

Air Quality Permit

Issued to: Western Energy Company
P.O. Box 99
Colstrip, MT 59323

Permit #1570-06
Modification Request Received: 05/31/01
Dept. Decision on Modification: 07/03/01
Final Permit Issued: 07/19/01
AFS #: 087-0004

An air quality permit, with conditions, is hereby granted to Western Energy Company (Western Energy), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.701 *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

Western Energy operates a surface coal mine and extraction facility located in Area C of the Rosebud Mine. The total estimated coal production for the life of the mine is 170,000,000 tons. Area C is located west of Colstrip in Sections 1-3 of Township 1 North, Range 39 East; Sections 34-36 of Township 2 North, Range 39 East; Sections 1-6, 8-12, and 13-17 of Township 1 North, Range 40 East; and Sections 28, 29, and 31-33 of Township 2 North, Range 40 East of Rosebud County. The list of permitted equipment can be found in Section I of the permit analysis.

B. Current Permit Action

The current permit action is a modification of permit #1570-05. The Department of Environmental Quality (department) received a letter, dated April 27, 2001, from Western Energy requesting termination of their ambient air-monitoring network. Following the October 9, 1998, permitting guidance statement, the department reviewed the ambient air monitoring data. In a letter dated May 23, 2001, the department agreed to Western Energy's request to terminate the ambient monitoring program, effective July 1, 2001. This permit action updates the monitoring requirements to reflect the termination of the ambient air-monitoring network. Also, this permit action updates the permit format. Permit #1570-06 replaces permit #1570-05.

SECTION II: Conditions and Limitations

A. Emissions Limitations

1. All emissions at the Area C crusher and coal handling facility, including the negative pressure system on the truck dump, shall be vented to a common baghouse. Each of the three transfer points on the overland conveyor shall be controlled by a baghouse (ARM 17.8.340 and 40 CFR Part 60, Subpart Y).

2. Western Energy shall not cause visible emissions of greater than 20% opacity to be discharged into the atmosphere from any coal handling, conveying, crushing, processing, storing or loading system averaged over 6 consecutive minutes (ARM 17.8.308, 304, 340 and 40 CFR Part 60, Subpart Y).
3. The following control measures shall be applied on an as necessary basis (ARM 17.8.710 and 308):
 - a. Chemically stabilize and maintain all active haul and access roads and supplement by watering;
 - b. Apply water to temporary roads such as scraper travel areas;
 - c. Adequately maintain open coal storage and minimize equipment activity on stockpiles;
 - d. Minimize fall/drop distance on all coal and overburden handling activities;
 - e. Minimize area of surface disturbance;
 - f. Promptly revegetate exposed/disturbed areas, including temporary vegetative cover of topsoil stockpiles;
 - g. Minimize emissions from coal and overburden drilling through the use of dust curtains, water sprays, dust collectors, or other appropriate techniques;
 - h. Conduct blasting operations in such a manner as to minimize emissions, prevent overshooting, provide stemming of holes, and minimize area to be blasted;
 - i. Extinguish areas of burning or smoldering coal; and
 - j. Other control practices which may be determined by the department to be necessary.
4. Annual coal production shall be limited to 7,500,000 tons per year (ARM 17.8.710).

B. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The department may require testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. Western Energy shall supply the department with annual production information for all emission points, as required, by the department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the department by the date specified in the emission inventory request. Information shall be in units as required by the department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations. Western Energy shall submit the annual coal production to the department by March 1 of each year or with the annual emission inventory (ARM 17.8.505).

2. Western Energy shall notify the department of any construction or improvement project conducted pursuant to ARM 17.8.705(l)(r), that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit.

The notice must be submitted to the department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.705(l)(r)(iv) (ARM 17.8.705).

3. All records compiled in accordance with this permit must be maintained by Western Energy as a permanent business record for at least 5-years following the date of the measurement, must be available at the plant site for inspection by the department, and must be submitted to the department upon request (ARM 17.8.710).

D. Ambient Monitoring

1. PM-10 data has been collected at the Western Energy mine since 1992. During the 1992-2000 period, the annual means at all sites were less than 28% of the annual standard. For the 24-hour concentrations, all of the annual, maximum 24-hour values were less than 53% of the 24-hour standard. Therefore, in accordance with the October 9, 1998, monitoring guidance statement developed by the department, Western Energy may discontinue operation of their ambient air-monitoring network.
2. The department may require Western Energy to conduct additional ambient air monitoring, if necessary. (ARM 17.8.710).

Section III: General Conditions

- A. Inspection – Western Energy shall allow the department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Western Energy fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Western Energy of the responsibility for complying with any applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.701, *et seq.* (ARM 17.8.717).
- D. Enforcement - Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals - Any person or persons jointly or severally adversely affected by the department's decision may request, within 15 days after the department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The department's decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the department's decision until the conclusion of the hearing and issuance of a final decision by the Board.
- F. Permit Inspection - As required by ARM 17.8.716, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by department personnel at the location of the permitted source.
- G. Permit Fees - Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Western Energy may be grounds for revocation of this permit, as required by that Section and rules adopted thereunder by the Board.
- H. Construction Commencement - Construction must begin within 3-years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked.

Permit Analysis
Western Energy Company - Rosebud Mine - Area C
Permit #1570-06

I. Introduction/Process Description

A. Permitted Equipment

Western Energy Company (Western Energy) operates the following equipment at Area C of the Rosebud Mine.

1. "Coal handling facilities" include, but are not limited to:
 - a. Truck dump with two 500-ton capacity dump hoppers.
 - b. Two primary crushers with capacities of 1650 ton/hr each.
 - c. Two secondary crushers with capacities of 1650 ton/hr each.

NOTE: Only one dump hopper, primary crusher and secondary crusher will operate at a time, with the other being a redundant system. The crushers and conveyors at the preparation facility will be fully enclosed and vented to a central baghouse. The truck dump will have a negative pressure system vented to the central baghouse.

- d. One overland conveyor with a capacity of 1650 ton/hr, approximately 5 miles in length. The conveyor and transfer points will be fully enclosed and vented to baghouses. This conveyor transports coal from the Area C preparation facility to the Colstrip power plants, Units 3 and 4.
2. Necessary auxiliaries include, but are not limited to: draglines, coal shovels, trucks, front-end loaders, graders, scrapers, dozers, other mobile units, auxiliary facilities, etc., as applicable.

B. Source Description

Western Energy operates a surface coal extraction facility and mine located in Area C of the Rosebud Mine. Area C is located west of Colstrip in Sections 1-3 of Township 1 North, Range 39 East; Sections 34-36 of Township 2 North, Range 39 East; Sections 1-6, 8-12, and 13-17 of Township 1 North, Range 40 East; and Sections 28, 29, and 31-33 of Township 2 North, Range 40 East of Rosebud County. Area C has a maximum annual production limit of 7,500,000 tons of coal. The total estimated coal production for the life of the mine is 170,000,000 tons.

C. Permit History

Permit **#1570** was originally issued to Western Energy for Area C of the Rosebud Mine on August 2, 1982. The coal processing facilities, with emissions controlled by baghouses, included primary and secondary crushers and conveyors. Area C coal was used exclusively at the local power generating facilities known as Colstrip Units 3 and 4. An overland conveyor, with baghouse controls at each transfer point, transported coal 5 miles from Area C to the power plants. The original permit contained a coal production limit of 5.6 million tons per year. Overburden was stripped using standard dragline practices and shovel and truck removed coal. Other mine related activities included topsoil handling (primarily with scrapers), drilling and blasting of overburden and coal, vehicle traffic, and reclamation/farming activities.

Permit **#1570A** was a modification issued on January 6, 1986. The permit action discontinued ambient air monitoring for meteorological parameters and settled particulate matter (a.k.a. dustfall). Total suspended particulate (TSP) monitoring was still required; however, five TSP sites were discontinued, five existing TSP sites continued to operate, and two new TSP sites were added. Permit #1570A replaced permit #1570.

Permit **#1570B** was an alteration issued on December 22, 1988. The annual coal production limit was increased from 5.6 to 6.5 million tons per year. No changes were made to the coal mining methods or coal handling procedures. Permit #1570B replaced permit #1570A.

Permit **#1570C** was a modification issued on March 22, 1990 that dealt only with ambient air monitoring. A new particulate matter-monitoring site was required near Castle Rock Lake Drive. The description of monitoring sites #12 & #13 were revised to correct a transposition error from an earlier permitting action. Clarifying language was added that explained the department's policy for future ambient PM-10 monitoring requirements. Lastly, the ambient air monitoring requirements were removed from the body of the permit and placed in an attachment to the main permit (hereafter referred to as Attachment 1). Permit #1570C replaced permit #1570B.

Permit **#1570-04** was an alteration issued on September 1, 1994. The annual coal production limit was increased from 6.5 to 7.5 million tons per year. No other operational changes were made. Permit #1570-04 replaced permit #1570C.

Permit **#1570-05** was a modification issued on June 15, 2000. The permit action was an administrative change requested by Western Energy on March 30, 2000. Western Energy requested corrections to the site location description in their permit. Additionally, the permit was updated to reflect the current format and language used in permits. Permit #1570-05 replaced permit #1570-04.

D. Current Permit Action

The current permit action is a modification of permit #1570-05. The Department of Environmental Quality (department) received a letter, dated April 27, 2001, from Western Energy requesting termination of the ambient air-monitoring network. Following the October 9, 1998, permitting guidance statement, the department reviewed the ambient air monitoring data. In a letter dated May 23, 2001, the department agreed to Western Energy's request to terminate their ambient monitoring program, effective July 1, 2001. This permit action updates the monitoring requirements to reflect the termination of the ambient air-monitoring network. Also, this permit action updates the permit format. Permit #1570-06 replaces permit #1570-05.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT) determinations, air quality impacts, and environmental assessments is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available upon request from the department. Upon request, the department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 - General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions: This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Western Energy shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the department upon request.

4. ARM 17.8.110 Malfunctions. (2) The department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation, or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant which would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner that a public nuisance is created.

B. ARM 17.8, Subchapter 2 - Ambient Air Quality, including, but not limited to:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead, and
10. ARM 17.8.223 Ambient Air Quality Standard for PM-10.

Western Energy must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 - Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308, Particulate Matter Airborne. (1) This rule requires an opacity limitation of 20% for all fugitive emission sources and that reasonable precaution is taken to control emissions of airborne particulate matter. (2) Under this rule, Western Energy shall not cause or authorize the use of any street, road or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter Fuel Burning Equipment. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter Industrial Processes. This rule requires that no person shall cause, suffer, allow, or permit to be discharged into the outdoor atmosphere from any operation, process or activity, particulate matter in excess of the amount shown in this rule.
5. ARM 17.8.322, Sulfur Oxide Emissions-Sulfur in Fuel. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule
6. ARM 17.8.324(3) Hydrocarbon Emissions--Petroleum Products. No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule
7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). Western Energy is considered an NSPS affected facility under 40 CFR 60 and is subject to the requirements of the following subparts.

40 CFR Part 60, Subpart A, General Provisions.

40 CFR Part 60, Subpart Y, Coal Preparation Plants. This subpart requires affected facilities with any emissions containing particulate matter to not exhibit greater than 20 % opacity. Process operations at this facility that meet the definition of affected facilities include any coal processing and conveying equipment, coal storage systems, or coal transfer and loading systems.

8. ARM 17.8.341, Emissions Standards for Hazardous Air Pollutants. This source shall comply with the standards and provisions of 40 CFR Part 61, as appropriate.
- D. ARM 17.8, Subchapter 5 - Air Quality Permit Application, Operation and Open Burning Fees, including but not limited to:
1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the department. The current permit modification is an administrative action; therefore, a permit application and fee are not required.
 2. ARM 17.8.505, Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar

year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 - Permit, Construction and Operation of Air Contaminant Sources, including but not limited to:

1. ARM 17.8.701 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.704 General Procedures for Air Quality Preconstruction Permitting. This air quality preconstruction permit contains requirements and conditions applicable to both construction and subsequent use of the permitted equipment.
3. ARM 17.8.705 When Permit Required--Exclusions. This rule requires a facility to obtain an air quality permit or permit alteration if they construct, alter or use any air contaminant sources that have the potential to emit greater than 25 tons per year of any pollutant. Western Energy has the potential to emit greater than 25 tons per year of PM, PM-10, NO_x, SO₂, and VOC, therefore a permit is required.
4. ARM 17.8.706 New or Altered Sources and Stacks--Permit Application Requirements. This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. The current permit modification is an administrative action; therefore, a permit application is not required.
5. ARM 17.8.707 Waivers. ARM 17.8.706 requires that a permit application be submitted 180 days before construction begins. This rule allows the department to waive this time limit. The department hereby waives this time limit.
6. ARM 17.8.710 Conditions for Issuance of Permit. This rule requires that Western Energy demonstrate compliance with applicable rules and standards before a permit can be issued. Also, a permit may be issued with such conditions as are necessary to ensure compliance with all applicable rules and standards. Western Energy has demonstrated compliance with all applicable rules and standards as required for permit issuance.
7. ARM 17.8.715 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The current permit modification is an administrative action that will not increase emissions at this facility and no sources were added or altered; therefore, a BACT analysis is not required.

8. ARM 17.8.716 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the department at the location of the source.
 9. ARM 17.8.717 Compliance with Other Statutes and Rules. This rule states that nothing in the permit shall be construed as relieving Western Energy of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.701, *et seq.*
 10. ARM 17.8.720 Public Review of Permit Applications. This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. The current permit modification is an administrative action; therefore, a public notice is not required.
 11. ARM 17.8.731 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1-year after the permit is issued.
 12. ARM 17.8.733 Modification of Permit. An air quality permit may be modified for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.
 13. ARM 17.8.734 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the department.
- F. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration (PSD) of Air Quality, including but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications-- Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to the Federal Clean Air Act (FCAA) that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source since this facility is not a listed source and the source's potential to emit (excluding fugitive emissions) is below 250 tons

per year of any pollutant.

G. ARM 17.8. Subchapter 12 - Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. Potential to emit (PTE) > 10 ton/year of any one Hazardous Air Pollutant (HAP), PTE > 25 ton/year of a combination of all HAPs, or lesser quantity as the department may establish by rule;
 - b. PTE > 100 ton/year of any pollutant; or
 - c. Sources with the PTE > 70 ton/year of PM-10 in a serious PM-10 non-attainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #1570-06 for Western Energy, the following conclusions were made:
 - a. The facility's PTE is less than 100 ton/year for any pollutant, excluding fugitives.
 - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 ton/year of all HAPs.
 - c. This source is not located in a serious PM-10 non-attainment area.
 - d. This facility is subject to a NSPS.
 - e. This facility is not subject to any current NESHAP standards.
 - f. This source is not a Title IV affected source, nor a solid waste combustion unit.
 - g. This source is not an EPA designated Title V sources.

Therefore, a Title V operating permit is not required.

III. BACT Determination

A BACT determination is required for each new or altered source. Western Energy shall install on the new or altered source the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. There was no increase in emissions for the current permit modification because no sources were added or altered. Therefore, a BACT determination was not required.

IV. Emission Inventory

Table 1. Particulate Matter (PM) Emissions

Emission Source	Emission Factor	Units	Control Measure	%Control	Controlled PM (ton/year)
Top Soil Removal	0.38	lbs/yd ³	None	0	23.8
Overburden Drilling	1.5	lbs/hole	None	0	5.6
Overburden Blasting	37.5	lb/blast	None	0	1.8
Overburden Removal	0.03	lbs/yd ³	Minimize Fall Distance	0	464.2
Haul Roads	6	lb/vmt	Chemical Stabilization	85	252.4
Access Roads	3	lbs/vmt	Chemical Stabilization	85	162.7
Wind Erosion	0.38	ton/acre-yr	Prompt Revegetation	0	258.1
Coal Drilling	0.22	lbs/hole	None	0	3.4
Coal Blasting	26.25	lb/blast	None	0	3.6
Coal Removal	0.0021	lbs/ton	Minimize Fall Distance	0	7.9
Coal Dumping	0.01275	lb/ton	Partial Enclosure, Baghouse	90	4.8
Coal Crushing	0.08	lbs/ton	Baghouse	99	3.0
Conveyors	0.2	lb/ton	Baghouse	99	7.5
Vehicle Exhaust – Diesel	30.1	lbs/1000 gal	None	0	33.1
Vehicle Exhaust – Gas	6.06	lb/1000 gal	None	0	0.3
Total PM – Fugitive & Process					1442.1

Table 2. Gaseous Emissions

Pollutant	Ton/Year
Oxides of Nitrogen	377
Sulfur Dioxide	41
Carbon Monoxide	547
Volatile Organic Compounds	29

The values shown are the total emissions from vehicle exhaust (diesel and gasoline) and explosives detonation. Emission factors and process rates are available from the department.

V. Existing Air Quality

Prior to this permitting action, the department reviewed Western Energy’s request, dated April 27, 2001, to terminate the ambient PM-10 monitoring program. The review followed the department’s October 1998 Monitoring Requirements Guidance Statement. The review analyzed the PM-10 data collected at 7 sites at Western Energy’s operations since the changeover from TSP samplers in 1992 through 2000. During the 1992-2000 period, the annual means at all sites were less than 28% of the annual standard (50 µg/m³). For the 24-hour concentrations all of the annual, maximum 24-hour values were less than 53% of the

24-hour standard. The data from Western Energy’s air monitoring network indicates relatively low concentrations of PM-10 in the ambient air around their coal mining operation.

VI. Air Quality Impact Analysis

For permit #1574-04, Western Energy utilized two computer models, ISC2 and Complex I, to estimate air quality impact for the increase in production to a rate of 7.5 million ton/year. On-site meteorological data from the Montana Power Company’s (now Pennsylvania Power & Light) monitoring network was used in the models. Receptors in the models were placed at 100-meter intervals along the permit boundary with polar receptors extending out 3 to 4 kilometers from the permit boundary. The polar receptors were radially spaced at 1000 meters and 10-degree intervals. Preliminary model runs identified hot spot areas. For the hot spot areas, decreasing their intervals to 100 meters increased the receptor densities and the models were rerun. The following table summarizes the modeling results.

Table 3. Ambient Air Quality Modeling Results

Air Pollutant	Averaging Time Period	Model Receptor Locations		Modeled Concentrations (µg/m ³)	Ambient Standard (µg/m ³)
		UTM ¹ East (m)	UTM North (m)		
PM-10	24-hour	370025	5081530	101.0	150
	Annual	372544	5081530	20.2	50 ^a
NO ₂	1-hour	365248	5080998	399.4	564
	Annual	372544	5081530	14.5	94 ^a

^aNot to be exceeded more than once per year. ¹ UTM = Universal Transverse Mercator coordinate system.

These modeled values, when added to the measured or assumed baseline concentrations, were well below the applicable ambient standard. The application for permit #1574-04 contained a detailed description of the modeling exercise. There was no increase in emissions for permit #1574-05, nor any for the current permit modification; therefore, modeling was not required for the current permitting action.

VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the department has conducted a private property taking and damaging assessment and has determined that there are no taking or damaging implications.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was not required for the current permits modification because it is an administrative action.

Permit Analysis Prepared by: Robert K. Jeffrey
Date: June 26, 2001