260		Renne, Karen	
261		Cushman, Elizabeth	
262		Abern, Leslee	
263		Ashmore, Tara	
264		Foolery, Tom	
265		Sennett, Jim	
266		Cunningham, Karen	
267		Owens, Mary	
268		Adams, Megan	
269		Mcdougal, Graeme	
270		Hopkins, Sherry	
271		Jeter, Elloie	
272		Foster, Jackie	
273		Hanson, Deborah	
		Gray, Lael	
274		Gray, Darrell	
275		Hoch, Joseph	
276		Mavor, Susan	
277		Capelle, Ty	
278		Stauber, Steve	
279		Cox, Jeanne	
280		Dear, Elizabeth	
		Mavor, Susan	
281		Mavor, Doug	
282		Srnoguy, Lilyana	
283		Boldinger, Benjamin	
284		Ramsey, Eric	
285		Petersen, Robert	
286		Cooke, Lorenza	
287		Nagel, Clinton	*
288		Sykora, Kelly	
289		Turner, Gregg	
290		Jensen, Kathryn	
291		Lane, April	
292		Mutschler, Allan	
293		Reck, Margie	
294		McCoy, Justin	
295		Karlovich, Christine	

Commenter #	Organization	Name	Included in Scoping Report
296		Mccanse, Roberta	
297		Stevens, Nike	*
298		Hanson, Virginia	
299		Green, Dorie	
300		Trolinger, Charlotte	*
301		Sample, Dawn	
302		Layton, Jonathon	
303		Ashmore, Brenda	
304		Mcevoy, Stephen	
305		Schooley, Grant	
306		Ristow, Heather	
307		Banwart, Albert	*
308		Dunkum, John	
309		Lefohn, Phyllis	
310		Werner, Amy	
311		Hunner, Bruce	*
312		Nix, Eric	
313		Hanson, Carol	
314		Loftin, Ray W.	
315		Pahre, James	
316		Valentine, Christine	
317		Purcell, Carrie	
318		Forehand, Dick	
319		Ellerman, Susan	
320		Rosen, Susan	
321		Nelson, Carol	
322		Guay, Ralph	
323		Semple, Toni	
324		Schultz, Wm	
325		Brown, Leesa	
326		Matthews, Jonathan	
327		Moylan, Mary	
328		Brown, Virjeana	
329		Wright, Charles	
330		Fox, Tammy	
331		Nitz, Jennifer	
332		Syrenne, Mary	
333		Callahan, Chris	

Commenter #	Organization	Name	Included in Scoping Report
334		Singer, Judith	
335		Range, Sarah	
336		Hoffman, Carol	
337		Callahan, Chris	
338		Stanley, Chris	
339		Joslin, Gayle	
340		Ely, Adrianna	
341		Chesebro, Eric	
342		Jones, Jacob	
343		Smith, Lisa	
344		Schmidt, Josh	
345		Mlynarek, Angela	
346		Coble, Brian	
347		Fitts, Charles	*
348		Mcclain, Elizabeth	
349		Howard, Travis	
350		McDonald, Sandra	
351		O'Connell, Mike	
352		Sennett, Clinton	
353		White, Carol	
354		Moore, Judy	
		Cannavaro-Nyght,	
355		Dakota	
356		Macdonald, Sandra	
357		Jeffries, Joyce	
358		Difani, Phil	*
359		Van Aken, Richard S	*
360		Logan, Glenn	*

# **CONTENT ANALYSIS CODES**

Subject Code	Category Code	Definition
	100	Air Quality - General
AIR	110	Air Quality - Health Standards
	120	Air Quality - Methane Emissions
	130	Air Quality - Previous EIS analyses
AR	200	Acid Rain
ALTS	300	Alternatives - PPL Not the Only Potential Consumer
	400	Bonding - WECo's ability to pay for reclamation
BOND	410	Bonding - Use and Disposal of Coal Combustion Waste at the Mine Site
	420	Bonding - Remediation of Coal Combustion Waste at Power Station
	500	Impacts of Coal Mining on Climate Change - General
	510	GHG Emissions and Impacts of Power Plant Coal Combustion
CLIM	520	Impacts of Climate Change on MT's Land and Resources
	530	Impacts of Climate Change on MT's Economy
	540	Include Current Impacts in EIS Affected Environment Sections
	600	Colstrip Electric Station - Secondary and Cumulative Impacts
CSES	610	Coal Ash Disposal Locations
CSES	620	Colstrip Electric Station - Mercury Pollution
	630	Storage of Coal combustion Waste
	700	Cultural/Historic Resources
	710	Section 106 Compliance
CULT	720	Impacts to Cultural/Historic Resources of Native Peoples
	730	Consult with Neighboring Tribes
	740	Pre-coal Development Historical Baseline
ECON	800	Socioeconomic Cost of Mining and Burning Coal
ECON	810	Socioeconomic Benefit of Mining and Burning Coal
	900	Health problems on Tribal and Adjacent Lands
	910	Indian Health Services Data
ENJ	920	Include Reservations in the Analysis Area
	930	Impacts of Resources Development on Native Cultures
	940	EIS Public Meetings in Lame Deer
НІТН	1000	Health Hazards of Burning Coal
	1010	Health/Safety Hazards of Shipping Coal
	1020	Health Risks of Storing, Using, and Transporting Toxic Chemicals
	1030	Impacts of Arsenic
	1040	Health/Safety Hazards of Coal Slurry
IA	1100	Primary, Secondary, and Cumulative Impacts

Subject Code	Category Code	Definition
IA	1110	Related Past, Present, and Future Actions
	1120	Do Not Include Coal Consumption in Impacts Analysis
LND	1200	Land Pollution
LIT	1300	Light Pollution
MISC	1400	Other Misc. Comments
	1500	Mitigate Secondary and Cumulative Impacts to Air Quality/Climate
MIT	1510	Mitigation Measures for Water Pollution
	1520	Decrease Existing SO2 Emissions
NSE	1800	Noise Impacts
PS	1900	Position Statement: Pro-Expansion of the Rosebud Mine
	1910	Position Statement: Anti-Expansion of the Rosebud Mine
PURP	2000	Proposed Use and Location of Use of Area F Coal
	2010	Need for Coal and Coal-Fired Power Production
	2020	Alternatives to Coal (Energy)
	2030	Coal Mining Beneficiaries
	2040	Short-Term Benefits versus Long-Term Costs
RECL	3000	Potential for Successful Reclamation
REC	4000	Impacts to Recreation Opportunities
	5000	MT Constitution - Right to a Clean & Healthful Environment
REG	5010	Joint MEPA/NEPA Analysis
	5020	Compliance with CWA and SMCRA
	5030	MEPA Analysis for Coal Lease
THY	6000	Thank You for Your Comment
тох	7000	Release and Storage of Toxic Waste at the Mine and Power Station
	7010	Financial Liability for Toxic Waste at Closure
TRANS	8000	Condition of Rail Lines
VSUL	9000	Visual Resources
	10000	Water (General)
	10010	Surface Water Quality
	10020	Ground Water Quality
WTR	10030	Surface Water Quantity
	10040	Ground Water Quantity
	10050	Identify Point Sources at the Mine and Power Plant
	10060	Impacts of Stormwater Discharge
WET	11000	Impacts to Wetlands
	12000	Wildlife (General)
WLDF	12010	Threatened, Endangered or Candidate Species
VVLDF	12020	Potential for Take of Listed or Candidate Species
	12030	Impacts to Wildlife Habitats

From:

patrick flavin <patf554@gmail.com>

Sent:

Tuesday, October 30, 2012 11:29 AM

To:

**DEQ Coal Comments** 

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

The Montana Department of Environmental Quality received a request for an expansion into Area F of the Rosebud Coal Mine. The DEQ is currently going through the scoping process under the Montana Environmental Policy Act (MEPA). Such an analysis should include the following:

(1) consideration of whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years;

(2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;

(3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years. Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, and our economy; and

CLIM 530

(4) an analysis that quantifies and monetizes the externalities of the coal burned, given that recent research shows that burning coal—when all costs are included—is a net economic loss.

Thank you for your time.

patrickflavin patf554@gmail.com 435 w maple roseburg, OR 97471 5413750850

From:

Mac Donofrio < macdonofrio@gmail.com>

Sent:

Tuesday, October 30, 2012 11:18 AM

To:

**DEQ Coal Comments** 

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

Dear DEQ,

AIR 100

WTR 10000

Protect air and water and to consider the implications of climate change! Hurricane Sandy is not the last storm that will shock us. CLIM 500

Mac Donofrio

MacDonofrio macdonofrio@gmail.com 144 Daly Ave. #A Hamilton, MT 59840 363-2298

From:

Jean Waight <waight2jb@comcast.net>

Sent:

Tuesday, October 30, 2012 10:10 AM

To:

**DEQ Coal Comments** 

Subject:

proposed mine expansion

Thank you for the opportunity to comment on the proposed Colstrip mine expansion.

Have you maximized conservation and weatherization opportunities? No. Do that first, please.

MISC 1400

Expanding coal mining just leads to more demand and hurries the climate degradation that we are already seeing. And we will feel pretty awful when we realize that our large homes and convenience demands contribute to extreme weather disasters and a host of other, very expensive ills.

Jean Waight

Carbon Masters™ Volunteer

WSU Extension, Bellingham

From:

Helen Pilling <helenpilling88@gmail.com>

Sent:

Tuesday, October 30, 2012 9:24 AM

To:

DEQ Coal Comments

Subject:

expanding coal mining in MT

AIR 100 WTR 10000

Please oh please don't tell me this is a real possibility. With the expansion of coal mining in Montana would come the degradation of our water and air. No one can afford this. Just transporting the coal increases the carbon in our water ways and our big sky. Haven't we learned from the centuries of using coal, and if this coal is destined for Asia then shouldn't we be good big brothers and tell them of the dangers. There is only one earth and it doesn't need to be mining and using the last of the coal resources to pollute the elements we need to live.

Sincerely, Helen Pilling Kila, MT

From:

tnmcsloy <tnmcsloy@centric.net> \*

Sent: To:

Tuesday, October 30, 2012 6:48 AM DEQ Coal Comments

Subject:

Expansion Permission to Rosebud Coal Area F

Greg Hallsten DEQ Director's Office Helena, Mt.

Mr. Hallsten:

PURP 2010

Please carefully examine the need for expansion of Rosebud Coal to Area F before granting permission to do so. I do not think it is necessary to provide additional coal to operate the Colstrip power plant. We must be careful with the health of Montana's population regarding our air and water and not rubber stamp each and every request that is made.

Sincerely, T.A. McSloy 347 Fairview Ave. Missoula, MT 59801 HLTH 1000 AIR 100 NTR 10000

From:

Aart Dolman <aartdolman6@gmail.com>

Sent:

Tuesday, October 30, 2012 5:35 AM

To:

**DEQ Coal Comments** 

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

The Montana Department of Environmental Quality received a request for an expansion into Area F of the Rosebud Coal Mine. The DEQ is currently going through the scoping process under the Montana Environmental Policy Act (MEPA). Such an analysis should include the following:

(1) consideration of whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years;

(2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;

(3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years. Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, and our economy; and

(4) an analysis that quantifies and monetizes the externalities of the coal burned, given that recent research shows that burning coal—when all costs are included—is a net economic loss.

(5) transportation of an antiquated rail line needs to be taking into consideration. It is idiotic to ship the coal by train through the cities of Helena and Great Falls. The coal dust alone will have a negative environmental impact upon the environment and residential areas. There have been already derailments on this 19th century rail line. Surely you can require that the coal corporation builds a high speed rail line such as those used, as a matter of routine in other countries. If they can build them in China, Japan, Western Europe and in Russia it should be possible here in Montana.

HLTH 1010

Thank you for your time.

AartDolman <u>aartdolman6@gmail.com</u> 3016 Central Avenue Great Falls, Montana 59401 406 452-5554

From:

Don Hyndman <dshyndman@bresnan.net>

Sent:

Monday, October 29, 2012 8:28 PM

To: Subject:

Rosebud coal mine expansion

**DEQ Coal Comments** 

Dear Mr. Hallsten,

Permitting expansion of the Rosebud coal mine would be a grave mistake.

1. Air pollution: Colstrip power plants are already emitting far more pollution than EPA standards that are designed to protect human health.

They should be required to clean up their emissions before any further permitting.

2. Land pollution: Mercury and other pollutants in the air and water settle onto and into downwind lands with yet undetermined health effects. The situation is reminiscent of the asbestos pollution from mining vermiculite in and around Libby in northwestern Montana. Cleanup has cost many tens of millions of dollars and numerous lives. The same is true of downstream effects of mining in and around Butte a century ago; the cost to health and in lives of that pollution is subtle and yet to be determined. WTR 10010

3. Water pollution: These power plants are already polluting surface and groundwater. They should not be permitted to add to that damage. Those pollution damages will continue for many decades beyond that damage already done. Why WTR 10020

should Montanans be subjected to such unhealthy influences?

4. Coal, especially the low-grade soft coal in southeastern Montana, is the worst contributor to greenhouse gases and thus to global warming and climate change. Coal is the most expensive fossil fuel in terms of energy produced. Natural gas is very much cheaper; it is also very much cleaner in terms of greenhouse gases and other pollutants than either coal or oil. The reason that few new coal-fired power plants have been built in the last few years is that they are so expensive CLIM 500 to fuel, even discounting their severe pollution.

5. Although some of the coal from expansion of this mine may ultimately end up in coal-fired power plants in China and nearby areas, it is well documented that those pollutants also drift across the Pacific to pollute our North American atmosphere as well. Greenhouse gases, and their effects, spread world-wide. PURP 2000

Please deny any request to permit expansion of coal mining in Montana

Sincerely,

Donald W. Hyndman, Ph.D.

#30

#### **Emily Corsi**

From:

Thomas Kilmer < montanatom 1950@yahoo.com>

Sent:

Monday, October 29, 2012 7:13 PM

To:

**DEO Coal Comments** 

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

The Montana Department of Environmental Quality received a request for an expansion into Area F of the Rosebud Coal Mine. The DEQ is currently going through the scoping process under the Montana Environmental Policy Act (MEPA). Such an analysis should include the following:

(1) consideration of whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years;

(2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;

(3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years. Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, and our economy; and

(4) an analysis that quantifies and monetizes the externalities of the coal burned, given that recent research shows that burning coal—when all costs are included—is a net economic loss.

I spent 4 years living in eastern Montana. It is lovely, wildlife rich wonderful country. I would hate to see any more of this rare and historic landscape destroyed by mega-coal mining.

In addition to the above points please consider the beauty of the landscape, the historical values and the wildlife that resides there.

Thank you for your time. Thomas R. Kilmer

WLDF 12000

CLIM 530

ThomasKilmer montanatom1950@yahoo.com 621 2nd Street Helena, Montana 59601 406 202 3367

From:

sally thompson <oldtrails@gmail.com>

Sent:

Monday, October 29, 2012 6:00 PM

To:

**DEQ Coal Comments** 

Subject:

Rosebud Coal

Hello Mr. Hallsten,

PS 1910

I am writing to voice my opposition to expanded coal development in Montana. The massive expansion of the Rosebud Coal Mine will create water and air quality issues beyond our collective well-being. Please protect our futures and decide against this expansion. AIR 100 WTR 10000

Thanks,

Sally Thompson

Missoula

From:

Belle <bellemd@mt.net>

Sent:

Monday, October 29, 2012 5:11 PM

To:

**DEQ Coal Comments** 

Subject:

coal mining

HLTH 1000

REG

It seems ridiculous to increase use of coal when it is a hazard to health.

Mining coal in eastern Montna to send to Asia where no "best management practices" are enforced so that we will receive the toxic products of its burning via prevailing winds is not in our best interests.

"The Silent Epidemic, Coal and the Hidden threat to Health" by Alan H. Lockwood, MD

This book has details of the dangers.

It also seems ridiculous to destroy our environment so that a few rich people can get richer. And a reminder: our constitution supports a clean and healthy environment---which is a goal for your department.

Belle C. Richards, MD, FAAP

1

From:

ColleenM Barcus <cmbarcus@hotmail.com>

Sent:

Monday, October 29, 2012 4:22 PM

To: Subject: DEQ Coal Comments Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

Where are the renewable energy sources? These companies need to be forced to switch to enrivonmentally sound forms of energy. Coal is dirty and the DEQ's job is to protect the health and well-being of present and future generations from the mining and burning of coal, and not to rubber stamp every coal mine permit that comes through the door. Please protect the air and water and consider the implications of climate change for all living things on this planet, including humans!

The Montana Department of Environmental Quality received a request for an expansion into Area F of the Rosebud Coal Mine. The DEQ is currently going through the scoping process under the Montana Environmental Policy Act (MEPA). Such an analysis should include the following:

WTR 10010

- (1) consideration of whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years;
- (2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;

CLIM 510

- (3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years. Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, and our economy; and
- (4) an analysis that quantifies and monetizes the externalities of the coal burned, given that recent research shows that burning coal—when all costs are included—is a net economic loss.

Thank you for your time.

ColleenMBarcus cmbarcus@hotmail.com

# 660

#### **Emily Corsi**

From:

Laura Ferguson < lkfgreeneyes@hotmail.com>

Sent:

Monday, October 29, 2012 2:25 PM

To:

**DEO Coal Comments** 

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

Dear DEQ,

WTR 10000

I'm very concerned about the proposal to expand the Rosebud Coal Mine given that this mine has already caused contamination of both air and water. I am particularly concerned because of the droughts we've been having in Montana and the overall lack of water. Such realities would indicate that water quality (and volume) could not be of AIR greater importance now and looking to the future. Furthermore, we really need DEQ to be more protective of our air quality here in the Big Sky state. I have watched the coal trains cross the state and witnessed the black cloud of dust rising off of them and settling into the Yellowstone River. I know that the Coalstrip plant is one of our country's biggest polluters. I just don't think it is wise to put more clean water or clean air at risk so that some big coal company can degrade & destroy our state for their profit. Make the mines PROVE their commitment to clean water and clean air and habitat restoration FIRST, then and only then consider a permit. Right now, that mine has some serious environmental problems that should be dealt with long before they are allowed to expand. If they can't be relied on NOW to protect water and air, I doubt they ever will.

LauraFerguson
<a href="mailto:lkfgreeneyes@hotmail.com">lkfgreeneyes@hotmail.com</a>
1016 N. Warren St.
Helena, MT 59601
406-442-4690

#67

#### **Emily Corsi**

From:

Elizabeth Marum <emarum@bridgeband.com>

Sent:

Monday, October 29, 2012 2:18 PM

To:

**DEQ Coal Comments** 

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

PS 1910

The role of the Montana Department of Environmental Quality is to review and permit acceptable applications for the safety of Montanans. Please do not permit the expansion of this mine at this time and consider, instead, the health and safety implications of burning coal on our health.

MT DEQ has received a request for an expansion into Area F of the Rosebud Coal Mine. The DEQ is currently going through the scoping process under the Montana Environmental Policy Act (MEPA). Such an analysis should include the following:

WTR 10010

CUM 570

- (1) consideration of whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years;
- (2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years. Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, and our economy; and
- (4) an analysis that quantifies and monetizes the externalities of the coal burned, given that recent research shows that burning coal—when all costs are included—is a net economic loss.

Thank you for your time.

Elizabeth Marum
<a href="mailto:emarum@bridgeband.com">emarum@bridgeband.com</a>
814 E. Missoula Ave.
Belgrade, MT 59714
406-388-0224

From:

Colton Hash <roryfenrir@gmail.com>

Sent:

Monday, October 29, 2012 1:46 PM

То:

DEQ Coal Comments

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

Hello, my name is Colton Hash,

THY 6000

WTR 10010

CLIM 510

I would like to express my concerns with Montana's projected development. We Montanans have previously upheld strong values to ensure economic, political, and environmental balance. I believe it is absolutely critical to continue these practices in order to ensure the stability and sustainability of Montana's future. This is why I strongly urge the Montana Department of Environmental Quality include the following in its analysis of the expansion into Area F of the Rosebud Coal Mine:

(1) consideration of whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years;

(2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;

(3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years. Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, FORESTS and our economy; and

(4) an analysis that quantifies and monetizes the externalizes of the coal burned, given that recent research shows that burning coal—when all costs are included—is a net economic loss.

Thank you for your time.

ColtonHash
roryfenrir@gmail.com
2520 Grizzly Gulch
Helena, Montana 59601
406-461-3209

#75

From:

Harold and Janice Hoem <a href="mailto:haroldandjan@gmail.com">haroldandjan@gmail.com</a>

Sent:

Monday, October 29, 2012 1:40 PM

To:

**DEQ Coal Comments** 

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

Personal comments:

The EPA chose not to require Colstrip to meet the Mercury and other air toxins newly regulated in most states this year. As a result, this very dirty coal-fired power plant (a poor design from its inception) continues to be one of the top ten polluters in the nation. The adverse impacts on human health of the EPA decision are great, according to EPA's own study. Colstrip is making big profits without concern for the public, and I don't see it as the DEQ's job to make things easy for them.

Harold and I we're both EMTs for eight years. It makes no sense to us that the DEQ would make it possible to extend the life of a plant that basically increases the probability of a higher number of asthma attacks, cardiac problems, emergency room admissions and expense in terms of work/school days lost due to the above. Our hours in the back of an ambulance trying to keep people breathing and their heart beating tell us that this is a crucial issue. You don't always win those battles.

The sulfur dioxide standards are covered by law, and that law should be strictly applied to Colstrip. Colstrip does not have a good record on air quality concerns, and we should not extend the life of this plant.

Since 1999 Harold and I have been actively involved in climate change issues. We know that Dr. Steve Running (Nobel Peace Prize recipient for his work with the Internation Panel on Climate Change) has said that the first thing we should do in response to climate change is stop burning coal. Colstrip is not just burning coal, but burning it in a filthy manner and at great cost.

The other issues mentioned in MEIC's letter are also of concern to us.

The Montana Department of Environmental Quality received a request for an expansion into Area F of the Rosebud Coal Mine. The DEQ is currently going through the scoping process under the Montana Environmental Policy Act (MEPA). Such an analysis should include the following:

(1) consideration of whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years;

(2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;

(3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years. Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, and our economy; and

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CLIM 510

WTR 10010

(4) an analysis that quantifies and monetizes the externalities of the coal burned, given that recent research shows that burning coal—when all costs are included—is a net economic loss.

Thank you for your time. Harold and Jan Hoem

Harold and JaniceHoem haroldandjan@gmail.com
16 Greenbrier Lane
Missoula, MT 59802
406 327-1290

From:

Mark Mackin < Mark@montanapropertylaw.com>

Sent:

Monday, October 29, 2012 1:32 PM

To:

**DEQ Coal Comments** 

Subject:

Expansion of Rosebud Mine

DEQ:

WTR 10000

Good that you are reviewing this. Our water resources are essential to Montana in the short and long term. There should be no negative affect on water resources, surface or underground, by any means as a result of coal mine development or expansion.

Mark Mackin 4703 Almosta Road Helena, MT 59602

Phone/Fax: (406) 227-5237

From:

Carol Marsh <carolnhero@msn.com>

Sent:

Monday, October 29, 2012 1:27 PM

To:

**DEQ Coal Comments** 

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

The Montana Department of Environmental Quality received a request for an expansion into Area F of the Rosebud Coal Mine. The DEQ is currently going through the scoping process under the Montana Environmental Policy Act (MEPA). Such an analysis should include the following:

WTR 10010

CUM 510

- (1) consideration of whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years;
- (2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years. Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, and our economy; and
- (4) an analysis that quantifies and monetizes the externalities of the coal burned, given that recent research shows that burning coal—when all costs are included—is a net economic loss.
- (5) Solid scientific opinion supports the strong assumption that climate change is the cause of the horrific superstorm now wreaking havoc on the East Coast. Climate change is caused by human burning of fossil fuels, and particularly coal. We need to leave the rest of it in the ground.

Thank you for your time.

PS 1910

CarolMarsh
carolnhero@msn.com
420 E. Front St., #2
Missoula, MT 59802

From:

John Ray <bodinman2003@yahoo.com>

Sent:

Monday, October 29, 2012 1:23 PM

To: Cc: **DEQ Coal Comments** 

СС.

John Ray

Subject:

Comments on expanded coal mining in Montana

**Attachments:** 

Coal and Environmental Degradatoin.doc

I would like to submit the attached as my comments regarding efforts to expand coal mining in Montana. Dr. John W. Ray 915 West Galena St. Butte, Montana 59701

# Coal Fired Power Plants, Clean Coal Technology and Carbon Sequestration

Submitted by: Dr. John W. Ray 915 West Galena St. Butte, Montana 59701

The most important environmental problem in the 21<sup>st</sup> century is coal, or you could say coal is the most important enemy. (Ottmar Edenhofer, Chief Economist at the Potsdam Institute for Climate Impact Research in Germany, *Reuters*. 9/29/06)

While the U.S. is admittedly addicted to oil, we are becoming increasingly addicted as much to coal. Internationally, increasing coal use is a key component of energy security for countries such as China.

Coal is and will continue to be increasingly attractive in that it is relatively cheap, plentiful and easy to ship. The search for energy security is now a defining feature of international relations and coal is a significant component of energy security. International terrorism makes coal attractive for developed countries in that it lessens reliance on Middle Eastern oil and increases national energy self-reliance. Developing countries, such as China, see in coal a means of securing national economic independence.

Coal <u>is</u> abundant in the United States. According to Jeff Goodell, we have around 270 billion tons of coal which could provide for anywhere between 200 and 500 years of use, depending upon consumption rates. (Jeff Goodell, *Big Coal: The Dirty Secret Behind American's Energy Future* (Houghton-Mifflin, 2006) More locally, forty percent of the coal used in America comes from the Powder River Basin and as a whole Montana has more coal than does Wyoming. Goodell argues that our current collective affection for coal-based energy is based on our collective amnesia of why we switched from coal in the first place: not because we ran out but because it was dirty and inefficient.

Given the increasing price of oil, the attempt is being made to rehabilitate coal and to portray it as a relatively cheap potential energy alternative, particularly coal liquification. Much of the recent impetus for coal development and use centers on so-called clean coal technologies, turning coal to liquid fuels, and carbon sequestration. Montana Governor Brian Schweitzer has enthusiastically embraced "clean" coal technology and turning coal to liquid fuels as the solution for not only Montana's energy needs but also the energy needs of the whole country.

This paper makes the argument that the policy that we as a state and as a nation should pursue is the maximum achievable decarbonization of energy supply. Our energy development trends should be toward the decarbonization of energy. If we want to

prevent a doubling of the carbon dioxide in our atmosphere we need to make sure that global carbon emissions from the burning of fossil fuel in the year 2050 does not exceed the burning levels of 1990 and by the end of the 21st Century should decrease to a third of what we are now emitting. "Whatever means may to some extent contribute to alleviating the global warming problem, most specialists view a partial decarbonization of energy use a necessity." (Koen Smekens and Bob van der Zwaan, Energy Research Centre of the Netherlands, Policy Studies Department, "Environmental Externalities of Geological Carbon Sequestration: Effects on Energy Scenarios," Nota Di Lavoro 58:2004, p. 2)

#### More specifically this paper argues:

1. That the mining and transportation of coal present serious threats to human health and the environment. The mining and transportation of coal would continue even if clean coal technologies were in use and even if we pursued a policy of turning coal to liquid fuels. You first, no matter what the coal based energy production technology, have to mine and transport the coal.

2. Burning coal in traditional coal fired power plants is harmful to human health and HUTH 1000 the environment.

3. A coal to liquid fuels program has many unanswered technical and environmental questions and many potential risks. Cost efficiency is also a major issue.

4. A coal to liquid fuels program only makes environmental sense if it is connected to a program for carbon capture and sequestration. Without carbon capture and sequestration, a coal to liquid fuels program would be worse environmentally than traditional coal fired power plants while costing more.

5. There are significant potential technical and environmental problems with carbon capture and sequestration.

6. There are significant legal liability problems with carbon capture and sequestration.

7. There are significant regulatory gaps and problems with carbon capture and sequestration.

8. There are significant cost and financial problems with carbon capture and sequestration.

9. There are significant knowledge gaps about carbon capture and sequestration.

10. Renewable energy development is a preferable policy option both from the perspective of environmental protection but also from the perspective of cost.

# Coal Fired Power Plants and Environmental Degradation.

From mining and transportation to burning, coal fired power plants are harmful to human health and the environment.

a. Mining and transportation—These include occupational risks, water, air, and soil pollution, surface disturbance, erosion, biodiversity loss, permanent changes to topography, altering solid and subsurface geological structure and subsidence. The transportation of coal strains our antiquated rail system, creates significant TRANS 8000 safety problems and increases the dominance of monopolistic railroads that can determine the supply and cost of coal and can lead to interrupted and unpredictable supply and power problems.

THY 6000

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b. Burning—both long term (acid rain/global warming/climate change) and immediate health affects such as mercury contamination. "Coal-fired power plants also emit a large variety of other air pollutants including chromium, nickel, arsenic, dioxins, hexachlorobenzens, hydrochloric acid, hydrogen fluoride, cobalt, and radon gases. Some of these pollutants are carcinogens, some are persistent in the environment and capable of accumulating in the food chain, and all are toxic to plant, animal and/or human life."(Kim Perotta, "Beyond Coal: Power, Public Health and the Environment," *Ontario Public Health Association*, November 2002, p. 10) In the United States, coal is used to generate about half of our electricity and this electrical generation is responsible for 70% of the SO2 release, 25% of the NOx, 35% of the CO2 and 25% of the air emissions of mercury. (*Ibid*, p. 12) The preparation of coal for burning through the process of "washing" also creates a toxic slurry waste which can contaminate ground, surface and drinking water.

c. Mercury Pollution-- Coal fired generators are the number one source of mercury pollution in Montana. For example, over 90% of the mercury in Montana's air comes from coal fired plants. (EPA—Toxics Release Inventory) Mercury is a powerful neurotoxin that also harms fetal development, promotes cardiac disease, and has been linked to autism and other learning disabilities. Burning coal in traditional coal fired plants leads to significant releases of mercury as well as other pollutants. Overall, coal fired power plants are the largest emitters of mercury in the United States.

d. Monetary Cost of Health/Environmental Harms from Burning Coal—The EPA estimates that about half of all Americans live in areas where air pollution exceeds health standards and a major source of this pollution is coal fired power plants. Goodell estimates that public health effects of coal fired power plants would add an average \$13 per megawatt hour to the cost of electricity.

e. <u>Environmental Justice</u>—Given that economies of scale mandate the construction of centralized, large-scale power plants, burning coal raises environmental justice issues in that these plants are often located in poorer areas.

f. Opportunity Costs—Also, our reliance on coal to generate electricity means that we are not devoting the resources necessary to develop clean sources of energy such as wind and solar as well as conservation energy. Because coal is the cheapest way of generating electricity, we can expect the trend to continue and increase.

g. Ash disposal problems—The ash from coal fired electrical facilities contains significant amounts of arsenic, cadmium, chromium, lead and mercury—all of which are harmful to human health. The improper disposal of coal ash has contaminated ground and surface water at over 120 sites nationwide and three federal Superfund sites were created by the improper disposal of coal ash. "A large coal-fired power station produces up to 1 million tons of ash each year." ("Environmental Effects of Electricity Generation: Fossil Fuels," The Institution of Engineering and Technology, 2006, p. 7) This ash must be disposed of and contains high level of toxic materials which can leach or migrate into the natural environment.

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h. Burning coal also contributes to global warming. Global warming and climate change as the result of human activity in no longer in doubt. About 25% of CO2 emissions, which cause global warming, come from burning coal. Currently planned coal fired power plants will add 570 billion tons of CO2 to the atmosphere. This figure of 570 billion tons, according to Goodell, is the equivalent of all CO2 released in the past 250 years. Thus, coal fired plants are also the major source of the major pollutant responsible for global warming carbon dioxide. The United States has only 5% of the world's population but emits over 22% of the world's greenhouse gases. Montana is eight in the U.S. in carbon dioxide pollution. Few sensible people now doubt that global warming is occurring. Last year was the hottest year ever recorded and the last 20 years have been the hottest in the last millennium. Montana has seen the Glacier Park glaciers disappearing, forests fires increasing, spring melt off occurs two weeks earlier than 50 years ago, snowfall has decreased state wide, the number of frost free days has increased and Montana's lake temperatures are rising significantly. (Montana Climate Center)

CUIM 510

Current coal technology used to generate electrical energy comes with a heavy environmental price. This technology is dirty, hazardous to health, mined in an unsafe manner, and leads to problems of coal fires, water pollution, and subsidence from abandoned coalmines. The most polluting way to generate electricity is to burn coal. Pollution occurs from the mining, transportation, burning and waste disposal of coal. Coal contains numerous harmful elements such as mercury that are released into the environment through the burning process. Other harmful contaminants such as nitrogen oxides and sulfur dioxide, which lead to respiratory diseases and harm vegetation, crops and water quality, are released by coal-fired power plants. (New England Journal of Medicine and Journal of Pediatrics) Renewable sources of energy such as solar and wind power do not have these environmental and health problems, yet, as a nation we still rely on coal-fired power plants for our electricity.

EZON 800

PURP 2020

Rather than spend vast amounts of money on unneeded and polluting coal fired power plants, Montana should be investing in renewable energy sources such as wind, water, solar and conservation energy. Renewable and conservation energy can more than meet any future energy needs for Montana. Using coal to produce energy in Montana is unnecessary and harmful to human health and the environment.

PURP 2020

#### **Coal Liquification**

There is no question that gasification and coal to liquids are better technologies than traditional coal fired power plants. But that does not mean that we should embrace the new technologies as panaceas for our energy problems. As long as we depend on carbonbased fuels for our energy, we will continue to have all of the health and environmental problems associated with non-renewable, fossil fuels. Using coal to make synfuels is not TLY 6000 in and of itself environmental benign. Using coal to make synfuels "brings more longterm environmental concerns than long tem economic or security threats because tradeoffs have strong potential to be resolved by accepting increase environmental

damage in order to avoid economic or security risks." A.E. Farrell and A.R. Brandt, "Risks of Oil Transition," Energy and Resources Group, University of California— Berkeley, July 2006, p. 8) For example, according to the Princeton University Carbon Mitigation Initiative: "One synfuel facility in South Africa the size of what's being proposed for Montana releases more carbon dioxide into the air than any other single source in the world." (Reported in *Bozeman Daily Chronicle*, October 16, 2005)

Producing diesel fuel form coal emits nearly twice as much carbon as crude oil to diesel production and 15 times as much as biodiesel production, according to the U.S. Energy Administration, U.S. Department of Energy. The Natural Resources Defense Council has provided documentation that the production of a gallon of liquid fuel derived from coal produces our twice the amount of carbon dioxide as does the production of gasoline, diesel fuel, jet fuel and fuels from crude oil. "Making transportation fuel from coal through chemical transformation sends approximately twice as much CO<sub>2</sub> into the atmosphere as using standard crude oil." (Jeffrey Logan, Joanna Lewis, and Michael B. Cummings, "For China, the shift to climate friendly energy depends on international collaboration," Boston Review, Jan/Feb 2007)

A.E. Farrell and A. R. Brandt, conclude: "Crucially, the vast resource base of fossil fuel resources that could be turned into liquid fuels implies very large greenhouse gas emission even if carbon capture is used. For instance, using a quarter of the world's coal endowment as coal to liquids would increase atmospheric greenhouse gas concentration by approximately 300 parts per million. This would be larger than the effect from combusting all of the world's conventional petroleum, and would by itself more than double pre-industrial atmospheric concentrations of greenhouse gases. With carbon capture and sequestration the effect is still large, about 150 parts per million. (Put another way, using 1% of the global coal endowment as coal to liquids yields roughly a 10 parts per million increase in atmospheric greenhouse gas concentrations, perhaps half that if carbon capture sequestration is used." ("Risks of the Oil Transition, Energy and Resources Group, University of California—Berkeley, July 2006, p. 6) "Before deciding whether to invest scores—perhaps hundreds—of billions of dollars in a new industry like coal-to-liquids, we need a much more serious assessment of whether this I an industry that should proceed at all." (David Hawkins, Director of the Climate Center at the Natural Resources Defense Council.)

THY 6000

This South African coal to liquid fuels plant produces more than twice the sulfur dioxide emissions and four times the nitrous-oxide emissions of all the power plants and factories in Billings, Montana. According to Princeton University's Carbon Mitigation Initiative, the South African coal to liquid fuels plant releases around 7.7 million tons of carbon a year and it is the largest single producer of carbon in the world. If a 150,000-barrel per day plant were built in Montana, it would produce 30 million tons of carbon dioxide. (Bozeman Daily Chronicle, "Coal to Fuel Proposal Raises Environmental Concerns, October 16, 2005) In comparison, currently the largest coal burning power plant in the United States produces 20 million tons of carbon per year. "If you just switch to coalbased synfuels, you actually make the global warming problem so much worse."

(Stephen Pacala, Princeton University's Carbon Mitigation Initiative, "Coal to Fuel Proposal Raises Environmental Concerns, *Bozeman Daily Chronicle*, October 16, 2005

It is also mistaken to believe that synfuels are the way to achieve energy independence. Even if the United States was able to produce one million barrels of synfuel per day from coal, that would only be 5% of the United States' annual demand for oil." (*Bozeman Daily Chronicle*, October 16, 2005)

THY 6600

Synfuels do little to increase energy efficiency in the U.S. "Direct liquefaction is about 60% energy efficient, indirect techniques around 45%." (Peter Aldhous, "Energy: China's Burning Ambition, *Nature*, 435, 1152-1154 (30 June 2005)

THY 6000

Converting coal to liquid fuel also uses enormous amounts of water. In South Africa the Sasol coal to liquid fuel plant uses five barrels of water for every barrel of oil they manufacture. According to the U.S. Department of Energy, this amount of water needed to produce liquid fuels at the South African plant from coal is about a normal amount. In states such as Montana and Wyoming with limited water resources, such demand for water would be problematic indeed. Where would the water come from? What would be the water tradeoffs if such amounts of water were used? What would be the affect on agriculture? What would be the effect on recreation and fishing? What would be the economic losses incurred from the above?

EZON 800

WTR 1600

#### Monetary Cost of Coal to Liquid Fuels Plant

"The startup cost for even a small coal to liquid fuels plant is from \$1 billion to \$1.5 billion." (Samuel Western, "Spinning Coal into Gasoline," *High Country News*, Vol. 38, No. 21, November 13, 2006, p. 1) Currently, the federal national Energy Policy Act of 2005 will provide 80% of the startup costs of a coal to liquid fuel plant but the act also limits total loans for synfules to only \$2 billion. Currently, there are at least six coal to synfuel plants proposed in the United States, each one to cost about \$4 billion. (*Ibid.* p. 2)

THY 6000

Investors would be reticent to invest in coal to liquid fuels given that the price of crude oil could drop to a level below 40 to 50 dollars a barrel in which event the cost of coal to liquid fuels would be cost prohibitive. Coal to liquid fuels have greater initial capital cost per unit of production relative to regular petroleum processing plants and are more expensive to operate than regular refineries. As a result coal to liquid projects "are financially risky to investors and may become uneconomical should oil prices fall, as they have in the past. Indeed, investment in coal to liquid fuels moves the global supply curve for liquid hydrocarbons out and will tend to cause world oil prices to fall. Adding the cost of environmental controls exacerbates the risk to investors." (A.E. Farrell and A.R. Brandt, "Risks of Oil Transition," *Energy and Resources Group, University of California—Berkeley*, July 2006, p. 7)

# **Carbon Sequestration**

Relatively little attention has been paid so far to the detrimental environmental externalities that the ground sequestering of CO2 under could entail. Carbon sequestration externalities do matter and influence the nature of future world energy supply and consumption. (Koen Smekens and Bob van der Zwaan, "Environmental Externalities of Geological Carbon Sequestration: Effects on Energy Scenarios," Nota Di Lavoro 58:2004, p. 1)

Unless carbon is sequestered, turning coal to liquid fuels and coal gasification will be more harmful to human health and the environment than is the traditional coal fired generation of power. All of the environmental and health benefits from so called "clean" coal technologies only occur if carbon is captured and sequestered. Turning coals to liquids and coal gasification only makes sense environmentally if the carbon released by the process is sequestered. Yet, there are significant unknowns and significant potential risks associated with carbon sequestration.

THY 6000

#### **Long Term Monitoring Problems**

Monitoring of sequestered carbon dioxide would have to be done for an exceeding long time, perhaps millions of years. The efficacy of such long term monitoring is not known and, at present, there is no universally accepted rubric for such monitoring. "At the present time, there are no established protocols for the kind of monitoring that will be required, by whom, for how long and with what purpose. Geological storage of CO<sub>2</sub> may persist over many millions of years. The long duration of storage raises some questions about long-term monitoring." ("IPCC Special Report on Carbon Dioxide Capture and Storage," Edited by Bert Metz, et. al., *Intergovernmental Panel on Climate Change*, Cambridge University Press, 2005, p. 241)

TMY 6000

#### Risks of Long Term Storage of Carbon Dioxide are Unknown

"A number of important questions related to environmental hazards and safety risks of carbon sequestration remain. Uncertainties associated with negative sequestration impacts—that ideally ought to be addressed before carbon storage is employed on a large scale—abound, and their nature and extent are insufficiently understood." Koen Smekens and Bob van der Zwaan, "Environmental Externalities of Geological Carbon Sequestration: Effects on Energy Scenarios," *Nota Di Lavoro* 58:2004, p. 3) The long-term storage of carbon dioxide is not without significant risks. Of particular concern are induced seismic activity and the potential for harmful effects of sudden large-scale releases of carbon dioxide into the atmosphere. Groundwater can also be displaced by the ground injection of CO2. "Local health, safety and environmental hazards arise from three distinct causes: Direct effects of elevated gas-phase carbon dioxide concentrations in the shallow subsurface and near-surface environment, effects of dissolved carbon dioxide on groundwater chemistry, and effects that arise from the displacement of fluids

by the injected carbon dioxide." ("IPCC Special Report on Carbon Dioxide Capture and Storage," Edited by Bert Metz, et. al., *Intergovernmental Panel on Climate Change*, Cambridge University Press, 2005, p. 242)

Carbon dioxide can be released through terrestrial pores, fractures, faults and anthropomorphic pathways such as mine shafts and wells. C02 could also be released through mining activity in an area of carbon sequestration; "Mining or drilling in areas with CO2 storage sites may pose a long-term risk after site abandonment if institutional knowledge and precautions are not in place to avoid accidentally penetrating a storage formation." ("Intergovernmental Panel on Climate Change, Special Report on Carbon Dioxide Capture and Storage," Edited by Bert Metz, et. al., *Intergovernmental Panel on Climate Change*, Cambridge University Press, 2005, p.247) The injection wells themselves can serve as underground escape conduits for carbon dioxide. (S.E. Gasda, et. al., "The potential for CO2 leakage from storage sites in geological media: analysis of well distribution in mature sedimentary basins," *Environmental Geology*, 46(6-7), 707-720) Numerous studies have shown that a sequestered carbon dioxide breakthrough lowers the pH of surrounding water dramatically.

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# Specific Carbon Capture and Sequestration Issues Include:

#### Health and Environmental Risk of Carbon Sequestration

"In terms of the health effects of human exposure to carbon dioxide, the Occupational Health and Safety Administration has specified the maximum average exposure of carbon dioxide over an eight-hour work day at 0.5%. Exposure, even over short periods of 1 to 5% carbon dioxide results in physiological effects (including increased breathing); loss of consciousness occurs above 10%; and most concentrations above 30% are lethal." (Sarah M. Forbes, National Energy Technology Laboratory, "Regulatory Barriers for Carbon Capture, Storage and Sequestration," November, 2002) Two historical examples exist of where the sudden and large scale release of carbon surface release caused significant impacts—Lake Nyos, near Cameroon, Africa which killed 1700 people and Mammoth Mountain, California which created a 100 acre tree kill zone.

CO2 contact with the water table and vadose zone can lead to contaminated drinking water through the CO2 causing interactive toxic releases from the mineral composing the zone. "The U.S. Environmental Protection Agency has witnessed problems with projects designed to replenish groundwater with rainfall wherein mineralized (fixed) contaminants were inadvertently mobilized in concentrations sufficient to cause undesirable contamination." ("Intergovernmental Panel on Climate Change, Special Report on Carbon Dioxide Capture and Storage," Edited by Bert Metz, et. al., *Intergovernmental Panel on Climate Change*, Cambridge University Press, 2005, p. 243) "CO2 can adversely affect groundwater and ultimately drinking water in that dissolved CO2 forms carbonic acid, altering the pH of the solutions, which can mobile toxic materials upon contact. Groundwater pollution of nearby freshwater aquifers may result, if the containment of the aquifers into which carbon dioxide is injected is breached." (Koen

Smekens and Bob van der Zwaan, "Environmental Externalities of Geological Carbon Sequestration: Effects on Energy Scenarios," *Nota Di Lavoro* 58:2004, p. 4)

**Induced Seismicity** 

As a result of underground carbon sequestration, structural changes could occur in geological formations, as modifications of the thermodynamic properties—and even dissolution-of underground geologic layers. (Koen Smekens and Bob van der Zwaan, "Environmental Externalities of Geological Carbon Sequestration: Effects on Energy Scenarios," *Nota Di Lavoro* 58:2004, p. 4)

High-pressure sub-surface injection of CO2 can fracture rocks and cause movement of rock faults. "Induced fracturing and fault activation may pose two kinds of risks. First, brittle failure and associated microsesimicity induced by over pressuring can create or enhance fracture permeability, thus providing pathways for unwanted CO2 migration. Second, fault activation can, in principle, induce earthquakes large enough to cause damage." ("Intergovernmental Panel on Climate Change, Special Report on Carbon Dioxide Capture and Storage," Edited by Bert Metz, et. al., *Intergovernmental Panel on Climate Change*, Cambridge University Press, 2005, p. 249. See also: J.H. Healy, et. al., "The Denver Earthquakes," *Science*, 161, 1968, 1301-1310.)

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Overfilling of a carbon sequestration reservoir can create seismic difficulties. "Potential problems of overfilling a reservoir include ground heaving, induced seismicity, displacement of groundwater resources and damage to hydrocarbon reservoirs." (Sarah M. Forbes, *National Energy Technology Laboratory*, "Regulatory Barriers for Carbon Capture, Storage and Sequestration," November, 2002) Another problem of overfilling is contamination of drinking water by displaced brines and hydrocarbon damage. (Elizabeth J. Wilson, Humphrey Institute of Public Affairs, University of Minnesota, "Carbon Capture and Sequestration: Context and Considerations for Deployment," May 11, 2006)

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The whole question of sequestration of CO2 is plagued by uncertainties such as whether or not sequestration will increase the likelihood of earthquakes and issues related to leakage. There is no question that CO2 sequestration will increase the cost of energy by 20% to 25% which means fewer dollars for research into renewable energy sources such as cellulose ethanol. What is mandated is a go-slow approach until these issues can be resolved. If we want to prevent pollution before it takes place and if we want to proceed with synfuel development while taking adequate precautions, we should not rush into carbon sequestration.

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# Long Term Liability Issues

"The liability regime governing geologic carbon sequestration will shape the technology's cost-effectiveness and overall attractiveness. Key cradle-to-grave issues affecting liability include choice of liability regime, mandates for corrective action in case of leakage or accident, the need for insurance, and determination of potentially responsible parties." (de Figueiredo, et al, "Towards a Long-Term Liability Framework

for Geologic Carbon Sequestration," Presented at the Second Annual Conference on Carbon Sequestration, May 2003)

# Eleven areas of potential long term and short-term liability problems with regard to carbon sequestration exist:

A. <u>In-situ risk liability</u>—"The storage of carbon dioxide in the subsurface raises the issue of potential liability if there is loss of carbon dioxide containment and harm results to human health, the environment or property. If liability is fully borne by the private sector, the potential unbounded liability would make widespread deployment of carbon dioxide storage unlikely."(Mark de Figueiredo, et al, "The Liability of Carbon Dioxide Storage," *Laboratory for Energy and the Environment*, M.I.T., Cambridge, MA). In-situ risks include formation leaks to the surface, migration of carbon dioxide within the formation and seismic events.

B. Public liability issues

- C. <u>Liability related to "adjusting for uncertainty and for risks that carbon will be</u> released sooner than the contractual period, either intentionally or by accident or neglect, and assignment of liability when this occurs." (K.S. Kavi Kumar, "Carbon Sequestration as Greenhouse Gas Mitigation Policy")
- D. <u>Liability under federal common law for nuisance</u>. (See: *State of Connecticut et al v. American electric Power Companies, Inc. et al*)
- E. Operational liability issues
- F. Negligence (Firms which conduct carbon storage activities would be considered professionals.) "Under negligence law, professionals must exercise the skill and knowledge normally possessed by members of the profession; otherwise they may be found negligent." (American Law Institute: 1965, *Restatement, Second, Torts*, Section, 299A)
- G. Strict Liability. "There is a parallel between the unknown risk of radon and unknown risks of carbon sequestration, such as in the case of unknown abandoned mines. Carbon sequestration could ostensibly be governed under a regime of strict liability, with carbon dioxide leakage viewed as a defect of the system." (de Figueiredo, et al, "Towards a Long-Term Liability Framework for Geologic Carbon Sequestration, *Presented at the Second Annual Conference on Carbon Sequestration*, May 2003)
- H. Implied Warranty. The sale of a service may give rise to an implied warranty. [(Rybarsyk v. R.I. Marketing, 1988 U.S. Dist. LEXIS 18063 (1981) or (Buckeye Union Fire Ins. Co. V Detroit Edison Co, 1972) 38 Mich. App. 325 (1972) or (Hoffman v. Misericordia Hospital of Philadelphia 1970 439 Pa. 501 (1970)] "The applicability of implied warranties to carbon storage may ultimately come down to whether firms are deemed to be selling carbon dioxide to be stored (a 'good') or engaged in a 'service' to store carbon. Another concern is the pathway by which humans might be exposed to high concentrations of carbon dioxide." (M.A. DeFigueiredo, et al, "Framing the Long-Terms In situ Liability Issue for Geologic Carbon Storage in the United States," Mitigation and Adaptation Strategies for Global Change, (2005) 10, p. 651)
- Product Liability issues—manufacturing defects, design defects, and failure to warn of possible danger.

- J. <u>Compensation to victims</u> in the event that harm occurs from carbon sequestration and the firm which was responsible for the original injection of carbon and/or for the storage of carbon is no longer in business when the harms take place. "Those parties afflicted by the long-term risks could be hard pressed to find potential defendants or adequate compensation. Even if defendants could be identified, the injured parties may still have difficulty in showing specific causation, or that the defendant's carbon dioxide storage operation caused the particular injuries in question." (Mark de Figueiredo, et al, "The Liability of Carbon Dioxide Storage," *Laboratory for Energy and the Environment*, M.I.T., Cambridge, MA).
- K. <u>Contractual liability issues.</u> "In the case of contractual liability on the issue of carbon permits, liability would be premised on there being a legally enforceable storage contract, breach of the contract because some quantity of carbon dioxide escaped from the geological formation, and damages proximately related to the beach such as a carbon permit's loss in value)." (Mark de Figueiredo, et al, "The Liability of Carbon Dioxide Storage," *Laboratory for Energy and the Environment*, M.I.T., Cambridge, MA).

#### Ways of addressing liability:

- 1. Liability cap. (Public not served.)
- 2. Government assumes the liability rather than private entities. (Taxpayers bear the burden.) "Having the public sector bear the financial responsibility for future leakage could affect the precautions taken by storage operators in the near term." (Mark de Figueiredo, et al, "The *Liability of Carbon Dioxide Storage*," Laboratory for Energy and the Environment, M.I.T., Cambridge, MA). If companies know that government will bail them out in the future, why should they be particularly careful now?
- 3. Firms address liability on their own. (Private entities bear the burden.) In which case they would be unlikely to act to develop carbon sequestration so as to accrue this liability burden

# **Subsurface Property Rights**

Property rights issues will arise if geologic sequestration becomes widespread. As with oil and natural gas, surface and subsurface property rights will affect the regulation of geologic sequestration, the cost of transportation and storage of carbon dioxide and will be central in determining liability. (Battelle, "The Midwest Regional Carbon Sequestration Partnerships: Phase I—Stand Alone Executive Summary," DOE Cooperative Agreement No. DE-FC26-03NT41981, December 2005.)

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"Storage of CO2 in the subsurface raises several questions: Could rights to pore space be transferred to another party? Who owns CO2 stored in pore space? How can storage of CO2 in the pore space be managed so as to assure minimal damage to other property rights (e.g. mineral resources, water rights) sharing the same space? Rights to use subsurface pore space could be granted, separating them from ownership of the surface property." ("Intergovernmental Panel on Climate Change, Special Report on Carbon

Dioxide Capture and Storage," Edited by Bert Metz, et. al., *Intergovernmental Panel on Climate Change*, Cambridge University Press, 2005, p. 256) All of these liability questions would need to be answered prior to engaging in large-scale carbon sequestration.

Another subsurface liability issue could be "subsurface trespass." "Subsurface trespass would take place if the relevant property interests have not been acquired, and the stored carbon dioxide either wrongfully commingled with the native substances or took up storage space which could have been used by the rightful property owner." (Mark de Figueiredo, et al, "The Liability of Carbon Dioxide Storage," *Laboratory for Energy and the Environment*, M.I.T., Cambridge, MA).

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Other potential property rights problems include: surface rights and easements, subsurface mineral rights, ownership of injected carbon dioxide, neighboring mineral leases and water rights. (Battelle, "The Midwest Regional Carbon Sequestration Partnerships: Phase I—Stand Alone Executive Summary, *DOE* Cooperative Agreement No. DE-FC26-03NT41981, December 2005.) Another unresolved issue is how the rule of capture and the correlative rights doctrine would or will apply.

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# **Regulatory Issues**

The success of carbon capture, storage and sequestration as a greenhouse gas mitigation strategy will be dependent on the regulatory framework used to govern it implementation. (Sarah M. Forbes, National Energy Technology Laboratory, "Regulatory Barriers for Carbon Capture, Storage, and Sequestration," November 2002, p. 1) Unless there is a clear regulatory framework related to carbon sequestration, private entities, because of the cost and liability uncertainties, will be loathe engaging in large-scale carbon sequestration projects. Currently, there exists no comprehensive regulatory framework for carbon sequestration. Any comprehensive regulatory regime must address project siting, transportation, injection, acceptable storage facilities and receptacles, monitoring and accounting. So far these issues have not been addressed in any comprehensive fashion.

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Presently, carbon dioxide and other greenhouse gas emission are not subject to regulation under the Clean Air Act. The EPA has stated that the Clean Air Act "does not authorize regulation to address climate change." (David R. Hill, Deputy General Counsel for Energy Policy, *U.S. Department of Energy*, "United States of America—Current and Prospective National Laws on Carbon Capture and Sequestration," *U.S. Department of Energy*, July 12, 2004)

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Overall there is little federal environmental law which is applicable to carbon dioxide emissions. Federal law also does not directly consider the permitting of carbon dioxide transportation or transportation facilities. (David R. Hill, Deputy General Counsel for Energy Policy, *U.S. Department of Energy*, "United States of America—Current and Prospective National Laws on Carbon Capture and Sequestration, U.S. Department of Energy, July 12, 2004) The only possible analog is the transportation of natural gas under

the Natural Gas Act. While there is extensive regulatory experience with underground injection control programs, federal law does not directly address how to regulate carbon dioxide injection and sequestration. Finally, federal law does not address post closure carbon dioxide issues. (David R. Hill, Deputy General Counsel for Energy Policy, U.S. Department of Energy, "United States of America—Current and Prospective National Laws on Carbon Capture and Sequestration, U.S. Department of Energy, July 12, 2004)

In all likelihood, the Underground Injection Control Program, which was created under the federal Safe Drinking Water Act of 1974, would provide the initial regulatory framework for carbon sequestration. However, this program was not developed to deal with issues related to carbon sequestration. "Because of its statutory mandate, the scope of the UIC regime is contamination of drinking water, and under its current application to THY 6000 carbon dioxide storage, the UIC Program gives more limited treatment, if any, to other harms to human health, the environment, and property." (Mark de Figueiredo, et al, "The Liability of Carbon Dioxide Storage," Laboratory for Energy and the Environment, M.I.T., Cambridge, MA). Under the UIC program, however, there is no federal requirement for monitoring the actual movement of fluids or gas within the injection zone nor are there monitoring requirements to check for leakage. (Battelle, "The Midwest Regional Carbon Sequestration Partnerships: Phase I-Stand Alone Executive Summary, DOE Cooperative Agreement No. DE-FC26-03NT41981, December 2005.)

One area where EPA regulation of carbon sequestration is particularly lacking is in regard to the issue of leakage to the surface. (Elizabeth J. Wilson, Humphrey Institute of Public Affairs, University of Minnesota, "Carbon Capture and Sequestration: Context and Considerations for Deployment," May 11, 2006)

#### **Monetary Cost of Carbon Sequestration**

Carbon Sequestration monetary costs potentially occur in several areas:

- 1. Drilling wells
- 2. Infrastructure
- 3. Project Management
- 4. Monitoring
- 5. Energy costs related to injecting the CO2
- 6. Energy costs related to the transportation of CO2.

#### Unknowns affecting the cost of carbon sequestration:

- A. Fuel prices—the higher the cost of fuel the higher the cost of carbon sequestration.
- B. Cost of capital
- C. Cost of meeting future regulatory requirements.
- D. Cost of long term monitoring.
- E. Required carbon sequestration quality upgrades.

#### **Cost of Carbon Capture**

Carbon capture and sequestration is not cheap. "The cost of employing a full CCS system for electricity generation from a fossil-fired power plant is dominated by the cost of

capture. The application of capture technology would add about 1.8 to 3.4 US\$ct kWh-1 to the cost of electricity from a pulverized coal power plan, 0.9 to 2.2 US\$ct kWh-1 to the cost for electricity from an integrated gasification combined cycle coal power plant and 1.2 to 2.4 US\$ct kWh-1 from a natural gas combined-cycle power plant. Transport and storage costs would add between –1 and 1 US\$ct kWh-1 to this range for coal plants, and about half as much for gas plants. (The –1 figure would accrue only if there were offsetting revenues from enhanced oil recovery. Given the limited number of oil fields in this country that would profit by using carbon dioxide for enhanced oil recovery, there would be little frequency to this area of cost saving overall in the United States.) Typical costs for transportation and geological storage from coal plants would range from 0.05-0.6 US\$ct kWh-1." ("Summary for Policymakers: A Special Report of Working Group III of the Intergovernmental Panel on Climate Change," *IPCC Special Report: Carbon Dioxide Capture and Storage*, September 2005, p. 341) Additional data comes from to U.S. Department of Energy: "Using present technology, estimates of sequestration costs are in the range of \$100 to \$300/ton of carbon emissions avoided."

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Carbon capture and sequestration is also very cost intensive. It is estimated that CCS will increase the cost of energy anywhere from 40 to 80% compared to conventional power plants. "Capturing, transporting and sequestering carbon dioxide may increase competitive fossil energy production costs by a factor of two when for example about 80% of the carbon dioxide released is avoided." (Koen Smekens and Bob van der Zwaan, "Environmental Externalities of Geological Carbon Sequestration: Effects on Energy Scenarios," *Nota Di Lavoro* 58:2004, p. 8)

Because research indicates that the number of old oil fields which could be used for enhanced oil recovery by injecting carbon dioxide is relatively small, using carbon for enhanced oil recovery will not be a significant solution to the cost problems associated with carbon capture and sequestration.

#### **Knowledge Gaps about Carbon Sequestration**

There are significant gaps in our knowledge about the short and long term effects and efficacy of carbon capture and sequestration. Before embarking on any large-scale carbon sequestration projects and before assuming that carbon sequestration is an effective solution to the carbon dioxide problem which surrounds the burning of coal, we must have answers to these following unknowns:

- 1. Current estimates regarding the amount of current storage capacity are inaccurate.
- 2. The kinetics of geochemical trapping and the long-term impact of CO2 on reservoir fluids and rocks are unknown.
- 3. The fundamental processes of CO2 absorption and CH4 desorption on coal drilling operations are poorly characterized.
- 4. The extent and likelihood of leakage from abandoned wells due to material and cement degradation is vague.
- 5. The impacts of sub-surface microbes are uncertain but potentially significant.

- 6. There is an absence of reliable modeling regarding long-term storage performance.
- 7. Little useful information exits to predict leakage probabilities or rates.
- 8. Protocols for achieving desirable storage duration and local safety do not exist.
- 9. There is a need for significant improvement in surface monitoring for leak detection.
- 10. There is a need for significant improvement in fracture detection.
- 11. Long term monitoring strategies and techniques are largely absent.
- 12. Post leak remediation techniques are poorly developed.
- 13. There is little knowledge as to regulatory cost compliance.
- 14. There is little knowledge as to how long term monitoring will affect cost.
- 15. The regulatory framework is poorly developed.
- 16. The legal liability framework is unclear with many potential liability pitfalls.
- 17. How to decommission storage facilities is unclear.
- 18. Little commercial experience.

(See: "Intergovernmental Panel on Climate Change, Special Report on Carbon Dioxide Capture and Storage," Edited by Bert Metz, et. al., *Intergovernmental Panel on Climate Change*, Cambridge University Press, 2005)

### Renewable Energy and Energy Efficiency

Carbon storage is neither a sustainable nor a renewable energy option: 'true' renewables remain preferable over the longer run. The long-term deployment of renewables, however, might be negatively affected b the development carbon sequestration today." (Koen Smekens and Bob van der Zwaan, "Environmental Externalities of Geological Carbon Sequestration: Effects on Energy Scenarios," Nota Di Lavoro 58:2004, p. 23)

Renewable energy offers the promise of very large amounts of sustainable and safe energy. It is widely dispersed around the globe and can be utilized with relatively little environmental impact and almost no greenhouse-gas emissions. Improvements in technology have brought the costs of . . . renewable energy sources down and internalizing many external costs has also tended to level the playing field."

(R. N. Schock, "Energy Technologies for the 21st Century—The Roles of Renewable Energy," World Federal of Scientists International Seminars on Planetary Emergencies, Erice, Italy, August 2005)

Rather than invest huge sums of money into an unknown and potentially/probably environmentally dangerous energy production technique which still depends on non-renewable coal, policy emphasis should be placed on renewable energy. One major problem is that the newly fashionable technologies have a lost opportunity cost because of continuing our addiction to fossil fuels that are non-renewable and inherently polluting. All out pursuit of new coal technologies means that we will be devoting proportionately fewer resources to clean energy production technologies and to energy conservation.

It is also important to remember that carbon capture uses in and of itself a great deal of energy. Not only does this energy use compromise the environmental benefits of carbon capture, in that usually fossil fuel energy is used to capture the carbon, but it also increases costs of operation and cost of development. Extra energy requirements range anywhere from a high of 40% to a low of 11% depending on the plant type. Most estimates place the amount at between a 22% and 25% increase in energy use in order to capture carbon. If one takes into account the energy costs to capture carbon, storage and transportation, carbon capture raises the cost of energy from a power plant between 30% and 60% overall. (*IPCC [Intergovernmental Panel on Climate Change*, Metz, et al, Cambridge University Press, "IPCC special report on Carbon Dioxide Capture and Storage," 2005)

The Department of Energy's National Renewable Energy Laboratory analysis conducted in 2006 concluded that the whole U.S. electricity demand could, at least technically, be met by renewable energy by the year 2020. The same analysis concluded that the energy potential for renewable energy is enormous—85 times the current energy use, according to the analysis. For example, solar would produce 55 times the current energy use and wind could provide 6 times the current energy use. (Elizabeth Brown, "Near Term Practical and Ultimate Technical Potential for Renewable Resources," January 2002, p. 4) A 2005 study at Stanford University concluded that wind power could, if properly developed, provide one and one-half times the world energy needs. Off Shore Wind energy has great potential also. (Christian Archer, and Mark Z. Jacobson, "Evaluation of global wind power," Journal of Geophysical Research, Vol. 110, June 30, 2005.) A 2005 analysis conducted by the U.S. Department of Energy concluded that approximately 70% of our electricity demand could be met with offshore wind power such as that in current use in Denmark. In terms of solar energy, Maya Chadahari, et al found that the United States could easily "accommodate about 1 million MW of PV by 2025, which would generate approximately 1.9 trillion kWh per year—almost half current U.S. electricity use." ("PV Grid Connected Market Potential Under a Cost Breakthrough scenario," September 2002, The Energy Foundation and Navigant Consulting, p. 33) Another study by Patrick Mazza of Climate Solutions and Eric Heitz of the Energy Foundation released in November 2005, found that renewable bio-fuels could significantly reduce our dependence on oil. ("The New Harvest: Biofuels and Windpower For Rural Revitalization and National Energy Security") For more detailed information on how renewable energy can meet United States energy needs see: Sustainable Energy Coalition, "How Renewable Energy Technologies can Eliminate Energy Imports, Phase Out Nuclear Power and Slash Greenhouse Gases, Washington D.C., January 2, 200; "Winning the Oil Endgame: Innovation for Profits, Jobs, and Security," Rocky Mountain Institute co-funded by the U.S. Department of Defense, September 20, 2004; Center for Resource Solutions, "Achieving a 33% Renewable Energy Target," funded by the Energy Foundation at the request of the California Public Utilities Commission, November 1, 2005 and a Report by the Energy Efficiency Task Force of the Western Governors' Association on September 15, 2005.

### **Cost of Renewables**

The cost of renewable energy has decreased and is decreasing, thus making it a viable alternative to non-renewable energy production. Take wind power: "Wind power, for example, is at present becoming competitive at various localities. It can be reasonable expected that wind energy production costs continue to decrease over the coming years." (Koen Smekens and Bob van der Zwaan, "Environmental Externalities of Geological Carbon Sequestration: Effects on Energy Scenarios," *Nota Di Lavoro* 58:2004, p. 8) Also, renewable energy does not suffer from the price volatility which other, particularly non-renewable energy sources suffer. ("Taking Stock: Energy Challenges Facing the United States," *National Energy Policy Development Group*, National Energy Policy.2001)

In addition to promoting and developing renewable energy, promoting energy efficiency can help to solve the nation's energy problems. According to the Office of Technology Assessment, The Electric Power Research Institute and the Rocky Mountain Institute, energy efficiency improvements could reduce energy use anywhere from 33% to 45%. For example, a report by the Energy Efficiency Task Force of the Western Governors' Association, September 15, 2005, found that energy efficiency could reduce by over 20% electricity use in the western U.S.

**Summary** 

We need to place the current political euphoria over coal as the source of national energy security into its proper environmental, historical, political, and economic context. As long as state and national resources are poured into an inherently problematic source of energy such as coal, we will not have the resources necessary to develop the only real hope for the future—renewable, non-fossil fuel based energy.

Montana currently produces twice the amount of energy needed for in state home and industrial use and Montana has the existing unused capacity to produce almost twice the energy it is now producing. Because Montana has an energy surplus not an energy shortage we do not need to develop polluting coal based energy generating projects. (2) Montana currently does not have the transmission infrastructure to transport large amounts of electrical energy and (3) The money made from exporting energy does not stay in the state but goes to international or out of state corporations. Few permanent jobs are created in Montana. All Montana is left with is the environmental degradation caused by these projects.

PURP 2010

From:

Chris Daum <info@oasismontana.com>

Sent:

Monday, October 29, 2012 1:01 PM

To:

**DEQ Coal Comments** 

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

The Montana Department of Environmental Quality received a request for an expansion into Area F of the Rosebud Coal Mine. The DEQ is currently going through the scoping process under the Montana Environmental Policy Act (MEPA). Such an analysis should include the following:

WTR 10010

(1) consideration of whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years;

(2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;

(3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years. Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, and our

CLIM 520

(4) an analysis that quantifies and monetizes the externalities of the coal burned, given that recent research shows that burning coal—when all costs are included—is a net economic loss.

We already have, in Montana, some of the worst EPA Superfund sites in the country. We do not need more.

LND 1200

Thank you for your time.

economy; and

ChrisDaum
info@oasismontana.com
436 Red Fox Lane
Stevensville, MT 59870
406-777-4309

#117

From:

Johanna DeVries < jodevries@hotmail.com>

Sent:

Wednesday, October 31, 2012 9:18 PM

To:

**DEQ Coal Comments** 

Subject:

Area F Expansion - Rosebud Coal Mine

Dear Mr. Hallsten

Hello,

As a Biology teacher it is my duty to have students investigate the possible effects of mining coal and its use on our world. There are a few in the United States who do not think climate change is occurring. The rest of the world sees this change as fact. It is also fact there is no such thing as 'clean' coal. Combustion of any sort of fossil fuel produces greenhouse gas emissions to some extent or another.

The Montana Department of Environmental Quality received a request for an expansion into Area F of the Rosebud Coal Mine. The DEQ is currently going through the scoping process under the Montana Environmental Policy Act (MEPA). Such an analysis should include the following:

WTV2 16020

- (1) consideration of whether the mine will harm water quality in the area. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years;
- (2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant. Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, and our economy; and
- (4) an analysis that quantifies and monetizes the externalities of the coal burned, given that recent research shows that burning coal—when all costs are included—is a net economic loss.

Thank you for your time. Johanna DeVries

Johanna DeVries jodevries@hotmail.com 1304. W. Montana St. Livingston, MT 59047 406-222-3792

From:

andrew.gorder@gmail.com on behalf of Andrew Gorder

<andrew@cottonwoodlaw.org>

Sent:

Monday, November 05, 2012 10:05 AM

To:

**DEQ Coal Comments** 

Cc:

John Meyer

Subject:

CELC's Comments on Proposed Rosebud Mine Area F Expansion

Attachments:

CELC Rosebud Mine Comments.doc

Hello,

Attached, please find Cottonwood Environmental Law Center's Scoping Comments for the proposed Rosebud Area F Expansion. Please send a reply acknowledging your receipt of these comments.

Thank you,

Andrew Gorder

Staff Attorney Cottonwood Environmental Law Center 24 S. Willson Ave., Suites 6-7 Bozeman, MT 59715 406.587.5800

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Greg Hallsten DEQ Director's Office PO Box 200901, Helena, MT 59620-0901

November 5, 2012

# Cottonwood Environmental Law Center's Scoping Comments for Proposed Rosebud Coal Mine Area F Expansion

Mr. Hallsten,

On behalf of Cottonwood Environmental Law Center (CELC) and its members, please accept the following comments on Western Energy's proposed expansion of the Rosebud Coal Mine Area F. The proposed Area F permit area encompasses approximately 6,746 acres in Rosebud and Treasure Counties. It would add coal reserves to the existing Rosebud Mine and extend mine life by an estimated 19 years. CELC has significant concerns about the detrimental impacts to the environment that this expansion would allow. In sum, CELC believes that the DEQ should ultimately deny Western Energy's permit application. At the very least, CELC believes that the following issues should be thoroughly addressed by the DEQ in the upcoming environmental review process.

# **Coal Leasing Process**

To our knowledge, the DEQ never conducted a review of the potential environmental impacts before the Montana State Land Board approved a coal lease for the Rosebud Mine. There a host of negative environmental impacts that result from coal-mining itself and the coal-fired energy process. These include significant impacts to water quality, air quality, wildlife habitat, impacts to climate as well as impacts to human health. The Montana Environmental Policy Act (MEPA) requires that an agency prepare an EIS addressing the impacts of any proposed action that will "significantly affect" the quality of the human environment. As such, an environmental review of all impacts, including the impacts to a warming climate, should have been prepared before Western Energy was granted a coal lease. Additionally, Article II, Section 3 of the Montana Constitution guarantees all Montanans the inalienable right to a clean and healthful environment. Failure to address these impacts is also a violation of the Montana Constitution.

<sup>&</sup>lt;sup>1</sup> Mont. Code Ann. § 75-1-201(1)(b)(iv).



# **Impacts to Water & Water Quality**

WTR 10000

The coal mining process involves significant impacts to water resources and water quality. Besides the serious impacts of the physical mining process itself, coal often needs to be "washed" with water and chemicals to remove sulfur and impurities before it can be utilized. According to the U.S. Department of Energy, total water used for coal mining in the United States (including water use for coal washing and cooling of drilling equipment) ranges from 70 million to 260 million gallons a day.

Storing coal-mining waste together with the water used to separate it from the coal can present a significant hazard if the slurry ponds used to store such waste fail or the slurry breaks through into nearby abandoned mines or adjacent water wells or other water resources. Additionally, some coal travels by the slurry pipeline method, which involves pumping water with finely ground coal over long distances. Slurry pipelines withdraw hundreds of gallons of water for every eventual unit of electricity produced.

"The general welfare of the people of Montana ... requires that water resources of the state be put to optimum beneficial use and not wasted." "The water resources of the state must be protected and conserved to assure adequate supplies for public recreational purposes and for the conservation of wildlife and aquatic life." Additionally, the Montana Constitution states that the "legislature shall provide adequate remedies for the protection of the environmental life support system from degradation and provide adequate remedies to prevent unreasonable depletion and degradation of natural resources."

The use of Montana's water resources in the coal-mining process may constitute waste and/or failure to meet the requirements of beneficial use in violation of Montana statute and the constitutional mandate that the state prevent unreasonable depletion of natural resources. Additionally, the potential impacts to surface water and groundwater quality, including wells, aquifers, wetlands, streams and navigable waters, may be in violation of Montana statute the constitutional mandate that the state prevent the degradation of natural resources.

# **Impacts to Land & Wildlife**

The proposed expansion has the potential to significantly impact the lands and waters in the project area. Numerous wildlife species such as pronghorn would also be harmed, displaced or their migratory patterns permanently disrupted by this expansion. Habitat for area wildlife would be virtually destroyed. Additionally, the expansion would diminish recreational opportunities, such as hunting, that are available in the project area.

REC 4000

<sup>&</sup>lt;sup>2</sup> Mont. Code Ann. 85-1-101(1).

<sup>&</sup>lt;sup>3</sup> Mont. Code Ann. 85-1-101(5).

<sup>4</sup> Mont. Const. Art. IX, § 1



RECL 3000

Attempting to re-seed or reclaim land destroyed by coal mining is difficult because the mining process has so thoroughly damaged the soil. In Montana, replanting projects had a success rate of only 20-30 percent. These impacts warrant a denial of Western Energy's application. At the very least, the significant impacts to the natural environment and wildlife should be adequately addressed by the DEQ.

# **Impacts to Air Quality & Human Health**

CELC stresses that the impacts of this proposed expansion need to be analyzed in the context of the physical mining activities and the coal-fueled energy process that follows. Whether the coal is burned at coal-fired power plants within the State or beyond, the process will have significant impacts to air quality, climate change and human health within Montana.

Burning coal emits large quantities of pollutants, including sulfur dioxide, carbon dioxide, nitrous oxides, and mercury. Sulfur dioxide and nitrous oxides can mix with rain or snow to form acid rain. This mixture increases the acidity of lakes and streams and can harm or kill plants and animals. Mercury is a potent neurotoxin that reduces intelligence and otherwise impairs the brain development of infants and children, and that has been linked to heart problems.

According to the U.S. EPA, coal plants are the source of over half of anthropogenic (human-caused) emissions of mercury to the air in the U.S. After leaving the smoke stack, the mercury falls to earth and accumulates in water bodies and subsequently in the tissues of fish and of people and animals that consume those fish. Finally, burning fossil fuels such as coal increases the level of greenhouse gasses in the atmosphere and contributes significantly to climate change.

PS 1910

In sum, CELC believes that the DEQ should ultimately deny Western Energy's permit application. At the very least, CELC believes that the following issues should be thoroughly addressed by the DEQ in the upcoming environmental review process, and we hope to be a part of this process as it progresses.

Respectfully,

Andrew Gorder

Staff Attorney Cottonwood Environmental Law Center 24 S. Willson Ave., Suites 6-7 Bozeman, MT 59715 406.587.5800

#135

From: Sent: Linda Helding <helding64@gmail.com> Friday, November 02, 2012 10:15 AM

To:

DEQ Coal Comments

Subject:

coal comments

HILTH 1010

Thank you for the opportunity to comment on the proposed expansion of the Rosebud mine. I am a third generation Montanan who grew up in Missoula. I am currently undergoing chelation treatments for heavy metals in my system, including a mysterious amount of bismuth. I worked for many years next to the coal trains that go through Missoula and I can only "assume" that is the source of the bismuth in my system. I grew up in the 50s and 60s in Missoula. I drank city water rehydrated from the tainted Clark Fork River. My mother wouldn't let us eat any fish that came out of the Clark Fork – she knew how dirty it was. I also grew up with chronic respiratory disease from the local pulp mill. So I am greatly concerned about the health of Montanans as regards coal extraction.

The Rosebud mine is the 11<sup>th</sup> largest open-pit coal strip mine in the U.S. It's owners are now asking for over 6,000 more acres of unspoiled land. I am opposed to expansion of the mine for other reasons. I worked with a citizens group on the superfund cleanup of the Clark Fork River and the Milltown Dam removal after 100 years of toxic metals flowed downstream from the Berkley Pit in Butte. It is impossible with our current toxic cleanup methods to contain and clean up the Berkley Pit. The Golden Sunlight mine outside of Whitehall also leaks heavy metals in to the environment and they are asking for an expansion permit. We live in an extractive state, but the companies leave it is up to the taxpayers not only of this state but the federal government to clean up the mess. I proposed back when we worked on the Clark Fork clean up that in the future we demand that extractive industry prove to this state that they can pay for and accomplish reclamation before we give them any more of our land in which to dig big holes and leave behind large toxic waste piles.

If the Rosebud mine people want to expand and sell the coal to China there are many issues involved with that whole premise, but for me as a citizen of this state who intends to live here and help with toxic reclamation when the last chunk of coal comes out of the earth and the companies move on to blacker fields elsewhere, I am concerned that the Rosebud mining company needs to prove that they can reclaim the whole and the tailings they have already created.

I propose that they clean up what they have already ruined and then and only then will we give them more land to mine. Prove that they are good citizens and have our best interests at heart as they advertise fly fishermen in gorgeous blue waters, that they are doing everything thing they can to provide jobs, jobs, jobs, and protect the environment for a richer healthier tomorrow. If they can spend millions on advertising, convince state governance to give them more land to destroy; they should have to prove up their claims of reclamation. Reclaim then ask for more. It's the only fair thing to do. Dig, reclaim, ask for more. I don't think that's an unreasonable request.

Respectively,

Linda Helding

P.O. Box 812, Arlee, MT 59821

406 241 4261

helding64@gmail.com

#136

From:

J. Kirwin Werner < jkw@ronan.net>

Sent:

Wednesday, October 31, 2012 9:45 AM

To:

**DEQ Coal Comments** 

Subject:

Coal Expansion at the Rosebud Mine

Ms/Sir:

CLIM 500 CLIM SIB

Global warming is not a joke!. The increasing chaotic weather and its devastating impacts on people worldwide is starting to take its toll. To increase coal mining in Montana and burning of coal worldwide is foolish at this point considering its overall impacts. I urge you not to approve the request for expanded coal mining at the Rosebud Coal Mine (area F).

Kirwin Werner

From:

sherrijohnson717@comcast.net

Sent:

Thursday, November 01, 2012 9:05 PM

To:

**DEO Coal Comments** 

Subject:

expanded coal mining?

#### Dear DEQ

I strongly request that you add the following considerations to the MEPA scoping review of the Rosebud Coal Mine's application for expanded coal mining. WTR 10000

AIR 100

Coal mining has consistenly been shown to have negative impacts to water and air quality! In addition, it is an antiquated energy source and much better options for green or less polluting PURP 2020 energy exist and are becoming cost competitive.

The MEPA needs to address and include the following:

(1) consideration of whether the mine will further harm water quality in the area: Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that this pit will be a source of water pollution for 200 years; (2) consideration of air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide:

DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;

(3) consideration of the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years:

CLIM570 Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United States. DEQ should consider what impacts climate change is having on Montana's agriculture, water quantity, fisheries, and our economy; and CLIM 530

(4) an analysis that quantifies and monetizes the externalities of the coal burned:

Recent research shows that burning coal—when all costs are included—is a net economic loss.

ECON 800

Thank you for your inclusion of these important aspects of the review.

Sherri Johnson Hamilton, MT 59840

From Sherri Johnson

email: sherrijohnson717@comcast.net

#138

From:

Howard Christiansen <howard\_christiansen@hotmail.com>

Sent:

Sunday, November 04, 2012 10:36 AM

То:

DEQ Coal Comments; ann\_hedges@mail.vresp.com

Subject:

my coal mine expansion study request

Attachments:

letter to MEIC and DEQ.docx

To all concerned,

Please read and consider my attached letter to Greg Hallsten of the DEQ directors office regarding the environmental impact statement to be considered for expansion of the Rosebud Coal Mine.

Thank you, Howard Christiansen

PS, I cannot yet find direct email addresses to my senators, Tester and Baucus, but I will attempt to get this letter to them as well.

# 138 - ATTACHMENT

To:

Greg Hallsten

Nov. 1, 2012

PO Box 200901

Helena, MT 59620

From: Howard Christiansen

PO Box 151

Bozeman, MT 59771

I am writing this letter to tell DEQ this: it is critically important to the people of the state of Montana that the environmental impact statement to be prepared should include a full and scientifically rigorous treatment of the impact on global climate change of the proposed expansion of the Rosebud Coal Mine and of the global climatic effect of all carbon dioxide CLIM 510 produced as a byproduct of the burning of that coal. It should be understood by the writers of this study that the people of Montana and of all the USA are not interested only in the ability of this state to be a major producer of a finite and valuable natural resource but that we also accept the responsibility of stewardship of this planets' environmental health and welfare. Though many mining companies vie for the profits of quick development of new resource tracts we should recognize that their interests are for their own profit and not for the general welfare of human and non-human populations around the planet. Carbon dioxide and other more photoactive greenhouse gases will be produced by the burning of this coal at a time when the national demand for the production of coal is lagging behind the increases seen in the PURP 29 6 production of oil and gas resources (Morse, R., Foreign Affairs, July/August 2012). Coal remains the dirtiest energy resource we use with at least decades of scientific development needed in the field of clean coal development. Wise resource development policy would first seek a technology that can reliably generate electricity through a combustion process that creates less than half of current emissions. Reduction of carbon dioxide emitted cannot be an insignificant fraction in the amount of those gases. The atmosphere is approaching a concentration of 400ppm of carbon dioxide far too fast. As recently as July of this year a major skeptic of the now nearly universally accepted scientific truth of human caused climate change reversed his stance on the subject. On July 28, 2012 Dr. Richard A. Muller wrote, in an op-ed in the New York Times, "Three years ago I identified problems in previous climate studies that, in my mind, threw doubt on the very existence of global warming. Last year, following an intensive research effort involving a dozen scientists, I concluded that global warming was real and that the prior estimates of the rate of warming were correct. I'm now going a step further: Humans are almost entirely the cause." The Berkeley project's research has shown, Muller says, "that the average temperature of the Earth's land has risen by two and a half degrees Fahrenheit over the past 250 years, including an

increase of one and a half degrees over the most recent 50 years. Moreover, it appears likely that essentially all of this increase results from the human emission of greenhouse gases." Muller now calls his stance, "a total tunaround." The LA times said that Muller has been conducting his research studies at UC-Berkely with the financial support of the Charles Koch Charitable Foundation, whose libertarian petrochemical billionaire founder Charles G. Koch, has a considerable history of backing groups that deny climate change. It appears to me that Muller has never been one to cry "wolf". He sees a real problem on this planet that has been very significantly caused by our greedy consumption of coal. Muller is a noted professor of physics at UC-Berkley and a former MacArthur Foundation Fellow.

Muller does not address the need of Africa, Southeast Asia, India, and China for adequate electrical power to mitigate the great poverty in those regions. We in the west, quite simply have less impending need for coal generated electricity than these huge economies of Asia. While we must assume the responsibility to take the lead in management of industrial gas emissions we cannot demand the same standard of countries dealing with the much more difficult problem of extreme life threatening poverty. If fact aiding those countries with alleviation of starvation and rampant epidemic should be the only priority we have equal to our responsibility as leaders in the stewardship of this planets environmental health.

In the developed economies of the US and western Europe we have the research resources to create reliable and highly efficient sources of electrical generation, yet China's coal plants are currently more efficient than those in the US, (Foreign Affairs, July/August 2012). One important driver of research is price and our coal prices are lower than prices in China. As a result, they have seen the need to get better at electrical generation and they now lead in efficiency improvement in alternative energy production as well as clean coal generation of power. To be competitive in the field of technical improvements we will have to use a portion of the price paid for coal to fund new research in energy efficiency.

The Montana DEQ should step up and engage in a complete analysis of the effects of greenhouse gas emissions from the burning of coal before considering the permitting of expanded coal production anywhere in this state. The Montana DEQ should lead this effort because it can. What the federal agencies do (EPA, DOD, etc.) to create the kind of setting needed for informed scientific decision making is of no importance. These federal agencies need to be driven not followed. This is an argument founded in ethical belief and informed by reasonable scientific analysis. Don't leave out the analysis. Remember that ethics are essential to compassionate government.

Thank you,

Howard Christiansen (M.S. in analytic chemistry)

resident of Bozeman, MT

#139

From:

brandt.reed@colorado.edu on behalf of Red Lodge Clearinghouse

<contactus@rlch.org>

Sent:

Sunday, November 04, 2012 12:48 PM

To: Subject: DEQ Coal Comments Rosebud mine expansion

Rosebud mine expansion

The following comment was sent by Red Lodge Clearinghouse (www.rlch.org) on behalf of:

louis garding

27480 seward hwy seward AK, 99664 9073624101 cochese1@hotmail.com

#### COMMENT

WTR 10000

Water is definitely the most valuable resource in this area that must be protected to the fullest extent. The surface land should also be protected and used to benefit local people with legitimate operations. If more coal mining permits are given in eastern Montana the main things that need to be considered are water, air, noise, and light pollution along with surface and groundwater resources. These should all be protected to the fullest extent.

Development should be restricted in these areas. They should be left as close to their natural state as possible.

Conservation is my main concern with these lands. The Montana DEQ should not offer any more mining permits. This is contributing to the demise of the atmosphere on the planet we live on for the profit of a corporation. The Montana DEQ will be destroying the quality of life for future generations by issuing any new permits for coal mining.

This would be alarmingly poor judgment. I urge you to protect the land, water, wildlife and people of Montana. I urge you to deny any future permits or applications to expand or develop any new or existing coal mining operations in Rosebud County.

The Red Lodge Clearinghouse does not monitor, review, or edit the content of comments sent through its website. The comments offered are those of the author and do not necessarily represent the views of the Red Lodge Clearinghouse, the Natural Resources Law Center, or its employees. If you would like to provide comments or feedback to the Red Lodge Clearinghouse about this service please contact us at <a href="mailto:content-service-s

#140

## **Emily Corsi**

From:

brandt.reed@colorado.edu on behalf of Red Lodge Clearinghouse

<contactus@rlch.org>

Sent:

Thursday, November 01, 2012 2:58 PM

To:

DEQ Coal Comments

Subject:

Rosebud mine expansion

Rosebud mine expansion

The following comment was sent by Red Lodge Clearinghouse (www.rlch.org) on behalf of:

Harold Miler

1920 W. Bijou Colorado Springs CO, 80904 7193289220 mlollc@me.com

#### COMMENT

PURP 2040

Ranching and agriculture do less damage to the land, air and water than coal mining does. Consequently, I encourage the Department to deny the application to expand a strip mine in Rosebud County owned by a subsidiary of Westmoreland Mining.

The Red Lodge Clearinghouse does not monitor, review, or edit the content of comments sent through its website. The comments offered are those of the author and do not necessarily represent the views of the Red Lodge Clearinghouse, the Natural Resources Law Center, or its employees. If you would like to provide comments or feedback to the Red Lodge Clearinghouse about this service please contact us at <a href="mailto:content-service-s

From:

meg.mobley@gmail.com on behalf of Meg Mobley <megleigh13@hotmail.com>

Sent:

Monday, November 05, 2012 10:32 AM

To: Subject: **DEQ Coal Comments** Rosebud mine expansion

Re: the EIS being developed for the proposed expansion of the Rosebud mine:

PURP 2048 Please consider whether the short term benefits in terms of employment and spending in the local economies are more or less than the long-term economic costs to the communities. These costs would result from any negative impacts on ranchers from any reduction in water quantity or quality, or loss of grazing land or division of with property by rail lines. Anything that affects ranchers' bottom line will affect the businesses that serve those MISC 1400 ranchers. All residents of the area may incur negative health impacts and medical costs from reduced air quality, which should also be considered. Let's not incur long-term economic (and environmental) losses for the sake of

Thank you,

short-term profits.

M Mobley

#142

# **Emily Corsi**

From:

Parker, James M < jmparker@pplweb.com>

Sent:

Friday, November 02, 2012 4:04 PM

To:

**DEQ Coal Comments** 

Cc:

Hallsten, Greg

Subject:

Scoping Comments

Attachments:

Scoping Cmts Final Submittalr 2Nov2012.pdf

Attached please find scoping comments for the EIS being conducted on the Western Energy Rosebud Mine Area F expansion.

Thank you.

Jim Parker PPL Montana 406-237-6932

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#142 - ATTACHMENT

James M Parker
Manager – Compliance Services, Env.
PPL Montana, LLC
303 N. Broadway, Suite 400
Billings, MT 59101
Tel. 406.740.9998 Fax 406.237.6901
jmparker@pplweb.com

November 2, 2012

#### -VIA Electronic Mail -

Mr. Greg Hallsten, Director's Office Montana Department of Environmental Quality 1520 E. Sixth Avenue P.O. Box 200901 Helena, MT 59620-0901

**Re:** Scoping Comments to Montana Department of Environmental Quality - Western Energy Rosebud Mine Area F Expansion Environmental Impact Statement

Dear Mr. Hallsten:

Attached please find scoping comments from PPL Montana, LLC in regard to the Western Energy Rosebud Mine Area F Expansion Environmental Impact Statement. We appreciate the opportunity to offer comments.

Should you have any questions, please contact me. Thank you.

Sincerely,

James M Parker, PE

Manager, Environmental Compliance Services

JMP/jmp

Attachment

#### PPL Montana, LLC

# Scoping Comments to Montana Department of Environmental Quality (DEQ)

### Rosebud Coal Mine Area F Expansion

#### **Environmental Impact Statement**

November 2, 2012

DEQ is requesting scoping comments regarding the Rosebud Coal Mine Area F Environmental Impact Statement (EIS). Western Energy Company (Western Energy) is requesting a permit to mine Area F, thereby expanding the existing Rosebud surface coal mine west of Colstrip, Montana. The proposed Area F permit area is owned or controlled by Western Energy and encompasses approximately 6,746 acres. It would add coal reserves to the existing Rosebud Mine and extend mine life by an estimated 19 years. DEQ deemed Western Energy's surface mine permit application complete on August 1, 2012 and is now preparing an EIS.

PPL Montana, LLC (PPLM) has an ownership interest in and operates the Colstrip Units 3&4 Steam Electric Station (CSES). PPLM appreciates the opportunity to provide scoping comments to DEQ and thanks DEQ in advance for its consideration of these comments.

It is our understanding that DEQ is currently planning to include within the scope of the EIS the issue of "Air Quality Permits" for CSES, which DEQ explained encompasses an assessment of air quality compliance impacts if CSES, one potential consumer, burns Area F coal. We understand that these impacts will be assessed as "cumulative", or secondary impacts.

First, PPLM believes that it is speculative and tenuous to consider downstream consumption by any ultimate purchaser of the coal including CSES. CSES is only one of many potential consumers and there is no logical basis to treat CSES any differently than any other potential consumer of the coal. Other than being a current and potential future customer, CSES is not related in any other way to the Rosebud surface coal mine and should be treated in a manner consistent with treatment of any other purchaser of the coal.

ALTS 300

However, if the DEQ chooses to include ultimate consumers of coal in its analysis, then DEQ should include all positive, as well as negative, impacts, especially socio-economic impacts, such as employment, tax payments, and improved infrastructure (roads, bridges, utilities). Specific information about these positive impacts with respect to CSES is available from many sources, including Colstrip area residents and businesses, the Southeast Montana Development Corporation, Colstrip governmental entities, and others. The report, The Economic Contribution of Colstrip Steam Electric Station Units 1-4, offers valuable information about the positive impacts of CSES. The report has previously been provided to DEQ and is also available at the following link: <a href="https://www.colstripeconomicreport.com">www.colstripeconomicreport.com</a>.

Such an analysis with respect to CSES would need to also acknowledge that a comprehensive EIS, which includes impacts to air quality, has already been conducted. That EIS was based upon the consumption of substantially similar coal to that of Area F. In the event CSES were to consume Area F coal, PPLM would not expect any increase in air emissions that would require additional controls. Air emissions from CSES are and always have been well regulated by EPA and the Air and Waste Management Bureau of DEQ. Such regulation will ensure that air quality impacts from the facility do not exceed what is allowed by the permits already in place for the facility.

As a final point, we would like to emphasize that should CSES consume Area F coal, this consumption would be in full compliance with all applicable regulations. CSES has state of the art and very efficient pollution control that has demonstrated a great capability to control emissions from consumption of Rosebud Seam coal.

AIR 130

TH4 600

# 143

From:

Shiloh Hernandez <a href="mailto:hernandez@westernlaw.org">hernandez@westernlaw.org</a>

Sent:

Monday, November 05, 2012 2:51 PM DEQ Coal Comments; Hallsten, Greg

To: Cc:

'Megan Anderson'

Subject:

scoping comments Rosebud Area F

**Attachments:** 

Scoping Comments - MEIC and Sierra Club - Rosebud Area F (Nov. 5, 2012).pdf

### Dear Mr. Hallsten and DEQ:

Attached are scoping comments for the proposed Area F expansion of the Rosebud strip-mine. I will be sending accompanying exhibits in subsequent emails.

Please let me know if there are any problems or if any of the sequentially numbered exhibits is not received (there are 43 exhibits).

Kind regards,

Shiloh Hernandez Staff Attorney Western Environmental Law Center 103 Reeder's Alley Helena, MT 59601 tel: 406.204.4861



#143 -

ATTACHMENT

Northwest Eugene, Oregon Southwest Taos, New Mexico

Northern Rockies Helena, Montana Southern Rockies
Durango, Colorado

Defending the West

www.westernlaw.org

# **Western Environmental Law Center**

Via electronic mail

November 5, 2012

Greg Hallsten
DEQ Director's Office
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901
t: 406-444-3276
ghallsten@mt.gov
deqcoalcomments@mt.gov

Re: Scoping Comments Rosebud Coal Strip-Mine Area F Expansion

Dear Mr. Hallsten:

### Introduction

The Western Environmental Law Center (WELC), on behalf of the Montana Environmental Information Center (MEIC) and the Sierra Club (collectively, "Citizens"), respectfully submits the following comments regarding the scope of the environmental impact statement (EIS) that the Department of Environmental Quality (DEQ) is preparing for the proposed Area F expansion of the Rosebud Strip Mine (project).

### I. Groups

MEIC is a 501(c)(3) nonprofit organization founded in 1973 with approximately 3,000 members throughout the United States and the State of Montana. MEIC is dedicated, in part, to the preservation and enhancement of the natural resources and natural environment of Montana and to the gathering and disseminating of information concerning the protection and preservation of the human environment through education of its members and the general public concerning their rights and obligations under local, state and federal environmental protection laws and

regulations. MEIC is also dedicated, in part, to assuring that federal officials comply with and fully uphold the laws of the United States that are designed to protect and enhance the environment from pollution. MEIC and its members have intensive, long-standing recreational, aesthetic, scientific, professional, and spiritual interests in the responsible production and use of energy, the reduction of greenhouse (GHG) pollution as a means to ameliorate our climate crisis, and the land, air, water, and community impacted by climate change. MEIC submits these comments on its own behalf and on behalf of its adversely affected members.

Sierra Club is America's oldest and largest grassroots environmental organization. Sierra Club has 1.4 million members and supporters. Founded in 1892, the Sierra Club has been working for well more than a century to protect communities, wild places, and the planet itself. Sierra Club is dedicated to exploring, enjoying, and protecting the wild places of the Earth; to practicing and promoting the responsible use of the Earth's resources and ecosystems; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. Sierra Club's concerns encompass the exploration, enjoyment and protection of the lands and waters of Montana. Sierra Club submits these comments on its own behalf and on behalf of its adversely affected members.

### II. History of Mine and Power Plant

Coal mining has occurred in Colstrip, Montana, for nearly a century. Under the auspices of the Montana Power Company, Western Energy Company assumed operations of the coal mines in Rosebud in anticipation of export to coal plants. In the early 1970s the Rosebud mine began supplying coal to the recently constructed Colstrip Steam Electric Station. When the Montana Department of Health and Environmental Sciences (the precursor to DEQ) approved construction of Colstrip units 1 and 2, it concluded: "While the technical specifications of the two plants required . . . the Department of Health and Environmental Sciences to grant the permits, the overall benefits associated with those plants were outweighed by the long range damage they would inflict on the area."

The Colstrip mine-power-plant complex is situated approximately fifteen miles north of the Northern Cheyenne Reservation.<sup>4</sup> Following construction of units 1 and 2, the Northern Cheyenne Tribe petitioned to reclassify the reservation as a Class I area under the federal Clean

<sup>&</sup>lt;sup>1</sup> K. Ross Toole, The Rape of the Great Plains 99 (1976).

 $<sup>^{2}</sup>$  Id

<sup>&</sup>lt;sup>3</sup> Kathleen McBride, Comment, *Implementing the Northwest Power Plan: Conflicts Within Montana's Facility Siting Act*, 5 Pub. Land L. Rev. 68, 78-79 (1984) (quoting MDHS, Final Environmental Impact Statement on the Proposed Montana Power Company Electrical Generating Plant at Colstrip, Montana (1973)).

<sup>&</sup>lt;sup>4</sup> Jana B. Milford, *Tribal Authority Under the Clean Air Act: How Is It Working?*, 44 Natural Resources J. 213, 231 (2004).

Air Act.<sup>5</sup> The reasons for the petition included a desire to preserve the existing culture on the reservation, to prevent further degradation of air quality in light of high rates of respiratory illness among residents of the reservation, and to prevent degradation of the reservation's vegetation, specifically Ponderosa pine forests. EPA approved the re-designation, energy companies—including Westmoreland Resources—sued, and Ninth Circuit Court of Appeals upheld the re-designation. Despite the re-designation of the Northern Cheyenne Reservation, Colstrip units 3 and 4 were subsequently approved and constructed. Montana Power Company nevertheless sued to exempt Units 3 and 4 from applicable provisions of the Clean Air Act, but failed. As a result, Units 3 and 4 were required to install pollution controls to prevent violating air quality standards on the reservation.

The Rosebud Mine has now been supplying ten to twelve million tons of coal annually to the Colstrip Station for nearly four decades (disturbing approximately 400 acres each year). To date, RECL 3000 the Rosebud Mine has disturbed over 17,000 acres, but not one percent of which has been fully reclaimed. Both the mine and the power plant continue to violate laws protecting air and water quality.10

### III. Some History of Region

Ever since the publication of the North Central Power Study in 1971, it has been apparent that the consortium of federal agencies, utilities, and energy companies behind the study had chalked up large portions of Montana as a "national sacrifice area." The study called for massive stripmining of coal in eastern Montana (and neighboring states) and construction of dozens of

<sup>&</sup>lt;sup>5</sup> *Nance v. EPA*, 645 F.2d 701, 704 (9th Cir. 1981). <sup>6</sup> 42 Fed. Reg. 40,695, 40,696 (Aug. 11, 1977).

<sup>&</sup>lt;sup>7</sup> Nance, 645 F.2d at

<sup>&</sup>lt;sup>8</sup> Mont. Power Co. v. EPA, 608 F.2d 334, 357-58 (9th Cir. 1979).

<sup>&</sup>lt;sup>9</sup> Mont. Dep't Envtl. Quality, Permit Fact Sheet for Permit No. MT0023965 at 3 (Mar. 2012); Office of Surface Mining Reclamation and Enforcement, Annual Evaluation Report for the Regulatory Program Administered by the Department of Environmental Quality Industrial and Energy Minerals Bureau of Montana for Evaluation Year 2011 (OSM 2011 Report) at ii-iii (noting that only 67 acres in all of Montana have received full bond release) (attached as Exhibit

Mont. Dep't Envtl. Quality, Permit Fact Sheet for Permit No. MT0023965 at 6 (noting violations discovered at 75% of recent inspections, including one instance of significant noncompliance); Notice of Intent to Sue, from George Hays, to PPL Montana, et al (July 25, 2012); Mont. Dep't of Envtl. Quality & PPL Montana, Administrative Order on Consent Regarding Impacts Related to Wastewater Facilities Comprising the Closed-Loop System at Colstrip Steam Electric Station, Colstrip Montana (July 30, 2012) (addressing ongoing leakage of pollution from storage ponds to ground and surface waters).

<sup>11</sup> K. Ross Toole, The Rape of the Great Plains at 4, 19-22; Peter Matthiessen, Indian Country 203-204 (1979).

gargantuan mine-mouth coal plants, including no less than twenty-one in Montana.<sup>12</sup> While the vision of the North Central Power Study was not fully realized (due to massive popular resistance in Montana and elsewhere), <sup>13</sup> portions of it have gone forward. One such piece is the mine-power-plant complex in Colstrip composed of the Rosebud Mine and the Colstrip Station.

### IV. EIS Must Address Impact of Combustion of Coal

In considering the impacts of a given action, DEQ must consider "primary, secondary, and per cumulative impacts." Mont. Admin. R. 17.4.617(4)(b). Primary impacts are not defined. Secondary impact is defined as "a further impacts to the human environment that may be stimulated or induced by or otherwise result from a direct impact of the action." Mont. Admin. R. 17.4.607(18). Cumulative impact is defined as "the collective impacts on the human environment of the proposed action when considered in conjunction with other past or present actions related to the proposed action by location or generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through preimpact studies, separate impact statement evaluation, or permit processing procedures." Mont. Admin. R. 17.4.603(7).

Here, there is no question that the coal mined in Area F will be burned at a coal-fired power plant, primarily the Colstrip Station.<sup>14</sup> In fact, the larger units 3 and 4 at the Colstrip Station are limited by permit to burning only Rosebud mine coal.<sup>15</sup> The Colstrip Station is in the process of seeking a revised Title V air permit with this same limitation.<sup>16</sup> The combustion of the coal will cause significant amounts of air pollution, solid waste (coal combustion waste), and subsequently water pollution. The combustion will additionally require significant amounts of water, the impacts of which must be considered. These are secondary and cumulative impacts, which must be evaluated in this EIS.

V. EIS Must Address a Reasonable Range of Alternatives

<sup>&</sup>lt;sup>12</sup> K. Ross Toole, The Rape of the Great Plains at 19-22; *see also Kleppe v. Sierra Club*, 427 U.S. 390, 396-98 (1976) (recounting proposed development); *Sierra Club v. Morton*, 514 F.2d 856, 861-70 (D.C. Cir. 1975) (recounting, in greater detail, history of the North Central Power Study), *rev'd* 427 U.S. 390.

<sup>&</sup>lt;sup>13</sup> Id. at 20-22.

Montana Department Environmental Quality, Permit Fact Sheet for Permit No. MT0023965 at 2-3. ("The primary customer of the coal is the Colstrip Power Plant . . . .").

Operating Permit #OP0513-06 ("The applicant will utilize only coal from the Rosebud seam.").

<sup>&</sup>lt;sup>16</sup> Montana Department of Environmental Quality, Air Quality Permits and Environmental Assessments, http://www.deq.mt.gov/AirQuality/ARMpermits/AirQuality.mcpx.

An EIS must contain a full discussion of reasonable alternatives. Mont. Code Ann. § 75-1-201(1)(b)(iv)(C); Mont. Admin. R. 17.4.617(5).

Here, reasonable alternatives should include scenarios outlining a transition of the Colstrip community from the current coal complex. This scenario should acknowledge that the coal complex will inevitably cease operations in the coming decades (and potentially much sooner). Indeed, the current owners of the Colstrip Station are giving indications that they want out. <sup>17</sup> One was even quoted at a recent forum saying, "We know the end point for coal is soon. We know that coal is a dead end." <sup>18</sup> Furthermore, it is clear that Colstrip is falling behind in competitive power markets. <sup>19</sup> These costs will only increase for the 40-year old plant, as it is required to install additional pollution controls, coal supplies become more expensive, maintenance costs increase, costs of new and pending environmental and health safeguards increase, and reclamation costs and pollution liabilities mount.

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In preparation for this inevitable transition, DEQ's EIS must consider the option of this coal not being used in a mine mouth operation but instead being transported to outside markets, including Asian markets. Analysis of this alternative should include the impacts caused by shipment of the coal across Montana, including analysis of the impacts of fugitive coal dust escaping from rail cars, <sup>20</sup> as well as potential dangers from derailments and air pollution from diesel locomotives.

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## VII. Secondary and Cumulative Actions Must Be Included

As stated above, in preparing an EIS, a state agency must fully evaluate primary, secondary, and cumulative impacts. Mont. Admin. R. 17.4.617(4)(b); Mont. Code Ann. § 74-1-201(1)(b)(iv)(A) (EIS must analyze the "environmental impacts of the proposed action").

Here, in addition to considering the combined cumulative impacts of the Colstrip Station, DEQ must consider past and future mining at the Rosebud Mine, as well as the on-going impacts of past mining at the Big Sky Mine, which has not been fully reclaimed. DEQ must also fully address cumulative impacts in the area that will amplify either the air or water impacts from the proposed mine expansion including but not limited to the resultant combustion of the coal in the

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<sup>18</sup> League of Women Voters Forum,

http://www.youtube.com/watch?v=JHdS8OBPyhc&feature=youtu.be

<sup>&</sup>lt;sup>17</sup> John Adams, Report: PPL Looking for Colstrip Buyer, Great Falls Trib. (Oct. 25, 2012).

<sup>&</sup>lt;sup>19</sup> Jason Brown, Montana Public Service Commission, Electric Supply and Residential Rates of Northwestern Energy at 11 (Oct. 23, 2012) (indicating cost of electricity from Colstrip is among highest in portfolio, much higher than wind from Judith Gap) (attached as Exhibit 2).

<sup>&</sup>lt;sup>20</sup> Surface Transportation Board, Decision, *Ark. Elec. Coop. Corp.—Pet. for Declatory Or.*, No. 35305 at 6-14 (Mar. 3, 2011) (concluding that coal dust from open-top rail cars is a "significant problem") (attached as Exhibit 3).

power plant, the coal ash disposal system, and the pumping of groundwater for coal sludge containment systems.

### VIII. EIS Must Address Climate Change and GHG Emissions

There is near universal agreement in the scientific community that human activity has resulted in atmospheric warming and planetary climate change.<sup>21</sup> Indeed, the world's leading minds and most respected institutions—guided by increasingly clear science and statistical evidence—agree that dramatic action is necessary to avoid planetary disaster.<sup>22</sup> Greenhouse gas (GHG) concentrations have been steadily increasing over the past century, and our insatiable consumption of fossil fuels is pushing the world to a tipping point where, once reached, catastrophic change will be unavoidable.<sup>23</sup> In fact, the impacts from climate change are already being experienced, with drought and extreme weather events becoming increasingly common, as more fully discussed below.<sup>24</sup> Renowned NASA climatologist Dr. James Hansen provides the analogy of loaded dice—suggesting that there still exists some climate variability, but that

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<sup>&</sup>lt;sup>21</sup> See, e.g., Intergovernmental Panel on Climate Change, United Nations, Summary for Policymakers, in Climate Change 2007: The Physical Science Basis (2007) (attached as Exhibit 4); Intergovernmental Panel on Climate Change, United Nations, Climate Change 2007: Synthesis Report (2007) (attached as Exhibit 5); U.S. Climate Change Science Program, Abrupt Climate Change (2008) (attached as Exhibit 6); James Hansen, et. al., Global Surface Temperature Change, Reviews of Geophysics, 48, RG4004 (June 2010) (attached as Exhibit 7); see also, Richard A. Muller, Conversion of a Climate Change Skeptic, NEW YORK TIMES, July 28, 2012 (attached as Exhibit 8).

<sup>28, 2012 (</sup>attached as Exhibit 8).

<sup>22</sup> See, e.g., Rob Atkinson, et. al., Climate Pragmatism: Innovation, Resilience, and No Regrets (July 2011) (attached as Exhibit 9); Veerabhadran Ramanathan, et. al., The Copenhagen Accord for Limiting Global Warming: Criteria, Constraints, and Available Avenues (Feb. 2010) (attached as Exhibit 10); Intergovernmental Panel on Climate Change, United Nations, Climate Change 2007: Synthesis Report; A.P. Sokolov, et. al., Probablistic Forecast for Twenty-First-Century Climate Based on Uncertainties in Emissions (without Policy) and Climate Parameters, J. of Climate (Oct. 2009) (attached as Exhibit 11); Bill McKibben, Global Warming's Terrifying New Math, ROLLING STONE, July 19, 2012 (attached as Exhibit 12).

<sup>&</sup>lt;sup>23</sup> See, e.g., James Hansen, *Tipping Point: Perspective of a Climatologist*, State of the Wild 2008-2009 (attached as Exhibit 13); Global Carbon Project, A framework for Internationally Coordinated Research on the Global Carbon Cycle, ESSP Report No. 1 (2003) (attached as Exhibit 14); International Energy Agency, CO<sub>2</sub> Emissions from Fuel Combustion, Highlights 2011 (attached as Exhibit 15); Global Carbon Project, 10 Years of Advancing Knowledge on the Global Carbon Cycle and its Management (2010) (attached as Exhibit 16).

<sup>&</sup>lt;sup>24</sup> See, e.g., Intergovernmental Panel on Climate Change, United Nations, Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (2011) (attached as Exhibit 17); Aiguo Dai, *Increasing Drought Under Global Warming in Observations and Models*, Nature: Climate Change (Aug. 2012) (attached as Exhibit 18); Stephen Saunders, et. al., Hotter and Drier: The West's Changed Climate (2008) (attached as Exhibit 19).

climate change is making extreme events ever more common.<sup>25</sup> Of course, coal is recognized as a principle driver behind climate change—representing over 40% of anthropogenic CO<sub>2</sub> emissions and more that 70% of CO<sub>2</sub> emissions from power generation—making it imperative that GHG emissions are considered in the this EIS.<sup>26</sup> Research conducted by the National Research Council has confirmed the fact that the negative impacts of energy generation from fossil fuels, principally coal generation, are not represented in the market price for such generation.<sup>27</sup> In other words, failing to internalize these externalities of coal generation—such as the impacts to climate change and human health—has resulted in a market failure that requires government intervention. This failure threatens to be exceedingly expensive, as the International Energy Agency recently concluded:

If stringent new action is not forthcoming by 2017, the energy-related infrastructure then in place will generate all the CO<sub>2</sub> emissions allowed in a 450 scenario up to 2035, leaving no room for additional power plants, factories, and other infrastructure unless they are zero-carbon, which would be extremely costly. Delaying action is a false economy: for every \$1 of investment avoided in the power sector before 2020 an additional \$4.3 would be needed to be spent after 2020 to compensate for the increased emissions.<sup>28</sup>

Accordingly, the EIS should address the externalities of coal generation, including a pathway toward mitigating climate change.<sup>29</sup>

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<sup>&</sup>lt;sup>25</sup> See, James Hansen, et. al., Climate Variability and Climate Change: The New Climate Dice (2011) (attached as Exhibit 20); James Hansen, et. al., *Perception of Climate Change*, Proceedings in the National Academies of Science (March 4, 2012) (attached as Exhibit 21); James Hansen, et. al., Increasing Climate Extremes and the New Climate Dice (Aug. 2012) (attached as Exhibit 22).

<sup>&</sup>lt;sup>26</sup> See, International Energy Agency, Power Generation from Coal (Oct. 2011) (attached as Exhibit 23).

<sup>&</sup>lt;sup>27</sup> See, e.g., National Research Council, Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use (2010) (attached as Exhibit 24); Paul Epstein, et. al., Full Cost Accounting for the Life Cycle of Coal, Ann. NY. Acad. Sci. 1219, at 73-98 (2011) (attached as Exhibit 25); Nicholas Muller, et. al., Environmental Accounting for Pollution in the United States Economy, American Economic Review at 1649-1675 (Aug. 2011) (attached as Exhibit 26).

<sup>&</sup>lt;sup>26</sup>).

<sup>28</sup> International Energy Agency, World Energy Outlook: Executive Summary (2012) (attached as Exhibit 27).

<sup>&</sup>lt;sup>29</sup> See, e.g., International Energy Agency, Executive Summary, Energy Technology Perspectives 2012: Pathways to a Clean Energy System (2012) (attached as Exhibit 28); United Nations, Intergovernmental Panel on Climate Change, Renewable Energy Sources and Climate Change Mitigation (2012) (attached as Exhibit 29).

Colstrip is the eighth largest single source of GHG emissions in the United States, and among the largest sources in the world.<sup>30</sup> Colstrip emits over 17,000,000 tons of CO<sub>2</sub> each year.<sup>31</sup> Over 40 years of operations, the plant has likely emitted over 500,000,000 tons of CO<sub>2</sub>. If all of the coal from Area F is burned at Colstrip, the total emissions from the Rosebud Mine will likely exceed one billion tons of CO<sub>2</sub>. These emissions are a direct result of coal being mined at the Rosebud Mine.

The Citizens recognize that the Montana Legislature has attempted to restrict the effects that can be considered in an EIS. Montana Code Annotated § 75-4-201(2)(a) was recently amended to read: "Except as provided in section (2)(b), an environmental review conducted pursuant to subsection (1) may not include a review of actual or potential impacts beyond Montana's borders. It may not include actual or potential impacts that are regional, national, or global in nature."

This provision should not prevent DEQ from fully addressing the effects of climate change (including how climate change will be exacerbated by the proposed expansion of the Rosebud strip mine). This is because the Citizens do not seek to have DEQ analyze the impacts of climate change beyond the borders of Montana. On the contrary, the Citizens seek and the plain language of § 75-4-201(1)(iv)(B) (providing that EIS must evaluate "any adverse effects on Montana's environment) mandates that DEQ address the impacts of climate change on the lands within the state of Montana. And it is clear that there are many and worsening impacts, CLIM 520 including: more extreme temperatures, more severe drought, more severe forest fires, outbreaks of forest pests, ecosystem disruption, decreased snowpacks, lower summer stream flow, stressed water supplies, increased fish kills, and more extreme precipitation events, and fundamental precipitation alterations.<sup>32</sup> These climatic and ecological impacts are and will continue to harm the state's economy and the well-being of Montanans, including: impacts to the forestry industry (fire, pests, and changing composition of forests), agriculture (hotter weather, increased drought, strained water), and tourism (decrease snowpack, dying forests, reduced cold-water fisheries).<sup>33</sup> Climate disruption is and will continue to have negative impacts on human health in Montana through more thermal stress, harm from increased extreme weather events, such as storms and

<sup>&</sup>lt;sup>30</sup> U.S. EPA, ghgdata, http://ghgdata.epa.gov/ghgp/main.do.

<sup>&</sup>lt;sup>31</sup> *Id.* 

<sup>&</sup>lt;sup>32</sup> Stephen Saunders, et. al., Hotter and Drier: The West's Changed Climate at 7-13, 19-29; U.S. Global Change Research Program, Global Climate Change Impacts in the United States 123-28, 135-38 (2009) (attached as Exhibit 30); .

<sup>&</sup>lt;sup>33</sup> *Id.*; see also, e.g., Tom Lutely, *West Nile Virus Cases Surface in Southern Montana*, Billings Gazette (Aug. 22, 2012), *available at* http://billingsgazette.com/news/state-and-regional/montana/west-nile-virus-cases-surface-in-southern-montana/article\_e94cc220-27da-5f8d-9d8b-358148b8e78d.html.

floods, and increased spread of disease such as *Salmonella*, *Cryptosporidium*, *Girardia*, West Nile virus, equine encephalitis, Lyme disease, hantavirus, and Rocky Mountain spotted fever.<sup>34</sup>

For DEQ to construe § 75-4-201(2)(a) to preclude any consideration of the impacts of climate disruption on Montana (the contribution to this disruption from coal strip-mined at the Rosebud Mine) would plainly violate the environmental protection provisions of Montana's Constitution. Montana's Constitution provides: "All persons are born free and have certain inalienable rights. They include the right to a clean and healthful environment . . . ." Mont. Const. art. II, § 3. Further:

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The state and each person shall maintain and improve a clean and healthful environment in Montana for present and future generations.

The legislature shall provide for the administration and enforcement of this duty.

The legislature shall provide adequate remedies for the protection of the environmental life support system from degradation and provide adequate remedies to prevent unreasonable depletion and degradation of natural resources.

Mont. Const. art. IX, § 1. These provisions are "anticipatory and preventative." *Mont. Envtl. Info. Ctr. v. Dep't of Envtl. Quality*, 296 Mont. 207, 230 (1999). To the degree that § 75-4-201(2)(a) purports to arbitrarily exempt certain undeniable impacts from review—impacts acknowledged by DEQ<sup>35</sup> and which will be aggravated by the voluminous emissions that would be caused by combustion of the coal in Area F—it implicates the Citizens' right to a clean and healthful environment. Because the provision would not pass muster under strict scrutiny review, it would be unconstitutional if applied in this case.

<sup>&</sup>lt;sup>34</sup> U.S. Global Change Research Program, Global Climate Change Impacts in the United States at 89-98; National Research Council of the National Academies of Science, Advancing the Science of Climate Change 309-19 (2010) (attached as Exhibit 31).

Montana DEQ, Climate Change in Montana, http://www.deq.mt.gov/ClimateChange/default.m

http://www.deq.mt.gov/ClimateChange/default.mcpx ("Global climate change is affecting Montana now and will continue to do so into the future. . . . Climate change will affect all of Montana's major economic sectors: agriculture, forestry, transportation and tourism, and energy supply. We may be challenged with decreased crop yields, longer forest fire seasons, reduced snowpack, and declining hydropower. The environmental costs may include reduced wildlife habitat and diminished water quality and stream flow. It is imperative that we all begin to do what we can to address this crucial issue for our own sake and the sake of the generations of Montanans to come.") (last visited Nov. 5, 2012).

The EIS must also analyze the methane emissions that will occur when the proposed strip mining occurs in Area F. These emissions are significant because methane has a much higher global warming potential than CO<sub>2</sub>. <sup>36</sup>

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The Rosebud Mine and Colstrip Station are not the only significant sources of GHGs in the Colstrip Area. There is also the Rosebud Power Plant to which the Rosebud Mine provides high sulfur, waste coal. Additionally, there is oil and gas drilling in Rosebud, Powder River, and Big Horn Counties.<sup>37</sup>

Once the EIS quantifies the total emissions GHG emissions directly, secondarily, and cumulatively caused by and related to the proposed strip-mining in Area F, it must then actually consider how those GHG emissions will impact the climate. The EIS should then address means of reducing or mitigating the impacts of the emissions and compare emissions and impacts across various alternatives. Without a hard look at cumulative GHG emissions, DEQ will not be able to craft a legally defensible EIS. The EIS must assign a monetary value for the GHG emissions that would result from the proposed strip mining in Area F and the subsequent combustion of the coal. Such monetization of the costs of GHG emissions is critical to inform decision-makers and the public about the value of the proposed action.

Given the implications of what climate change is doing to our global ecosystems, and the recognition by DEQ of GHGs contributing to climate change impacts in Montana, it is incumbent upon the preparers of the EIS to identify how the approval of the proposed strip-mine in Area F would affect global and local climate change and the related impacts of that change.

The National Aeronautics and Space Administration (NASA) has noted recent evidence of global climate change, including sea level rise, global temperature rise, warming oceans, shrinking ice sheets, declining Arctic sea ice, glacial retreat, extreme weather events, and ocean acidification. Local climate change concerns in Montana include drought, decreased water availability, decreased snow packs, increased wildfire, degraded landscapes, desertification, pollutant deposition, altered plant growing seasons, and adverse impacts to people and flora/fauna, among others stated above.

IX. GHG Emissions and Climate Change Must Guide Analysis of Impacts to Other Resources and Cumulative Environmental Impacts in EIS

<sup>37</sup> BLM, Pending Applications for Permits to Drill (Oct. 19, 2012); Mont. Bd. of Oil & Gas Conservation, Annual Review (2011).

<sup>&</sup>lt;sup>36</sup> Shindell et al., *Improved Attribution of Climate Forcing to Emissions*, 326 Science 716 (2009) (attached as Exhibit 32).

<sup>&</sup>lt;sup>38</sup> See NASA, Global Climate Change: Vital Signs of the Planet, available at http://climate.nasa.gov/evidence/.

An EIS must describe the current environmental conditions in the <u>area affected</u> by the action. Mont. Admin. R. 17.4.617(3).

Here, this description must include the impacts occurring due to climate change. The reality of climate change and its current impacts is scientifically undeniable:

Any scientific theory is . . . in principle, subject to being refined or overturned by new observations. In practical terms, however, scientific uncertainties are not all the same. Some scientific conclusions or theories have been so thoroughly examined and tested, and supported by so many independent observations and results, that their likelihood of subsequently being found to be wrong is vanishingly small. Such conclusions and theories are then regarded as settled facts. This is the case for the conclusions that the Earth system is warming and that much of this warming is very likely due to human activities.<sup>39</sup>

Climate change is currently impacting numerous natural systems that will also be impacted by the proposed strip-mine expansion at the Rosebud Mine. The EIS must, therefore, address synergistic cumulative effects from climate change at the Rosebud Mine, along with cumulative and secondary effects. The resilience and ability of plant and animal species to adapt to climate change will be hampered by air and water pollution from the Rosebud Mine and the Colstrip Station. The synergistic harm from climate change and the Rosebud Mine's primary impacts—from, for example, primary impacts to the hydrologic balance—as well as secondary impacts—from, for example, water used at the Colstrip Station—will exacerbate harms to surface waters and fisheries, especially East Fork Armells Creek, which is already an impaired waterway downstream from the mine and power plant. In short, given the projected cross-resource impacts of climate change, DEQ's EIS must consider how climate change is projected to impact water, (soil, vegetation, wildlife, endangered and threatened species, the economy, and vulnerable populations, both individually and cumulatively.

# X. EIS Must Address Drought Conditions and Water

Southeastern Montana is an arid environment, in which water resources are of fundamental importance. Both the Rosebud Mine and the Colstrip Station contribute to problems of water quality and quantity (to both surface and ground water). DEQ must take a hard look at the primary, secondary, and cumulative impacts of the proposed strip-mine expansion to water

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<sup>&</sup>lt;sup>39</sup> National Research Council of the National Academies of Science, Advancing the Science of Climate Change at 21-22.

<sup>&</sup>lt;sup>40</sup> Stephen Saunders, et. al., *Hotter and Drier: The West's Changed Climate* at 7-13, 19-29; U.S. Global Change Research Program, Global Climate Change Impacts in the United States at 123-28, 135-38.

resources. The EIS must address the existing impacts of strip-mining and power production on water resources in the area, which have rendered all segments of East Fork Armells Creek impaired. Specifically, the EIS should identify all point sources associated with the mine and power plant. It should also identify, analyze, and propose mitigation measures for water pollution caused by coal combustion waste from the power plant. This should include identification and analysis of all places that this coal ash is disposed of, for example backfilling in the mine or use on roads and parking lots. Additionally, other pollutants, such as mercury are both captured and not captured. Some mercury ends up on the leaking coal ash ponds in the area while other mercury is emitted from the power plant and deposited downwind. The EIS must consider how this pollution is impacting down-gradient and down-wind water resources.

The Colstrip Station and the Rosebud mine both negatively impact water quantity in the area. The mine dewaters and destroys aquifers. The power plant consumes tens of thousands of acre feet of water each year. In the EIS, DEQ must quantify the amount of water that is lost through these processes and determine the environmental impacts of this loss of fresh water. The EIS must identify and address the entire aquifer system that will be directly and indirectly impacted by the proposed strip-mining, and must do so in light of the environmental changes being wrought by climate disruption.<sup>42</sup>

WTR 10040

The Rosebud Mine impacts water quality in the region. Although the mine must address water quality issues to obtain its mining permits pursuant to SMCRA, and CWA permits, those requirements do not excuse DEQ from considering water quality issues at the mine in the EIS. Those processes should not be divorced from one another either. As such, the EIS should include an explanation as to how the mine will comply with substantive water protection requirements imposed by both SMCRA and the CWA.

Specifically with regard to SMCRA requirements, in order to obtain a permit for continued or expanded mining operations:

No permit or revision application shall be approved unless the application affirmatively demonstrates and the regulatory authority finds in writing on the basis of the information set forth in the application or from information otherwise available which will be documented in the approval . . . that: . . .

[t]he assessment of the *probable cumulative impact* of all anticipated mining in the area on the hydrologic balance specified in section 1257(b) of this title has

<sup>&</sup>lt;sup>41</sup> Montana Department of Environmental Quality, Final Water Quality Integrated Report at A-160 (2012).

<sup>&</sup>lt;sup>42</sup> Global Change Research Program, Global Climate Change Impacts in the United States at 123; Aiguo Dai, *Increasing Drought Under Global Warming in Observations and Models* Nature Climate Change (Aug. 5, 2012).

been made by the regulatory authority and the proposed operation thereof has been designed to prevent material damage to hydrologic balance outside permit area . . . .

30 U.S.C. § 1260(3) (emphasis added). In addition, SMCRA provides:

The permit application *shall* be submitted in a manner satisfactory to the regulatory authority and shall contain, among other things:

a determination of the probable hydrologic consequences of the mining and reclamation operations, both on and off the mine site, with respect to the hydrologic regime, quantity and quality of water in surface and ground water systems including the dissolved and suspended solids under seasonal flow conditions and the collection of sufficient data for the mine site and surrounding areas so that an assessment can be made by the regulatory authority of the probable cumulative impacts of all anticipated mining in the area upon the hydrology of the area and particularly upon water availability: Provided, however, That this determination shall not be required until such time as hydrologic information on the general area prior to mining is made available from an appropriate Federal or State agency: Provided further, That the permit shall not be approved until such information is available and is incorporated into the application . . . .

30 U.S.C. § 1257(b)(11)(emphasis added).

Given these requirements, it only makes sense that DEQ include the analysis required by SMCRA in the EIS. Otherwise, DEQ's analysis of the proposed alternative—continued and expanded mine operations—assumes without substantiation that the proposed mine operations can comply with the substantive provisions of SMCRA. Such a scenario would result in a cartbefore-the-horse analysis, as DEQ would essentially be performing an entire MEPA analysis for REG 5020 a proposal that may not be allowed to proceed under SMCRA. (To be clear, this does not mean to suggest that DEQ may issue the SMCRA permit prior to completion of the MEPA analysis; rather, DEQ's MEPA analysis must include the comprehensive hydrologic impacts analysis (CHIA). And no SMCRA permit may be issue until both analyses are completed in lawful fashion.)

Including this analysis would enable DEQ to satisfy part of its obligation pursuant to MEPA to take a "hard look" at water quality and quantity impacts to both surface and ground water resources, although DEQ would still need to consider the combined impacts of all of the pieces of the proposed action, as well as the cumulative impacts within the broader local and regional contexts.

WTR 10030 WTR 10040

The EIS must also address the impacts from storm water discharges from all industrial operations at the mine-power-plant complex, such as discharges from coal piles, waste piles, hazardous materials storage facilities, parking lots, equipment, Rosebud Mine expansion, transmission

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facilities and all other ancillary structures related to the components of the complex. The EIS should provide all Stormwater Pollution Prevention Plans (SWPPPs) for the project as part of the EIS.

Finally, the Citizens repeat and incorporate by reference the comments and objections raised in their comments submitted on October 1, 2012, regarding DEQ's completeness determination for the proposed Area F expansion.<sup>43</sup>

#### XI. EIS Must Address Coal Combustion Waste

Coal combustion waste (CCW) consists of fly ash, scrubber sludge and bottom ash. Seventeen potentially toxic elements are commonly present in CCW: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, hexavalent chromium, lead, manganese, mercury, molybdenum, nickel, selenium, vanadium, zinc and radionuclides. When CCW becomes saturated with water, leaching of these toxic elements may occur.

The EIS must address the past, present, and future storage of CCW generated by the Colstrip Station. The EPA recently determined that coal ash, due to the potential presence of numerous toxics, can pose a "substantial present or potential hazard to human health and the environment when improperly treated, stored, transported, and disposed of." 75 Fed. Reg. 35128, 35168 (June 10, 2010).

The mine-power-plant complex in Colstrip has a significant history of negative impacts from the disposal of CCW. This includes significant pollution of groundwater supplied due to the leaking ash ponds. Among other things, the EIS must address CCW storage facilities including the holding ponds, any landfills for CCW, specifics on the engineering of those facilities, leak detection systems, proximity to surface and/or ground water, dust suppression techniques, air quality monitoring, wind roses, and any other pertinent information. In addition, the EIS must include information about the permitting that allows storage and/or disposal to occur at the power plant site. The leaking storage ponds at Colstrip are in close proximity to the mine and

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<sup>44</sup> Physicians for Social Responsibility and Earthjustice, Coal Ash The Toxic Threat to Our Health and Environment, vii (2010) (attached as Exhibit 34); Earthjustice, EPA's Blind Spot: Hexavalent Chromium in Coal Ash (2011) (attached as Exhibit 35); Environmental Integrity Project, *Toxic Waters Run Deep* (2011) (attached as Exhibit 36).

<sup>&</sup>lt;sup>43</sup> Attached as Exhibit 33.

<sup>&</sup>lt;sup>45</sup> EPA, Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals From Electric Utilities, 75 Fed. Reg. 35128, 35168 (June 21, 2010).

share the same drainages. The EIS must contain a discussion of how these two activities are impacting ground and surface water quality in the area.

WTR 10020 WTR 10010

SER 630

DEQ's EIS must also analyze the history of use and disposal of CCW at the Rosebud Mine. For example, in its Area F application, Western Energy Company (WECo) acknowledges that it plans to use coal combustion waste on road beds in the mine area. The history and expected continuation of this practice must be disclosed and its environmental impacts documented.

Further, if any CCW is being moved from the Colstrip Area, the EIS must document where it is being taken and what environmental impacts it is causing.

In addition, and as discussed above, the EIS must provide alternatives for storage of CCW. Given the constituent elements in CCW, the EIS must consider an alternative that requires disposal of CCW in a hazardous waste landfill, especially in light of pending RCRA regulations that might require the same.

The EIS must also address whether current bonding and financial assurances are adequate given past, present, and proposed future use and disposal of CCW on the mine site. Full disclosure of terms of contractual agreements between the plant owners and WECo concerning ash disposal (CCW) must be included. The EIS must also address how CCW liabilities will be divided between these parties, including fiscal and financial responsibilities when the sites are scheduled for reclamation. The EIS must consider the financial plan for bonding and financial assurances sufficient to cover the cost of full remediation of past CCW use and disposal at the mine and power plant, with reasonably foreseeable projections for accumulation of CCW over the remaining life of the mine and power plant.

XII. EIS Must Quantify and Analyze Toxic Waste

<sup>&</sup>lt;sup>46</sup> SMCRA requires each applicant for a mining permit to submit a reclamation plan in sufficient detail to demonstrate compliance with the reclamation standards of the applicable regulatory program. 30 U.S.C. § 1257(d), 30 C.F.R. § 780.18-38. SMCRA and the regulations further require that the reclamation bond be "sufficient to assure the completion of the reclamation plan if the work had to be performed by the regulatory authority." 30 U.S.C. § 1259(a); 30 CFR § 800.14(b); *see also* Mont. Const. art. IX, § 2 ("All lands disturbed by the taking of natural resources shall be reclaimed.").

SMRCA regulations provide that the regulatory authority has the responsibility for setting the amount of the reclamation bond. As the relevant regulatory authority, DEQ has the responsibility for determining the amount of the reclamation bond at the Rosebud Mine. In determining the bond amount, DEQ may consider, but may not rely on, the cost estimates submitted by the mine operator. Handbook for Calculation of Reclamation Bond Amounts. However, in any event, DEQ must set the bond at an amount sufficient to assure completion of the reclamation plan if the work were to be performed by DEQ in the event of WECo's forfeiture.

For purposes of full disclosure in the EIS, the current releases of toxic waste at the Rosebud Mine must be evaluated in the EIS in conjunction with known data from the federal Toxic Release Inventory for the Rosebud Mine and the Colstrip Station. The toxic legacy of the mine-power-plant complex must be evaluated by DEQ. This evaluation should also determine which entities will assume financial responsibilities for the toxics that have been used and disposed of at the power plant and mine site.

In the EIS, DEQ must identify exactly where the toxic wastes are being stored on the mine and power plant sites. Please confirm that all toxics produced at the power plant are being stored on site and not being dumped in the Rosebud Mine. The EIS must evaluate the physical capacity and permitting needed to store, use, or dispose CCW and toxics on the mine or power plant site. It must also identify mitigation and protection measures in place to protect East and West Fork Armells Creek from CCW and toxics being permanently used, disposed of, or dumped on the mine or power plant site. The EIS should identify which entity(ies) will be fiscally responsible for the CCW and toxic wastes at the mine and power plant for their continued operational lives and at closure and decommissioning of both.

The potential human health-and environmental impacts and <u>risks</u> caused by storing and transporting toxic chemicals at the mine-power-plant complex must be analyzed over the proposed life of the mine and power plant. This should include analysis of any chemicals (i.e., ammonia) that will be used in any pollution controls at the power plant.

## XIII. EIS Must Evaluate Air Quality Impacts

Western Energy currently has an air quality permit from the DEQ that assumes the facility emits 48 tons per year of sulfur dioxide (SO<sub>2</sub>) emissions among other pollutants.<sup>47</sup> Air dispersion modeling performed on behalf of MEIC and Sierra Club demonstrates, based on 2011 emissions reported by the Colstrip Station in EPA's Clean Air Markets Database, that Colstrip's current 99th percentile hourly emissions (for Units 1-4) violate the 1-hour SO<sub>2</sub> NAAQS by a significant margin.<sup>48</sup> Even under EPA's newly established 30-day rolling average SO<sub>2</sub> emission limits for Units 1 and 2, 1-hour SO<sub>2</sub> NAAQS exceedances are almost certain to occur.<sup>49</sup>

Based on these initial modeling results, MEIC and Sierra Club commissioned follow up modeling to ascertain emission rates necessary to ensure compliance with the 1-hour SO2

<sup>48</sup> See C. Sears, Air Dispersion Modeling Analysis For Verifying Compliance with the One-Hour SO2 and NO2 NAAQS: PPL Montana – Colstrip Power Plant, at 15-16 (June 11, 2012) (attached as Exhibit 37).

<sup>&</sup>lt;sup>47</sup> DEQ Air Permit #1483-08.

<sup>&</sup>lt;sup>49</sup> *Id.* at 16. Although SO2 emissions limits for Units 1 and 2 are currently expressed as a 30-day average, DEQ must establish new limits with an averaging that matches the averaging time upon which NAAQS compliance is measured, i.e. one hour.

NAAQS. Because Colstrip Units 1 and 2 have a greater contribution to ambient concentrations of SO<sub>2</sub> than do Units 3 and 4, our analysis focused on needed limits from Units 1 and 2. This analysis concluded that to comply with the one-hour SO2 NAAQS, hourly SO2 emissions from Colstrip's units 1 and 2 cannot exceed 131 g/s each. This corresponds to an SO<sub>2</sub> emission limit of about 1,040 lb/hr for each unit (1 and 2). 50 DEQ must establish this as Colstrip's maximum hourly SO<sub>2</sub> emission limit to ensure compliance with the NAAOS.

Although DEQ must revise its state implementation plan (SIP) to develop strategies to ensure compliance with the new NAAQS statewide, this EIS must consider WECo's contribution to the exceedences of the standard and analyze means to decrease existing SO<sub>2</sub> emissions. Significant health impacts are attributable to short-term exposure to higher SO2 levels. See 75 Fed. Reg. at MIT 1520 35,550. Consistent with its constitutional obligations, DEQ may not authorize continuing emissions of unhealthful levels of SO2 from either the mine or the plant. These emissions and any necessary reductions should be considered.

#### XIV. EIS Must Evaluate Socioeconomic in the Region

The impacts to the economy that would result from the proposed action are of utmost concern. These impacts must consider, quantify, and monetize the environmental and public health impacts that would result from the proposed Area F expansion of the Rosebud strip-mine.<sup>51</sup>

ECON 800

#### XV. EIS Must Evaluate Public Health Impacts

"Among all industrial sources of air pollution, none poses greater risks to human health and the environment than coal-fired power plants."52 A recent study found that pollution from coal plants caused over 13,000 deaths in 2010 alone, along with tens of thousands of heart attacks and hospitalizations.<sup>53</sup> And Colstrip is one of the largest and dirtiest of coal plants. It is, for example, the eighth largest source of GHG emissions and among the largest sources of lead pollution in the nation.<sup>54</sup>

HLTH 1000 Given the ocean of pollution expelled from Colstrip, the EIS should include a thorough assessment of human health. This analysis should contain relevant data from Center for Disease

<sup>&</sup>lt;sup>50</sup> See L. Sears Memorandum at 2.

<sup>51</sup> See Paul Epstein, et al., Full Cost Accounting for the Life Cycle of Coal, Ann. N.Y. Acad. Sci. 1218 (2011); Nicholas Muller, et al., Environmental Accounting for Pollution in the United States Economy 101 Am. Econ. Rev. 1679 (2011).

<sup>&</sup>lt;sup>52</sup> Clean Air Task Force, The Toll from Coal 4 (2010) (attached as Exhibit 38).

<sup>53</sup> Id.; see also Epstein, et al., Full Cost Accounting for the Life Cycle of Coal at 85-87; Charles Cicchetti, Expensive Neighbors: The Hidden Costs of Harmful Pollution to Downwind Employers and Businesses (2010) (attached as Exhibit 39).

<sup>&</sup>lt;sup>54</sup> U.S. EPA, ghgdata, http://ghgdata.epa.gov/ghgp/main.do; Environmental Integrity Project, America's Top Power Plant Toxic Air Polluters 14 (2011) (attached as Exhibit 40).

Control, EPA, the State of Montana, as well as information from down-wind states. Moreover, the Northern Cheyenne and Crow tribes should be provided specific studies that evaluate life expectancies on their reservations compared to the general U.S. population, including mortality rates and rates for diseases such as diabetes, cancer, asthma and other respiratory illnesses, and heart disease. Accordingly, the EIS should provide comprehensive analysis of human health and other environmental factors that critically evaluate the impacts from the subject coal facilities. Among other things, the EIS should evaluate if there are disproportionate health impacts that may be occurring to the people living downwind of the mine-power-plant complex.

HUTH 1000

Additionally, the EIS must consider the cumulative effects on public health from emissions from neighboring power plants, as well as any existing or reasonably foreseeable oil and gas operations.

#### XVI. EIS Must Address Environmental Justice Issues

Coal mining and combustion across the world is associated with social injustice. Social impacts of coal include:

lack of community awareness of damage, distress resulting from concerns and uncertainties about the health impacts of mining-related pollution, . . . the impact of water pollution on securing safe water for drinking, producing food, swimming, and fishing, . . . the cost of environmental damage to communities and society, [the] inability of the community to capture economic benefits, social changes inhibiting the generation of alternative means of economic capital to mining, socio-demographic changes resulting in labour shortages in other industries; reducing access to and affordability of accommodation; increased road traffic accidents, increased pressure on local emergency services, [and] increases in criminal and other anti-social behaviours. <sup>55</sup>

Native American communities often bear a disproportionate share of industrialization's harmful byproducts, such as resource contamination and resource extraction. These communities often lack the political agency and economic leverage required for effective participation in environmental decision-making processes.

In Montana there has long been a concern that coal development would turn eastern portions of the state into a national "sacrifice zone." Coal development in Montana has historically been

<sup>56</sup> K. Ross Toole, The Rape of the Great Plains at 4.

<sup>&</sup>lt;sup>55</sup> Ruth Colaguiri et al., Beyond Zero Emissions, Health and Social Harms of Coal Mining in Local Communities v (2012) (attached as Exhibit 41).

focused on and near Indian lands.<sup>57</sup> The Northern Cheyenne tribe has often found its reservation imperiled by both coal development and pollution from Colstrip. When the tribe sought to obtain legal protections for itself from such development, it has had to defend its actions in court against powerful energy corporations.<sup>58</sup> Its efforts and surprising successes have often resulted despite the involvement of government agencies and not because of it.<sup>59</sup> In addition to the disproportionate impacts to Native American communities, the impacts of coal mining also disproportionately harm local communities that often lack the resources to protect themselves from large energy corporations. It is to mitigate these historical inequities that agencies now regularly address issues of environmental justice. *See* Executive Order 12898.

Here, the EIS will need to address health problems on the nearby Indian lands and adjacent landowners that may be caused by pollution from the Rosebud Mine/Colstrip Station energy complex. Specifically, the EIS should address impacts from blasting and fugitive dust emissions. These emissions likely contain, among other pollutants, mercury and radiological contaminants. This dust travels off-site and may contaminate residences. The dust also coat plants used by tribal members for medicinal purposes and grazing of livestock. These impacts must also be quantified with air pollutant emissions from the Colstrip Station. The EIS must address and mitigate any deterioration in air quality that is already being disproportionately experienced by the local populations.

The EIS should also address data from IHS and other medical facilities/agencies on the current health of tribal members on the nearby reservations. Specifically the EIS should identify and END include data on: asthma rates, cancer rates, respiratory disease, disease rates, etc. This data should be compared to similar national data. Additionally, the EIS must identify any environmental factors that may be contributing to health impacts of tribal members. The EIS should look at statistics on aging tribal populations and as compared to national averages—all related to human health. The EIS must establish a health baseline for citizens living in the shadow of mine and power plant.

The EIS must use an appropriate area of impact in explaining the effects of toxics. Information and references to background concentrations must be given for the Northern Cheyenne and Crow reservations.

Particulate Matter 2.5 microns in diameter (PM<sub>2.5</sub>) is a particularly worrisome air pollutant because its small size gives it the ability to pass through the nose and throat and lodge deep in

<sup>&</sup>lt;sup>57</sup> *Id.* at 50-68.

<sup>&</sup>lt;sup>58</sup> See supra Part II.

<sup>&</sup>lt;sup>59</sup> See, K. Ross Toole, The Rape of the Great Plains at 50-52.

the sensitive tissue of the body, causing numerous health problems in the heart and lungs. <sup>60</sup> The adverse health impacts from particulate matter include increased risk of cancer, heart disease, respiratory symptoms such as asthma, difficulty breathing, decreased lung function, chronic bronchitis, irregular heartbeat, heart attacks, enhanced allergic responses, and premature death. <sup>61</sup> Studies have also shown that particles can affect the autonomic control of the heart and circulatory system. Continued operation of Colstrip Station and Rosebud Mine could exacerbate daily PM<sub>2.5</sub> concentrations on the nearby reservations and adjacent lands. People on tribal lands would be bearing the brunt of the effects of this deadly form of pollution. Please fully analyze the impacts of PM<sub>2.5</sub> to the local population and use a consistent metric for explaining effects of PM<sub>2.5</sub>.

ENZ 900

The EIS must accurately analyze arsenic on local populations, specifically identifying cancer risks.

HLTH 1030

Due to the complex history of the region and the reliance on coal facilities for jobs, economics and revenue in the region, environmental justice issues also relate to the identification of ways to provide meaningful new economic opportunities/transitions that benefit local communities. To resolve historic inequities and known disproportionate impacts, the EIS must evaluate a transition plan for mine and power-plant complex that provides meaningful analysis for economic sustainable development, job creation and public health/natural resource protection for the area.

THY 6006

The EIS must also address the often invisible impacts of intensive resource development to native cultures. Such invisible impacts include: cultural and life-style losses, loss of identity, health losses, the loss of self-determination and influence, emotional and psychological losses, loss of order in the world, losses of traditional ecological knowledge, and indirect economic losses and lost opportunities for alternative development. DEQ should address these issues by directly reaching out to the Northern Cheyenne and Crow tribes. Thus, public meetings should be held not only in Colstrip, but also in Lame Deer. DEQ should determine what the central concerns are for the tribes and then construct alternatives that can respond to these concerns.

ENJ 930

XVII. EIS Must Address Cultural and Ecological Impacts

<sup>61</sup> Environmental Protection Agency, Particulate Matter, http://www.epa.gov/oar/particlepollution/health.html..

<sup>&</sup>lt;sup>60</sup> Environmental Protection Agency, Particulate Matter, http://www.epa.gov/oar/particlepollution/health.html (last visited Nov. 5, 2012).

<sup>&</sup>lt;sup>62</sup> See Nancy J. Turner, et al., From Invisibility to Transparency: Identifying the Implications, vol. 13 (2008) (attached as Exhibit 42).

An EIS must consider the impacts of a proposed action on the "human environment." Mont. Admin. R. 17.4.617(4). The human environment includes cultural resources. Mont. Admin. R. 7.4.603(12). Prior to conducting surface mining operations, the operator must describe measures to be taken to minimize impacts to cultural resources. Mont. Admin. R. 17.24.318. Because the United States owns interests in some of the lands that are to be strip-mined, MDEQ must assure compliance with the section 106 of the National Historic Preservation Act.

Here, DEQ must conduct a thorough study of the impact on cultural and historic resources, particularly the historic and cultural resources of the Northern Cheyenne and Crow peoples, as well as those of other pre-European native peoples. Area F is less than 15 miles north of the Northern Cheyenne Reservation and is in close proximity of areas of cultural and historical significance. Nevertheless, WECo's permit application contains no information about existing cultural resources or the potential impacts of the proposed strip-mining on such resources. See Permit Application at 318-1, 304-1 to -2, App. A (containing no information about cultural or historical resources); see also App. A at 172-178 (lease between BLM and WECo, requiring WECo to conduct a "cultural resource intensive field inventory" before "undertaking any activities that may disturb the surfaces of the leased lands"). Despite WECo's failure to address these resources, DEQ must consider them. Such resources include, but are not limited to, burial sites, cultural artifacts, sacred sites, traditional food sources and medicines, and species of particular cultural importance.

DEQ's analysis of traditional cultural resources should establish as the appropriate historical baseline: the historical condition of the area prior to any coal development. Any more recent baseline would fail to capture the totality of cultural losses from coal development at Colstrip.

CULT 740

Also, critically, DEQ must consult with the neighboring tribes to determine what values it must could 730 focus on it conducting its analysis of cultural impacts.

XVIII. EIS Must Address Endangered and Threatened Species

The EIS must address whether any threatened, endangered, or candidate species either reside in the vicinity of Area F or will be impacted by the direct, secondary, or cumulative effects of the proposed Area F expansion.

WLDF 12010

The United States Fish and Wildlife Service has determined that three threatened or endangered species are present in Rosebud County: black-footed ferret (*Mustela negripis*), lest tern (*Sterna antillarum athalassos*), and pallid sturgeon (*Scraphirhynchus albus*).<sup>63</sup> Two candidate species—greater sage grouse (*Centrocercus urophasianus*) and Sprague's pipit (*Anthus spragueii*)—are

<sup>&</sup>lt;sup>63</sup> U.S. Fish & Wildlife Service, Endangered, Threatened, Proposed, and Candidate Species Montana Counties 6 (Aug. 2012) (attached as Exhibit 43).

also present in Rosebud County.<sup>64</sup> It is also likely that another endangered species, Ute ladies'-tresses (*Spiranthes diluvialis*), are present in Rosebud County, given their known presence in adjacent areas in Wyoming.<sup>65</sup>

"[W]ith respect to any endangered species of fish or wildlife listed pursuant to section 1533 [of the Endangered Species Act], it is unlawful for any person subject to the jurisdiction of the United States to . . . take any any such species within the United States or the territorial sea of the United States." 16 U.S.C. § 1538(a)(1)(B). The same take prohibition also applies to threatened species. 50 C.F.R. § 17.31(a). "Take" is broadly defined to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such activity." 16 U.S.C. § 1532(19). "Person" is also broadly defined to mean "an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State." 16 U.S.C. § 1532(13) (emphasis added). Both civil and criminal penalties may be imposed for violations of the take prohibition. 16 U.S.C. § 1540(a)-(b). State agencies may be subject to sanctions under the ESA for permitting conduct that results in an unlawful take. Strahan v. Coxe, 127 F.3d 155 (1st Cir. 1997); United States v. Town of Plymouth, 6 F. Supp. 2d 81 (D. Mass 1998).

Here, given the broad scope of impacts associated with the proposed Area F expansion, which include significant ground disturbing activities, as well as air and water pollution associated with the mine and the power plant, DEQ must determine whether the proposed expansion will take (e.g., harm or harass) any of the listed or candidate species in Rosebud County or the broader impact area of the mine and power plant.

XIX. DEQ Must Obtain Comments from Federal Agencies Including NEPA Compliance from OSM

Under the State-Federal Cooperative Agreement between Montana and the U.S. Department of the Interior (Cooperative Agreement), DEQ has authority to regulate strip-mining of coal on federal lands. 30 C.F.R. § 926.30. However, no strip-mining may occur on lands containing leased federal coal until the Secretary of the Interior approves the mining plan. 30 C.F.R. § 746.11(a). Further, pursuant to the Cooperative Agreement, before any mining is permitted on federal leased coal, DEQ is responsible for "[o]btaining the comments and findings of Federal agencies with jurisdiction or responsibility over Federal lands affected by the operations

<sup>&</sup>lt;sup>64</sup> *Id.*; Montana Fish Wildlife and Parks, Montana Field Guide, http://fieldguide.mt.gov/detail ABNLC12010.aspx.

<sup>&</sup>lt;sup>65</sup> U.S. Fish & Wildlife Service, Wyoming Ecological Services, http://www.fws.gov/wyominges/Pages/Species/Species\_Listed/ULT.html (last visited Nov. 5, 2012).

proposed in the [permit application papers]." 30 C.F.R. § 926.30, art. VI.B.1.a(3). Furthermore, pursuant to the agreement, OSM must prepare "documentation to comply with the requirements of the National Environmental Policy Act (NEPA)." *Id.* at art. VI.B.1.b(1). Additionally, DEQ should cooperate with OSM in preparation of its environmental analysis to assure that it complies with both MEPA and NEPA, if possible. *Id.* 

Here, the proposed Area F expansion includes leased federal coal. Accordingly, DEQ must seek and obtain comments and findings from relevant federal agencies, including, at a minimum OSM, USFWS (for interagency consultation due to the presence of threatened and endangered species), and EPA due to air, water, and land pollution concerns. Furthermore, DEQ must prepare its MEPA analysis, if possible, together with OSM's NEPA analysis of the proposed action.

#### Conclusion

Thank you again for the opportunity to submit scoping comments. Please do not hesitate to contact me know if you have any questions about these comments. We look forward to working with you and participating in this EIS process.

Sincerely,

Shiloh Hernandez

Western Environmental Law Center

103 Reeder's Alley

Helena, MT 59601

t: 406.205.4861

hernandez@westernlaw.org

<sup>&</sup>lt;sup>66</sup> See Permit Application, 303-4 to -6, app. A at 160.

#144

#### **Emily Corsi**

From:

Sierra Club <information@sierraclub.org> on behalf of John Dillon <jfdillon4

@gmail.com>

Sent:

Sunday, November 04, 2012 8:17 PM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 4, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

As a Montana citizen, I urge the Montana Dept. of Environmental Quality to consider the following in their analysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years. This is unacceptable!;
- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal-when all costs are included--is a net economic loss.

Sincerely,

John Dillon 736 N Ewing St Helena, MT 59601-3605

#154

From:

Sierra Club <information@sierraclub.org> on behalf of Laura Black

liblack@alum.mit.edu>

Sent:

Sunday, November 04, 2012 10:46 AM

To:

**DEO Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 4, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their analysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;
- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal--when all costs are included--is a net economic loss.

The DEQ is charged to protect Montana's environment for generations. I respectfully request that you execute carefully your responsibility for stewardship.

Sincerely,

Laura Black 413 Overbrook Dr Bozeman, MT 59715-7149 (406) 586-7871

# 160

WTR 10010

From:

Sierra Club <information@sierraclub.org> on behalf of Sarah Dean

<impartialbystander@gmail.com>

Sent:

Saturday, November 03, 2012 5:15 PM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 3, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

I moved to this state because of the for the beauty and quality of the great outdoors and the natural resources of Montana. This is one of the few great places to live in America with this quality of life to be offered to its residents. Please continue to respect the land and the people who live here.

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

(1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;

(2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;

(3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal-when all costs are included--is a net economic loss.

Sincerely,

Sarah Dean 416 W College St Bozeman, MT 59715-5124

From:

Sierra Club <information@sierraclub.org> on behalf of Scott Buchner

<scottb@bresnan.net>

Sent:

Saturday, November 03, 2012 1:14 PM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 3, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;
- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

  Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what

impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and CUM 530

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal-when all costs are included--is a net economic loss.

At this point, quality of life here in Montana needs to trump other concerns, such as jobs and etc.

PURP 2040

WTR 10010

Sincerely,

Scott Buchner 298 Bridger View Dr Belgrade, MT 59714-3808 (406) 599-3868

#191

From:

Sierra Club <information@sierraclub.org> on behalf of Sandi Nichols

<sandrika.n@hotmail.com>

Sent:

Saturday, November 03, 2012 10:44 AM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 3, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten.

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;
- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal-when all costs are included--is a net economic loss.

Also, I am very much against sending more coal trains to the west coast--not great for Montana, and even worse for Sandpoint, ID, which is inundated with trains, noise, and resulting pollution!

Sincerely,

Sandi Nichols PO Box 626 Butte, MT 59703-0626

#209

From:

Sierra Club <information@sierraclub.org> on behalf of Jan Bertelsen-James

<jujyfrt@eurekadsl.net>

Sent:

Saturday, November 03, 2012 7:44 AM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 3, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;
- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and

HAVE YOU NOT NOTICED THE HUGE STORM IN EASTERN UNITED STATES. WHAT ARE YOU THINKING OF ... DEVELOPING MORE CARBON BASED ENERGY...KILLING ALL OF US...NO WAY TO COME BACK. REALLY, THE EARTH HAS TAKEN ENOUGH ABUSE.

PS 1910

Sincerely,

Jan Bertelsen-James PO Box 222 Eureka, MT 59917-0222

#216

WTR 10010

From:

Sierra Club <information@sierraclub.org> on behalf of Lowell Chandler

<lowell.chandler@gmail.com>

Sent:

Saturday, November 03, 2012 12:43 AM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 3, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;
- (2) Consider air quality modeling that showls violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and

- (4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal--when all costs are included--is a net economic loss.
- 5) Consider whether the expansion of this mine is for the Colstrip Power plant or if it's for export. If it's aimed at exporting coal then there should be an analysis of rail line impacts due to an increase of dirty coal trains.

Sincerely,

Lowell Chandler 120 N 2nd St E Apt B1 Missoula, MT 59802-3654 (406) 546-2578

#217

From:

Sierra Club <information@sierraclub.org> on behalf of Randall Gloege

<rgloege@msubillings.edu>

Sent:

Saturday, November 03, 2012 1:13 AM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 3, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;
- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal-when all costs are included--is a net economic loss.

Some attention must be paid to the fact that coal is the dirtiest of the fossil fuel choices. We need to back clean energy alternatives instead of coal. Such a policy is our only reasonable long-term alternative.

Sincerely,

Randall Gloege 343 N Rim Rd Billings, MT 59102-1016 (406) 248-8161

#258

From:

Sierra Club <information@sierraclub.org> on behalf of Robert Horne, Jr.

<rhorne@appcom.net>

Sent:

Friday, November 02, 2012 5:12 PM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 2, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

(1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;

- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal-when all costs are included--is a net economic loss.

You know how coal has become a political issue, but you also know how coal has lost market share as a power generations fuel and you know how dirty it is. Please consider that as well.

Sincerely,

Robert Horne, Jr. 151 Wedgewood Ln Whitefish, MT 59937-8154

#287

WTR 10010

From:

Sierra Club <information@sierraclub.org> on behalf of Clinton Nagel

<clint\_nagel@yahoo.com>

Sent:

Friday, November 02, 2012 4:42 PM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 2, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;
- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal-when all costs are included--is a net economic loss.

Finally, a personal note. After seeing the impacts on Hurricane Sandy recently, nothing indicates to me more that what we do here affects those of us around the world. Going back to the old fossil fuels of yesterday here in the new 21st century is pure folly. We need to start learning from our mistakes. Relying on old energy sources is already having a negative impact on life around the globe. We all need to start realizing that what we do here not only affects us locally, but globally.

If you add the potential of local water pollution to this argument, what are the positive benefits? A very few people will get rich at the expense of ruining the health of the globe and the livelihood of ranchers and farmers for years. You do not need to rubberstamp every coal mining permit that crosses your desk.

Thank you allowing me to comment.

Sincerely,

Clinton Nagel 266 Hanley Ave Apt A Bozeman, MT 59718-2031 (406) 600-1792

From:

Sierra Club <information@sierraclub.org> on behalf of Nike Stevens

<stevenswildlife@earthlink.net>

Sent:

Friday, November 02, 2012 4:42 PM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 2, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

REC 4000 WLDF 12030

I am concerned about the proposed expansion of the Rosebud mine. I have hiked and camped in the Rosebud area and the proposed expansion will destroy wildlands and valuable wildlife habitat. I am also very concerned about increasing WTR 10000 impacts to local waters. Is it worth it?

Right now the northeast US is staggering under the impact of a monster storm - exaserbated if not directly caused by global warming - yet here is yet another proposal to expand the mining of coal which holds the dubious honor of being the single greatest contributor to global warming. When will we change course recognize the reality that our earth and our climate have limits and understand that we and our children will all be better off if we grow a backbone and a brain and stop it now.

PS 1910

I urge the DEQ to deny the proposed mine expansion based on its environmental impacts both locally and globally. The Colstrip plant should not be expanded - it is the single greatest global warming polluter in Montana and it should be shut down.

Consider the following:

WTR 16010

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a WT12 10620 source of water pollution for 200 years;
- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years. CUM 510

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and consider CLIM 520 negative environmental affects of burning coat globally

CLIM 530 (4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coalwhen all costs are included--is a net economic loss. ECON 800

(5) this proposal is bad for Montana, bad for the US and bad for the health of the planet.

Sincerely,

Nike Stevens 15300 Horse Creek Rd Bozeman, MT 59715-9630 (406) 686-4283

#300

PURP 2020

From:

Sierra Club <information@sierraclub.org> on behalf of Charlotte Trolinger

<ctrolinger@imt.net>

Sent:

Friday, November 02, 2012 4:42 PM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 2, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

While Montana is far removed from the Atlantic coast and seemingly immune to threats from oceans rising due to global warming and climate change, any rational consideration of what we are doing to ourselves and the planet cannot ignore the most recent of our alerts as expressed by Hurricane Sandy. As anyone heeding weather events of the past year alone has noticed, we are in the throes of big changes. Nor have we been immune here in Montana anymore than has any other part of the planet. We ARE all connected and we MUST reverse our course in adding to the increasing burden of heating the atmosphere!

In other words, it's time to stop burning ourselves up by continuing to burn fossil fuels, especially coal! In addition to the larger overall problem of burning more coal as encouraged by expanding the Rosebud mine, I request DEQ heed these further reasons cited below, as compiled by the Sierra Club. Point #4 in particular may now seem an understated reference to the economic costs of the damage resulting ultimately by burning coal, in light of the costs already so fully apparent after Hurricane Sandy.

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their analysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that pit will be a source of water pollution for 200 years;
- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and CLIM 530

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal-when all costs are included--is a net economic loss.

We must change course. Thank you.

Sincerely,

Charlotte Trolinger 92 Browns Gulch Rd Boulder, MT 59632-9709 (406) 225-3580

# 307

From:

Sierra Club <information@sierraclub.org> on behalf of Albert Banwart

<abanwart@yahoo.com>

Sent:

Friday, November 02, 2012 4:12 PM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 2, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

(1) Will extending the mine cause any additional damage to surface or ground water? Since the mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years, the answer seems to b

WT10016

that that pit will be a source of water pollution for 200 years, the answer seems to be a definite yes. Therefore they mine should only be allowed to be expanded if there is NO water pollution. I would be willing to allow the mine to expand if all water is completely treated to remove all contaniments, including sentiment and minerals, before being released, and that the ground water will not be disturbed.

- (2) Will it impact air quality? Current air quality modeling shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. Until this is brought under control, and there are guarantees that additional mining will not violet the standards, expension should not be allowed, and current mining should be shut down. At a minimum, substantial fines (e.g., \$500,000 per day) should be imposed. In addition, all fines, penalties, etc. should be extended to the executives of the company, not just the company, including the taking of all benefits and resources to include homes, savings, investments, retirement accounts, and future income and benefits, except they would be allowed to retain benefits equal to the U.S. poverty rate. As it is, the executives are driving company policy, and receiving beneifts for violating laws, without paying consequences.
- (3) Will it impact climate change? Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and
- (4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal— when all costs are included—is a net economic loss. Therefore the company, and their executives, should be required to pay the U.S. government for any of the damages, including providing free health care for everyone in a 12 state area directly impacted by the coal plant and the burning of the coal.

Sincerely,

Albert Banwart 95 Sir Arthur Dr Bozeman, MT 59718-7817 (406) 586-5531

#311

From:

Sierra Club <information@sierraclub.org> on behalf of Bruce Hunner

<bruce\_hunner@yahoo.com>

Sent:

Friday, November 02, 2012 4:12 PM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 2, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten.

PURP 2020

Conservation and renewables should be promoted nationally and locally I do not want streams, ground water and air quality put in further jeapardy by any coal mine expansion.

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;
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- (3) Consider the climate change impacts of burning coal from the mine at Pennsylvania Power's Colstrip power plant for 19 more years.

Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and CLIM 530

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coal-when all costs are included--is a net economic loss.

Sincerely,

Bruce Hunner 486 N Gold Creek Loop Hamilton, MT 59840-9732 (406) 370-6498

WT 10010

#### **Emily Corsi**

From:

Sierra Club <information@sierraclub.org> on behalf of Charles Fitts <cfitts@mac.com>

Sent:

Friday, November 02, 2012 12:42 PM

To:

**DEQ Coal Comments** 

Subject:

Stop the expansion of the Rosebud coal-strip mine!

Nov 2, 2012

MT DEQ Director Greg Hallsten PO Box 200901 Helena, MT 59620-0901

Dear MT DEQ Director Hallsten,

Your Agency is the guarantor of the right of the citizens of Montana to a clean and healthy environment, embodied in the state's constitution.

The evidence of a century of modern coal-mining in this country (including in Montana), and the overwhelming body of scientific and human health research, is unequivocal witness to the guarantee that further coal-mining will damage the environment of this and every other state. You charge is to prevent this. Your charge is NOT to have an impact on the state's finances (good or bad), NOT to abet the commercial interests of non-Montana companies, and NOT to create solutions to Montana's employment profile (however illusory).

If only based on the following few points, I strongly urge you to perform your charter, to protect montana's Environmental Quality.

As part of the DEQ's environmental impact study on the Rosebud mine expansion I urge the department to consider the following in their anlaysis:

- (1) Consider whether the mine will further harm water quality in the area. Nearby streams like East Fork Armells are already impaired from discharges at the mine. The mine's owner, Western Energy Co., concedes that that pit will be a source of water pollution for 200 years;
- (2) Consider air quality modeling that shows violations in the Colstrip area of EPA's new 1-hr standard for sulfur dioxide. DEQ should analyze whether the mine's sulfur dioxide emissions would further contribute to violations of the health based 1-hr SO2 standard and should be reduced;
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Currently the Colstrip plant has the 8th highest greenhouse gas emissions in the United State. DEQ should consider what impacts climate change is having on Montana agriculture, water quantity, fisheries, and our economy; and

(4) Quantify and monetize the externalities of the coal burned, given that recent research shows that burning coalwhen all costs are included--is a net economic loss.

Sincerely,

Charles Fitts

1970 Alvina Dr Missoula, MT 59802-3666

From:

Phil Difani <pdifani@yahoo.com>

Sent:

Friday, November 02, 2012 12:16 PM

To:

**DEQ Coal Comments** 

A12 100

WTD 10000

Dear DEQ; The currant plans to expand the Rosebud Coal Mine need to consider the impacts on water and air and the consequences for future human caused climate change

Untill the industry acknowledges and acts upon these impacts and consequences, it should not be allowed to expand the mining and burning of coal.

Phil Difani

37 Ricketts Rd. Hamilton, MT59840

#359

#### **Emily Corsi**

From:

Nicole Bauman

Sent:

Friday, November 09, 2012 9:25 AM

To:

**Emily Corsi** 

Subject:

FW: Rosebud mine expansion

Follow Up Flag:

Follow up

Flag Status:

Flagged

----Original Message----

From: Gilbert, Sharona [mailto:SGilbert2@mt.gov]

Sent: Friday, November 09, 2012 8:19 AM

To: Nicole Bauman

Subject: FW: Rosebud mine expansion

Natalie here is a straggler.

----Original Message-----

From: brandt.reed@colorado.edu [mailto:brandt.reed@colorado.edu] On Behalf Of Red Lodge Clearinghouse

Sent: Wednesday, November 07, 2012 10:25 AM

To: DEQ Coal Comments

Subject: Rosebud mine expansion

Rosebud mine expansion

The following comment was sent by Red Lodge Clearinghouse (www.rlch.org) on behalf of:

Richard S Van Aken

68 Murray Rd. Holland PA, 18966-1740 215 322-4154 candyo 1@juno.com

#### COMMENT

I may be a long way from Montana coal country but here in Pennsylvania I don't have to drive far to see what coal mining both strip and deep mining have done to my home state.

The results aren't good we still have between 30-40% of our streams and rivers impacted by pollution from coal mining. The state has been trying for years at great expense to both citizens of the state and federal taxpayers to clean the mess up but due to circumstances has made little progress the last few decades.

Coal mining from beginning to end is an environmental disaster due to the impacts of all aspects of it's production and use.

PS 910

I'm opposed to any expansion of coal production it's too costly environmentaly and only benefits a very limited group of companies at the expense of everyone else.

If we ever address climate change coal use is one of the first things on the agenda and will probably drop greatly in usage as a source for power. There's no doubt we will have to address the issue sooner than later so why expand production of the most damaging of the fossil fuels?

The Red Lodge Clearinghouse does not monitor, review, or edit the content of comments sent through its website. The comments offered are those of the author and do not necessarily represent the views of the Red Lodge Clearinghouse, the Natural Resources Law Center, or its employees. If you would like to provide comments or feedback to the Red Lodge Clearinghouse about this service please contact us at <a href="mailto:content-service-s



# We Invite Your Comments

# Western Energy Rosebud Mine Area F Expansion Environmental Impact Statement

Name GLENN LOGAN	Date 10-16-12	
Company /Organization		
Street Address 348 POWER RD		
City, State, Zip Code COLSTRIP, MT	59323	
E-mail logangjeg.com		
0 00 C	TH	4 6000
Comments: LOOKS GOOD!	111	
	-	

Please continue on reverse side

