Air Quality Permit

Issued to: Corixa Corporation
553 Old Corvallis Road
Hamilton, MT 59840

Permit #3251-00
Application Complete: 05/01/03
Preliminary Determination Issued: 06/04/03
Department Decision Issued: 06/23/03
Permit Final: 07/09/03
AFS #081-0008

An air quality permit, with conditions, is hereby granted to Corixa Corporation (Corixa), pursuant to Sections 75-2-204, 211, and 215, Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

Section I: Permitted Facilities

A. Permitted Equipment

Corixa operates a pharmaceutical preparations facility including a pathological waste incinerator (National Incinerator Model 2H44M) and the following associated equipment:

- Twenty space heaters – combined heat rate approximately 4,948,000 BTU/hr
- Eight boilers – combined heat rate approximately 12,667,000 BTU/hr
- One water heater – heat rate 199,000 BTU/hr
- One emergency generator
- Miscellaneous laboratory fume hoods

B. Plant Location

The facility is located in Section 7, Township 6 North, Range 20 West, Ravalli County, Montana. The physical address is 553 Old Corvallis Road, Hamilton, MT 59840.

SECTION II: Limitations and Conditions

A. Operational Requirements

1. Corixa shall not incinerate/cremate any material other than animal remains (which have not been exposed to infectious agents) and/or any corresponding cardboard or paper container material and other paper (from the facility excluding any paper used for bedding material for animals which have been exposed to infectious agents) unless otherwise approved by the Department of Environmental Quality (Department). Corixa shall provide written notice to the Department and obtain approval from the Department if material other than that defined above is to be incinerated (ARM 17.8.749).

2. The incinerator shall be equipped with auxiliary fuel burners. The auxiliary fuel burners shall be used to preheat the secondary chamber of the incinerator to the minimum required operating temperature prior to igniting the primary chamber burner. The operating temperatures shall be maintained during operation and for one-half hour after waste feed has stopped, as follows:
The secondary chamber operating temperature of the incinerator shall be

maintained above 1500°F for any one-hour averaging period with no single reading less than 1400°F (ARM 17.8.752).

3. Corixa shall operate the incinerator as specified in the application for Montana Air Quality Permit #3251-00. Further, Corixa shall develop incinerator operation procedures, print those procedures in an incinerator operation procedures manual and require all personnel who operate the incinerator to familiarize themselves with the operating procedures. A copy of this manual shall be supplied to the Department within 60 days of permit issuance (ARM 17.8.749).

4. The incinerator shall be limited to 500 hours of operation during any 12-month rolling time period (ARM 17.8.749).

5. The emergency generator shall be limited to 500 hours of operation during any 12-month rolling time period (ARM 17.8.749).

B. Emission Limitations

Corixa shall not cause or authorize to be discharged into the atmosphere from the incinerator:

1. Visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.752); and

2. Any particulate emissions in excess of 0.10 grains per dry standard cubic foot (gr/dscf), corrected to 12% CO_2 (ARM 17.8.752).

C. 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).

D. Monitoring Requirements

Corixa shall install, calibrate, maintain, and operate continuous monitoring and recording equipment on the incinerator to measure the secondary chamber exit gas temperature within 60 days of permit issuance. Corixa shall also record the daily quantity of material incinerated/cremated including the approximate percentages of animal remains, paper container material and other paper. The daily hours of operation of the incinerator must be recorded also (ARM 17.8.749).

E. Operational Reporting Requirement

1. Corixa 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 covered by this permit.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request.

Information shall be in units as required by the Department (ARM 17.8.505).

2. Corixa shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745(1) 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 emissions 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 17.8.745(1)(d) (ARM 17.8.745).

3. Corixa shall document, by month, the hours of operation for the incinerator at the facility. By the 25th day of each month, Corixa shall total the hours of operation for the incinerator during the previous 12 months to verify compliance with the limitation in Section II.A.4 (ARM 17.8.749).

4. Corixa shall document, by month, the hours of operation for the emergency diesel-fired generator at the facility. By the 25th day of each month, Corixa shall total the hours of operation for the diesel-fired generator during the previous 12 months to verify compliance with the limitation in Section II.A.5 (ARM 17.8.749).

5. The records compiled in accordance with this permit shall be maintained by Corixa as a permanent business record for at least 5 years following the date of the measurement, shall be submitted to the Department upon request, and shall be available at the plant site for inspection by the Department (ARM 17.8.749).

SECTION III: General Conditions

A. Inspection – Corixa 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 the terms, conditions, and matters stated herein shall be deemed accepted if Corixa fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Corixa of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*. (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action 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 therefore, 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 conclusion of the hearing and issuance of a final decision by the Board.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Corixa may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

Permit Analysis
Corixa Corporation
Permit #3251-00

I. Introduction

A. Permitted Equipment

On March 4, 2003, Corixa Corporation (Corixa) submitted an application for a Montana Air Quality Permit. The application was deemed complete as of May 1, 2003, upon receipt of amended information. The facility is located in Section 7, Township 6 North, Range 20 West, Ravalli County, Montana. The physical address is 553 Old Corvallis Road, Hamilton, Montana 59840. Equipment used at the facility includes, but is not limited to the following:

1. One National Incinerator Model 2H44M pathological waste incinerator
2. Twenty space heaters – combined heat rate approximately 4,948,000 BTU/hr
3. Eight boilers – combined heat rate approximately 12,667,000 BTU/hr
4. One water heater – heat rate 199,000 BTU/hr
5. One emergency generator (Caterpillar SR4B3500)
6. Miscellaneous laboratory fume hoods

B. Source Description

Corixa is a developer of immunotherapeutics. As part of the operation, animal carcasses, which have not been exposed to infectious agents, are disposed of by incineration. The incinerator is fueled by natural gas and is capable of incinerating up to 100 pounds per hour (lb/hr) of animal remains. Other minor emitting units at the facility are listed above. The heaters and boilers are natural gas fired and the emergency generator is diesel fired. The application was assigned Permit **#3251-00**.

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 of Environmental Quality (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).

Corixa shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, 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 that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

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

1. ARM 17.8.210, Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211, Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212, Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.214, Ambient Air Quality Standard for Hydrogen Sulfide
5. ARM 17.8.220, Ambient Air Quality Standard for Settled Particulate Matter
6. ARM 17.8.223, Ambient Air Quality Standard for PM_{10}

Corixa must comply with all applicable ambient air quality standards. As part of the risk assessment required for this project, the Department conducted Screen View modeling, an EPA-approved air dispersion model. This analysis demonstrated that the proposed project would comply with all applicable ambient air quality standards as required for permit issuance.

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. This rule requires an opacity limitation of 20% for all fugitive emission sources and that reasonable precautions be taken 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 Process. 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.

5. ARM 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Also, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator, emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes. This rule does not apply to the incinerator because Corixa has applied for and received an air quality permit in accordance with ARM 17.8.770 and MCA 75-2-215.

6. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.

7. ARM 17.8.340 New Source Performance Standards. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of an affected facility under any NSPS subpart defined in 40 CFR 60.

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. Corixa shall 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. Corixa submitted the appropriate permit application fee for the current permit action.

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; and the air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

The annual assessment and collection of the air quality operation fee, as 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 pro-rate 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 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits -- When Required. 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. Corixa does not have the potential to emit more than 25 tons per year of any pollutant; however, in accordance with MCA 75-2-215, an air quality permit must be obtained prior to incinerator construction and operation, regardless of potential incinerator emissions. Because Corixa must obtain an air quality permit, all normally applicable requirements apply in this case.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that are not subject to the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. Corixa submitted the required permit application for the current permit action, although the incinerator had been in use for approximately 2 years prior to the submittal. The noncompliance issue is under review by the Department. (7) 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. Corixa submitted an affidavit of publication of public notice for the February 28, 2003, issue of the *Ravalli Republic*, a newspaper of general circulation in the Town of Hamilton in Ravalli County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 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 Best Available Control Technology (BACT) shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 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 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Corixa of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 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 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended 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. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, subchapters 8, 9, and 10.

14. ARM 17.8.765 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.

15. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).

F. ARM 17.8, Subchapter 8, Prevention of Significant Deterioration 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 ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under 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 facility's potential to emit is below 250 tons per year of any pollutant (excluding fugitive emissions).

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 stationary source having:

   a. Potential to Emit (PTE) > 100 tons/year of any pollutant;

   b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

   c. PTE > 70 tons/year of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (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 Montana Air Quality Permit #3251-00 for Corixa, the following conclusions were made.

   a. The facility's PTE is less than 100 tons/year for any pollutant.

   b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year of all HAPs.

   c. This source is not located in a serious PM_{10} nonattainment area.

   d. This facility is not subject to any current 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 as defined in Title IV.

   g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Corixa will be a minor source of emissions as defined under the Title V operating permit program.

H. MCA 75-2-103, Definitions provides, in part, as follows:

1. "Incinerator" means any single or multiple-chambered combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destruction, disposal, or volume reduction of all or any portion of the input material.

2. "Solid waste" means all putrescible and nonputrescible solid, semisolid, liquid, or gaseous wastes, including, but not limited to...air pollution control facilities...

I. MCA 75-2-215, Solid or hazardous waste incineration - additional permit requirements:

1. MCA 75-2-215 requires air quality permits for all new commercial solid waste incinerators; therefore, Corixa must obtain an air quality permit.

2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including hazardous air pollutants from the incineration of solid waste. The Department determined that the information submitted in this application is sufficient to fulfill this requirement.

3. MCA 75-2-215 requires that the Department reach a determination that the projected emissions and ambient concentrations constitute a negligible risk to public health, safety, and welfare. The Department completed a health risk assessment based on an emission inventory and ambient air quality modeling for this proposal. Based on the results of the emission inventory, modeling, and the health risk assessment, the Department determined that Corixa's proposal complies with this requirement.

4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or exceed BACT. The Department determined that the proposed incinerator constitutes BACT.

III. Best Available Control Technology Analysis

A BACT determination is required for each new or altered source. Corixa 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. In addition, MCA 75-2-215 requires a BACT determination for all pollutants, not just criteria pollutants.

The Department reviewed other BACT analyses as part of this analysis. Corixa proposes to control the emissions from the incinerator with a secondary chamber designed specifically to reduce the amount of pollutants, including hazardous air pollutants, emitted from the incinerator. Previous research conducted by the Department indicates very few incinerators (crematoriums) have been required to install additional air pollution control equipment beyond that provided by the design of the incinerator. With the estimated particulate matter emissions being 0.10 tons per year, the incremental cost per ton of additional control would be very high and not in line with control costs of other similar sources. In addition, the incinerator is limited by permit to 0.10 grains per dry standard cubic foot (gr/dscf) for particulate matter and to 10% opacity. Therefore, the Department determined that compliance with the particulate matter and opacity emission limits, with no additional controls required, constitutes BACT for this source.
BACT for products of combustion (CO, NO_X, VOCs) and hazardous air pollutants from an incinerator is good combustion including the requirement that the secondary chamber must be

maintained at an operating temperature, which exceeds 1500ºF on an hourly average with no single reading less than 1400ºF. The operating procedures and minimum temperature requirements contained in the permit will ensure good combustion and will constitute BACT for this source.

No additional controls for pollutants from natural gas combustion was determined to be BACT for the small heaters and boilers at the facility given the small amount of emissions and prohibitive costs for control.

Given the relatively small amount of NO_x, CO, PM_{10}, VOC, and SO_2 from the emergency generator and the incrementally high cost of additional controls, BACT was determined to be good operational practices (proper design, maintenance, and combustion) and no additional controls for these pollutants in this case.

The laboratory fume hoods emit a very small amount of pollutants. Therefore, the installation of add-on controls would be cost prohibitive. The Department determined that no additional controls constitutes BACT in this case.

The control options that have been selected as part of this review have controls and control costs similar to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

An emission inventory was completed for Corixa's proposal. This emission inventory for criteria pollutants was based on emission factors from the AIRS FACILITY SUBSYSTEM SOURCE CLASSIFICATION CODES (AFSSCC) manual dated March 1990. The application indicated that the fuel used would be natural gas; therefore, the Department also used emission factors from AP-42, Section 1.4, Natural Gas Combustion.

The Department developed a hazardous air pollutant emission inventory using those emission factors contained in FIRE (the EPA emission factor repository) under SCC 5-02-005-05, pathological incineration. The Department considered only those HAPs for which an emission factor was available and that have been analyzed for other similar permitted sources.

Criteria Pollutant Emissions (tons/year)						
Source	**PM**	**PM_{10}**	**NOx**	**VOC**	**CO**	**SOx**
Incinerator Process	0.100	0.074	0.038	0.038	0.00	0.100
Natural Gas Combustion – Incinerator	0.003	0.003	0.040	0.002	0.034	0.001
Natural Gas Combustion – Heaters and Boilers	0.593	0.593	7.803	0.429	6.554	0.047
Emergency Generator	0.280	0.280	9.660	0.260	2.210	0.810
Total Criteria Pollutant Potential Emissions	**0.976**	**0.950**	**17.54**	**0.729**	**8.798**	**0.958**

Incinerator Hazardous Air Pollutant Emissions	
HAP	**tons/year**

Bromoform	3.625E-07
Carbon Tetrachloride	7.175E-07
Chloroform	6.814E-07
1,2-Dichloropropane	1.650E-05
Ethyl Benzene	2.012E-05
Naphthalene	1.450E-04
Tetrachloroethylene	5.038E-07
1,1,2,2-Tetrachloroethane	1.375E-06
Toluene	5.776E-05
Vinylidine Chloride	8.875E-07
Xylene	2.750E-05
Total HAP Potential Emissions	**2.710E-04**

CRITERIA POLLUTANT EMISSION CALCULATIONS

Incinerator Process

Maximum Rated Design Capacity: 100 lb/hr
Operating Hours: 500 hr/yr
Conversion: 100 lb/hr * 500 hr/yr * 0.0005 ton/lb = 25 ton/yr

PM Emissions
Emission Factor: 8.00 lb/ton (AFSSCC 5-02-005-05, 03/90, Page 227)
Fuel Consumption: 25 ton/year (Allowable Rate)
Calculations: 25 ton/year * 8 lb/ton * 0.0005 ton/lb = 0.10000 ton/yr

PM_{10} Emissions:
Emission Factor: 5.92 lb/ton (AFSSCC 5-02-005-05, 03/90, Page 227)
Fuel Consumption: 25 ton/year (Allowable Rate)
Calculations: 25 ton/year * 5.92 lb/ton * 0.0005 ton/lb = 0.0740 ton/yr

NO_X Emissions:
Emission Factor: 3.00 lb/ton (AFSSCC 5-02-005-05, 03/90, Page 227)
Fuel Consumption: 25 ton/year (Allowable Rate)
Calculations: 25 ton/year * 3 lb/ton * 0.0005 ton/lb = 0.0375 ton/yr

VOC Emissions:
Emission Factor: 3.00 lb/ton (AFSSCC 5-02-005-05, 03/90, Page 227)
Fuel Consumption: 25 ton/year (Allowable Rate)
Calculations: 25 ton/year * 3 lb/ton * 0.0005 ton/lb = 0.0375 ton/yr

CO Emissions:
Emission Factor: 0.00 lb/ton (AFSSCC 5-02-005-05, 03/90, Page 227)
Fuel Consumption: 25 ton/year (Allowable Rate)
Calculations: 25 ton/year * 0 lb/ton * 0.0005 ton/lb = 0.00 ton/yr

SO_X Emissions:
Emission Factor: 8.00 lb/ton (AFSSCC 5-02-005-05, 03/90, Page 227)
Fuel Consumption: 25 ton/year (Allowable Rate)
Calculations: 25 ton/year * 8 lb/ton * 0.0005 ton/lb = 0.1000 ton/yr

Natural Gas Fuel Combustion

--Incinerator
Heat Input Value: 1.6 MMBtu/hr (Company Information)
Hours of Operation: 500 hr/yr
Fuel Heating Value: 0.001 MMScf/MMBtu

PM Emissions:

All PM emissions assumed to be PM_{10} emissions (AP-42, Table 1.4-2, 07/98)

PM_{10} Emissions:
Emission Factor: 7.6 lb/MMScf (AP42, Table 1.4-2, 07/98)
Calculations: 7.6 lb/MMScf * 1.6 MMBtu/hr * 0.001 MMScf/MMBtu = 0.0122 lb/hr
0.0122 lb/hr * 500 hr/yr * 0.0005 ton/lb = 0.0031 ton/yr

NO_X Emissions:
Emission Factor: 100 lb/MMScf (AP42, Table 1.4-1, 07/98)
Calculations: 100 lb/MMScf * 1.6 MMBtu/hr * 0.001 MMScf/MMBtu = 0.1600 lb/hr
0.1600 lb/hr * 500 hr/yr * 0.0005 ton/lb = 0.0400 ton/yr

VOC Emissions:
Emission Factor: 5.5 lb/MMScf (AP42, Table 1.4-2, 07/98)
Calculations: 5.5 lb/MMScf * 1.6 MMBtu/hr * 0.001 MMScf/MMBtu = 0.0088 lb/hr
0.0088 lb/hr * 500 hr/yr * 0.0005 ton/lb = 0.0022 ton/yr

CO Emissions:
Emission Factor: 84 lb/MMScf (AP42, Table 1.4-1, 07/98)
Calculations: 84 lb/MMScf * 1.6 MMBtu/hr * 0.001 MMScf/MMBtu = 0.1344 lb/hr
0.1344 lb/hr * 500 hr/yr * 0.0005 ton/lb = 0.0336 ton/yr

SO_X Emissions:
Emission Factor: 0.6 lb/MMScf (AP42, Table 1.4-2, 07/98)
Calculations: 0.6 lb/MMScf * 1.6 MMBtu/hr * 0.001 MMScf/MMBtu = 0.0010 lb/hr
0.0010 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0002 ton/yr

--Boilers and Heaters
Heat Input Value: 17.814 MMBtu/hr (Company Information) Combined value for all units
Hours of Operation: 8760 hr/yr
Fuel Heating Value: 0.001 MMScf/MMBtu

PM Emissions:

All PM emissions assumed to be PM_{10} emissions (AP-42, Table 1.4-2, 07/98)

PM_{10} Emissions:
Emission Factor: 7.6 lb/MMScf (AP42, Table 1.4-2, 07/98)
Calculations: 7.6 lb/MMScf * 17.814 MMBtu/hr * 0.001 MMScf/MMBtu = 0.1354 lb/hr
0.1354 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.5931 ton/yr

NO_X Emissions:
Emission Factor: 100 lb/MMScf (AP42, Table 1.4-1, 07/98)
Calculations: 100 lb/MMScf * 17.814 MMBtu/hr * 0.001 MMScf/MMBTU = 1.7814 lb/hr
1.7814 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 7.8025 ton/yr

VOC Emissions:
Emission Factor: 5.5 lb/MMScf (AP42, Table 1.4-2, 07/98)
Calculations: 5.5 lb/MMScf * 17.814 MMBtu/hr * 0.001 MMScf/MMBtu = 0..0980 lb/hr
0.0980 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.4291 ton/yr

CO Emissions:
Emission Factor: 84 lb/MMScf (AP42, Table 1.4-1, 07/98)
Calculations: 84 lb/MMScf * 17.814 MMBtu/hr * 0.001 MMScf/MMBtu = 1.4964 lb/hr
1.4964 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 6.5541 ton/yr

SO_X Emissions:
Emission Factor: 0.6 lb/MMScf (AP42, Table 1.4-2, 07/98)
Calculations: 0.6 lb/MMScf * 18.814 MMBtu/hr * 0.001 MMScf/MMBtu = 0.0107 lb/hr
0.0107 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.0468 ton/yr
Emergency Diesel Generator (1200 kW)

Conversion: 1200 kW * 1.341 Hp/kW = 1609 Hp
Hours of Operation: 500 hr/yr (Permit Limit)

PM Emissions

Emission Factor: 0.0007 lb/Hp-hr (AP-42, Table 3.4-1, 10/96)
Calculation: 1609 Hp * 0.0007 lb/Hp-hr * 500 hr/yr * 0.0005 ton/lb =0.28 ton/yr

PM_{10} Emissions

Emission Factor: 0.0007 lb/Hp-hr (AP-42, Table 3.4-1, 10/96)
Calculation: 1609 Hp * 0.0007 lb/Hp-hr * 500 hr/yr * 0.0005 ton/lb =0.28 ton/yr

NOx Emissions

Emission Factor: 0.0240 lb/Hp-hr (AP-42, Table 3.4-1, 10/96)
Calculation: 1609 Hp * 0.0240 lb/Hp-hr * 500 hr/yr * 0.0005 ton/lb = 9.66 ton/yr

VOC Emissions

Emission Factor: 0.000705 lb/Hp-hr (AP-42, Table 3.4-1, 10/96)
Calculation: 1609 Hp * 0.000705 lb/Hp-hr * 500 hr/yr * 0.0005 ton/lb = 0.26 ton/yr

CO Emissions

Emission Factor: 0.00550 lb/Hp-hr (AP-42, Table 3.4-1, 10/96)
Calculation: 1609 Hp * 0.00550 lb/Hp-hr * 500 hr/yr * 0.0005 ton/lb = 2.21 ton/yr

SOx Emissions

Emission Factor: 0.00809 lb/Hp-hr (AP-42, Table 3.4-1, 10/96)
Calculation: 1609 Hp * 0.00809 lb/Hp-hr * 500 hr/yr * 0.0005 ton/lb = 0.81 ton/yr

HAZARDOUS AIR POLLUTANT (HAP) EMISSION CALCULATIONS - INCINERATOR

Maximum Design Capacity: 100 lb/hr
Hours of Operation: 500 hr/yr

Bromoform

Emission Factor:	2.90E-05 lb/ton (AFSSCC 5-02-005-05)	
Operating Capacity:	100 lb/hr or 0.05 ton/hr	
Calculations:	2.90 E-05 lb/ton * 0.05 ton/hr * 453.6 g/lb * 1 min/3600 sec =	1.827E-07 g/sec
	11.827E-07 g/sec * 1 lb/453.6 g * 60 sec/min * 60 min/hr =	1.45E-06 lb/hr
	1.45E-06 lb/hr * 500 hr/yr * 0.0005 ton/lb =	3.625E-07 ton/yr

The following lists the other HAPS included in the emission inventory with the applicable emission factor and resulting emission totals calculated as above. All emission factors are referenced from AFSSCC 5-02-005-05.

Carbon Tetrachloride	Emission Factor:	5.74E-05 lb/ton	3.616E-07 g/sec	7.175E-07 ton/yr
Chloroform	Emission Factor:	5.45E-05 lb/ton	3.434E-07 g/sec	6.814E-07 ton/yr
1,2-Dichloropropane	Emission Factor:	1.32E-03 lb/ton	8.316E-06 g/sec	1.650E-05 ton/yr
Ethyl Benzene	Emission Factor:	1.61E-03 lb/ton	1.014E-05 g/sec	2.012E-05 ton/yr
Naphthalene	Emission Factor:	1.16E-02 lb/ton	7.308E-05 g/sec	1.450E-04 ton/yr
Tetrachloroethylene	Emission Factor:	4.03E-05 lb/ton	2.539E-07 g/sec	5.038E-07 ton/yr
1,1,2,2-Tetrachloroethane	Emission Factor:	1.10E-04 lb/ton	6.930E-07 g/sec	1.375E-06 ton/yr

Toluene	Emission Factor:	4.62E-03 lb/ton	2.911E-05 g/sec	5.776E-05 ton/yr
Vinylidene Chloride	Emission Factor:	7.10E-05 lb/ton	4.473E-07 g/sec	8.875E-07 ton/yr
Xylene	Emission Factor:	2.20E-03 lb/ton	1.386E-05 g/sec	2.750E-05 ton/yr
TOTAL			1.368E-04 g/sec	2.710E-04 ton/yr

V. Air Quality Impacts

The Department ran Screen View, an EPA-approved screening model, using the indicated inputs obtained from the permit application and an emission rate of 1.37E-04 gram per second, which is the sum of all the hazardous air pollutant emissions from the proposed incinerator. The individual one-hour results for each pollutant were then calculated by multiplying the modeled impact of 0.04786 $\mu g/m^3$ by the percentage of each individual HAP making up the total of the HAP emissions. The maximum 1-hour concentrations were then converted to an annual average and used in the risk assessment. The results are contained in Section VI, Health Risk Assessment, of the permit analysis.

SCREEN3 Model Run

Simple Terrain Inputs:

Source Type	=	POINT
Emission Rate (G/S)	=	1.37E-04
Stack Height (M)	=	3.47
Stack Inside Diam (M)	=	0.41
Stack Exit Velocity (M/S)	=	6.15
Stack Gas Exit Temp (K)	=	1114.8
Ambient Air Temp (K)	=	293
Receptor Height (M)	=	0.0000
Urban/Rural Option	=	RURAL
Building Height (M)	=	0.0000
Minimum Horizontal Building Dimension (M)	=	0.0000
Maximum Horizontal Building Dimension (M)	=	0.0000

Summary of ScreenView Model Results

Calculation Procedure	Maximum 1 Hour Concentration ($\mu g/m^3$)	Maximum 24-Hour Concentration ($\mu g/m^3$)	Maximum Annual Concentration ($\mu g/m^3$)	Distance of Maximum (M)	Terrain Height (M)
Simple Terrain	0.04786	0.019144	0.004786	100	0

VI. Health Risk Assessment

A health risk assessment was conducted to determine if the proposed Corixa incinerator/incinerator complies with the negligible risk requirement of MCA 75-2-215. The emission inventory did not contain sufficient quantities of any pollutant on the Department's list of pollutants for which non-inhalation impacts must be considered; therefore, the Department determined that inhalation risk was the only necessary pathway to consider. Only those hazardous air pollutants for which there were established emission factors were considered in the emission inventory.

Hazardous Air Pollutant	Modeled	Cancer	ELCR	Non-Cancer	Non-Cancer

	Concentration ($\mu g/m^3$)	Potency Factor		RFC Factor	Hazard Quotient
Bromoform	6.39E-06	1.10E-06	7.03E-12	ND	ND
Carbon Tetrachloride	1.27E-05	1.50E-05	1.90E-10	2.40E+00	5.27E-06
Chloroform	1.20E-05	2.30E-05	2.76E-10	3.50E+01	3.43E-07
1,2-Dichloropropane	2.91E-04	ND	ND	ND	ND
Ethyl Benzene	3.55E-04	ND	ND	1.00E+03	3.55E-07
Naphthalene	2.56E-03	ND	ND	1.40E+01	1.83E-04
Tetrachloroethylene	8.88E-06	5.90E-06	5.24E-11	3.50E+01	2.54E-07
1,1,2,2-Tetrachloroethane	2.43E-05	5.80E-05	1.41E-09	ND	ND
Toluene	1.02E-03	ND	ND	4.00E+02	2.55E-06
Vinylidene Chloride	1.57E-05	5.00E-05	7.83E-10	2.60E+01	6.02E-07
Xylene	4.85E-04	ND	ND	3.00E+02	1.62E-06
Total Risks		----------	2.71E-09	----------	1.94E-04

ELCR = Excess Lifetime Cancer Risks

ND = Not Determined, No Available Information

- A copy of the Screen View modeling conducted for this project is on file with the Department.

The Department determined that the risks estimated in the risk assessment are in compliance with the requirement to demonstrate negligible risk to human health and the environment. As demonstrated in the above table and in accordance with the negligible risk requirement, no single HAP concentration results in an excess lifetime cancer risk (ELCR) greater than 1.00E-06 and the sum of all HAPs results in an ELCR that is less than 1.00E-05. Further, the sum of the non-cancer hazard quotient is 1.94E-04, which is less than 1.0 as required to demonstrate compliance with the negligible risk requirement.

VII. Taking or Damaging Implication Analysis

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

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air and Waste Management Bureau
1520 East Sixth Avenue
P.O. Box 200901, Helena, Montana 59620-0901
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued For: Corixa Corporation

Permit Number: 3251-00

Preliminary Determination Issued: 06/04/03
Department Decision Issued: 06/23/03
Permit Final: 07/09/03

1. *Legal Description of Site*: The facility is located in Section 7, Township 6 North, Range 20 West, Ravalli County, Montana. The physical address is 553 Old Corvallis Road, Hamilton, MT 59804.

2. *Description of Project*: Corixa proposed to operate a National Incinerator Model 2H44M pathological waste incinerator. The incinerator would be fired on natural gas LPG and would be capable of incinerating up to 100 pounds per hour of animal remains, any associated containers and other paper as defined in Section II.A.1 of the permit. The need for a permit is based on the incinerator only and that is the basis for review in this EA. Other emitting units have been included in the permit but they would not require air quality permits individually or cumulatively. Additional equipment is described in Section 1.B. of the permit analysis of Permit #3251-00.

3. *Objectives of Project*: The project would allow Corixa to safely dispose of animal remains while maintaining compliance with negligible risk requirements as discussed in Section VI of the permit analysis. Further, the project would result in business and revenue for the company.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the Montana Air Quality Permit. This would result in discontinuing the operation of the incinerator but would not affect any other operations or activities at the overall facility with the exception of implementing another disposal option for the material that would have been incinerated. Given the minimal impacts of that option, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions, including a BACT analysis, would be included in Permit #3251-00.

6. *Regulatory Effects on Private Property*: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites				X		Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic life and Habitats:

Emissions from the incinerator would impact terrestrial and aquatic life and habitats in the proposed project area. However, as detailed in Section V and Section VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentration of those pollutants emitted. Further, installation of the incinerator required very little ground disturbance to the area and is within the existing Corixa facility site. Overall, any impact to the terrestrial and aquatic life and habitats of the proposed project area would be minor.

B. Water Quality, Quantity and Distribution:

Operation of the incinerator would not affect water quantity or distribution in the project area. Limited ground disturbance was required for installation of the incinerator. Further, its operation would not discharge or use water as part of normal operations.

As detailed in Section V and Section VI of the permit analysis any emissions and resulting deposition impacts from the project would be minor due to the low concentration of those pollutants emitted. Overall, any impacts to water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability, and Moisture:

Operation of the incinerator would have a minor impact on the geology, soil quality, stability, and moisture of the proposed project area. Limited ground disturbance was required for installation of the incinerator.

Further, as described in Section V and Section VI of the permit analysis, the incinerator would result in minor air pollution emissions to the outside ambient environment. These pollutants would deposit on the soils in the surrounding area. Any impact from deposition of these pollutants would be minor due to dispersion characteristics and the low concentration of those pollutants emitted.

D. Vegetation Cover, Quantity, and Quality:

Emissions from operation of the incinerator would impact vegetation cover, quantity, and quality in the proposed project area. However, as detailed in Section V and Section VI of the permit analysis any emissions and resulting impacts from the project would be minor.

Further, installation of the incinerator required only limited ground disturbance to the area. Overall, any impact to the vegetation cover, quantity, and quality of the proposed project area would be minor.

E. Aesthetics:

Operation of the incinerator would result in only minor impacts to the aesthetic nature of the proposed project area given its small size. The overall land use in the area would not change as a result of the incinerator; therefore, the project would not change the aesthetic nature of the area. Further, visible emissions from the source would be limited to 10% opacity and the permit would include emission control requirements. Given the location of the incinerator within the Corixa facility site, it would not result in excess ambient noise from normal operations. Overall, any impact to the aesthetic nature of the project area would be minor.

F. Air Quality:

The proposed project would result in the emission of various criteria pollutants and HAPs to the ambient air in the proposed project area. However, as detailed in Section V and Section VI of the permit analysis, the Department demonstrated, through ScreenView air dispersion modeling, that any air quality impacts from the proposed project would be minor.

The Department conducted air dispersion modeling to determine the ambient air quality impacts from HAPs that would be generated by the incinerator. The ScreenView model was selected for the air dispersion modeling. The full meteorology option was selected to provide a conservative result. Receptors were placed from 1 to 5000 meters in a simple terrain array. Simple terrain receptors were used to represent the topography of the project area.

Stack parameters and emission rates used in the ScreenView model are contained in Section V of the permit analysis and are on file with the Department. Stack velocity and gas temperature were taken from data provided in the application. Due to the dispersion characteristics of the proposed area of operation and low levels of pollutants that would be emitted from the incinerator, the Department determined that any impacts to air quality would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources:

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). The area is defined as the section where the facility is located with an additional one-mile buffer zone. Species of concern identified within the area are Bull Trout and Westslope Cutthroat Trout. Emissions from the incinerator could impact unique, endangered, fragile, or limited environmental resources located in the proposed project area

because the proposed project would result in increased emissions in the project area. However, as detailed in Section V and Section VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentration of those pollutants emitted. Ground disturbance associated with installation of the incinerator was minimal and did not change the typical character of the area. Overall, any impact to any existing unique, endangered, fragile, or limited environmental resources in the proposed project area would be minor.

H. Demands on Environmental Resource of Water, Air, and Energy:

Operation of the incinerator would result in minor demands on environmental resources of water and air as discussed in Section 7.B and 7.F, respectively, of this EA. Further, as detailed in Section V and Section VI of the permit analysis, project impacts on air resources in the area would be minor due to dispersion characteristics of the area and pollutants emitted and the low concentration of the pollutants emitted. Finally, because the project is small by industrial standards, little energy would be required for operation and the resulting impact on energy resources would be minor.

I. Historical and Archaeological Sites:

According to previous correspondence from the Montana State Historic Preservation Office, there is low likelihood of any disturbance to any known archaeological or historic site, given previous industrial disturbance within the area and the minimal surface disturbance associated with the installation of the incinerator. Therefore, the operation would have no effect on any known historic or archaeological site that may be located within or near the proposed operating site.

J. Cumulative and Secondary Impacts:

Overall, the cumulative and secondary impacts from this project on the physical and biological environment in the immediate area would be minor because the facility is relatively small by industrial standards and would result in only minor emissions. The Department believes that this facility can be expected to operate in compliance with all applicable rules and regulations as outlined in Permit #3251-00.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production				X		Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G	Quantity and Distribution of Employment				X		Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity				X		Yes
K	Locally Adopted Environmental Plans and Goals				X		Yes
L	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECENOMIC AND SOCIAL EFFECTS: The Department has prepared the following comments.

A. Social Structures and Mores, and
B. Cultural Uniqueness and Diversity:

The project would not have any impact on the above economic and social resources of the proposed area of operation because the project is small by industrial standards and operations would take place within the existing Corixa facility site. The predominant use of the surrounding area would not change as a result of the project.

C. Local and State Tax Base and Tax Revenue:

The project would have a minor impact on the local and state tax base and tax revenue because the project is small by industrial standards and would not result in any increased commercial activity beyond the proposed project. Further, the incinerator would operate within the existing Corixa facility site.

D. Agricultural or Industrial Production:

Because the incinerator would operate within the existing Corixa facility site and involved limited ground disturbance, the project would not impact or displace any land used for agricultural production. Further, the project would not result in any increased commercial/industrial activity beyond the proposed project.

E. Human Health:

The peak annual ambient impact from the operation of the incinerator would be 0.004786 $\mu g/m^3$. The predicted annual ambient impact for each individual HAP was determined by multiplying the peak annual ambient concentration by the emission rate of the HAP. The impacts calculated for each HAP are compared to the cancer and non-cancer levels specified in Tables 1 and 2 of ARM 17.8.770. If the predicted ambient impact of a particular HAP is less than the level specified in the table and the inhalation pathway is the only appropriate pathway, that HAP can be excluded from the

human health risk assessment. The table summarized in Section VI of the permit analysis indicates the calculated ambient impacts of the HAPs, the cancer and non-cancer levels, and whether or not each HAP passes the screening criteria.

As detailed in Section VI of the permit analysis, a health risk assessment was conducted to determine if the proposed incinerator would comply with the negligible risk requirement of MCA 75-2-215 and ARM 17.8.770. The emission inventory did not contain sufficient quantities of any pollutant on the Department's list of pollutants for which non-inhalation impacts must be considered; therefore, the Department determined that inhalation risk would be the only necessary pathway to consider. As defined in ARM 17.8.740(10), negligible risk is "*an increase in excess lifetime cancer risk of less than 1.0 x 10^{-6} for any individual pollutant, and 1.0 x 10^{-5} for the aggregate of all pollutants, and an increase in the sum of the non-cancer hazard quotients for all pollutants with similar toxic effects of less than 1.0 in order to determine negligible risk*." For the purposes of determining negligible risk for the incinerator operations, all pollutants were included in the human health risk assessment.

All of the individual pollutant concentrations for the ELCR meet the acceptable risk limit because they are less than 1.00E-06 for each pollutant and less than 1.00E-05 for the aggregate of all pollutants. Further, the sums of the chronic and acute non-cancer hazard quotients are less than 1.0. Therefore, the incinerator proposed for the Corixa facility meets the criteria of ARM 17.8.770 and operation of the incinerator would be considered a negligible risk to public health, safety, welfare, and to the environment. Overall, any impacts to human health in the proposed project area would be minor.

F. Access to and Quality of Recreational and Wilderness Activities:

Because the incinerator is located within the existing Corixa facility site, the project would not affect any access to any recreation or wilderness activities in the area. In addition, the minimal noise and visible emissions resulting from incinerator operations would not impact the quality of recreational and wilderness activities.

G. Quantity and Distribution of Employment, and
H. Distribution of Population:

The project would not impact the above economic and social resources of the area because the project would not require any new employment in the area. The project requires only a limited amount of time from existing company staff.

I. Demands for Government Services:

Government services would be required for acquiring the appropriate permits from government agencies. In addition, the permitted source of emissions would be subject to periodic inspections by government personnel. Demands for government services would be minor.

J. Industrial and Commercial Activity:

The project would result in only a minor impact on local industrial and commercial activity given its small scope of operation. It would not result in additional industrial production beyond the proposed operations.

K. Locally Adopted Environmental Plans and Goals:

The Department is not aware of any locally adopted environmental plans or goals in the immediate area

affected by the proposed project. The state standards would be protective of the project area.

L. Cumulative and Secondary Impacts:

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social environment in the immediate area because the facility is relatively small by industrial standards and would result in only minor emissions. The Department believes that this facility can be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3251-00.

Recommendation: No EIS is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permit action is for the operation of an incinerator. Permit #3251-00 includes conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations. In addition, as detailed in the above EA, there are no significant impacts associated with the proposed project.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program.

Individuals or groups contributing to this EA: Department of Environmental Quality – Air and Waste management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program.

EA prepared by: Pat Driscoll
Date: May 19, 2003