



Montana Department of  
**E**NVIRONMENTAL QUALITY

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August 22, 2011

Ms. Beth Pierson  
Gavilon Grain, LLC  
Eleven Con-Agra Drive  
Omaha, NE 68102

Dear Ms. Pierson:

Montana Air Quality Permit #4673-00 is deemed final as of August 20, 2011, by the Department of Environmental Quality (Department). This permit is for truck to rail grain handling elevator and temporary flat grain storage facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Vickie Walsh  
Air Permitting Program Supervisor  
Air Resources Management Bureau  
(406) 444-9741

Doug Kuenzli  
Environmental Science Specialist  
Air Resources Management Bureau  
(406) 444-4267

VW:DCK  
Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #4673-00

Gavilon Grain, LLC  
Eleven Con-Agra Drive  
Omaha, NE 68102

August 20, 2011



## MONTANA AIR QUALITY PERMIT

Issued to: Gavilon Grain, LLC  
Eleven Con-Agra Drive  
Omaha, NE 68102

MAQP: #4673-00  
Application Complete: 07/14/2011  
Preliminary Determination Issued: 07/19/2011  
Department's Decision Issued: 08/04/2011  
Permit Final: 08/20/2001  
AFS #: 051-0008

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Gavilon Grain, LLC (Gavilon), pursuant to Sections 75-2-204 and 211 of the 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

Gavilon is proposing to install and operate a truck to rail grain handling elevator and temporary flat grain storage facility. The facility will have a grain storage capacity of approximately 988,400 bushels (bu) of permanent storage and 4,000,000 bu of temporary flat storage. A complete list of the permitted equipment is included in Section I.A of the permit analysis.

#### B. Plant Location

Gavilon's grain handling facility under the subject permit is proposed to be located west of Chester, Montana and immediately north of US Highway 2. The legal description of the facility is the SW ¼ of Section 19, Township 32 North, Range 6 East, Liberty County, Montana.

### SECTION II: Conditions and Limitations

#### A. Emission Limitations

1. Gavilon shall install, operate, and maintain the following emission control equipment in accordance with manufacturer's instructions to provide maximum pollution control (ARM 17.8.752):
  - a. Receiving pit baffles, baghouse dust filter with connection to truck receiving pits #1 and #2 and associated conveyor system (grain receiving);
  - b. 2-sided roofed enclosure on truck receiving pit #1 (grain receiving);
  - c. Enclosure on internal grain handling equipment; including elevator legs and bucket conveyors, bin fill conveyors, reclaim conveyors, and distribution system (internal grain handling).
  - d. Telescoping loadout spout (railcar loading).
  - e. Pit baffles and enclosed reclaim conveyor (railcar reclaim pit).
  - f. Loadout drop sock (truck loading side taps).

2. Gavilon shall fully enclose internal grain handling equipment at the grain elevator; including elevator legs and bucket conveyors, bin fill conveyors, reclaim conveyors and the distribution systems (ARM 17.8.749).
3. Gavilon shall vent the truck receiving pits and truck receiving conveyors to the baghouse dust filter (ARM 17.8.749).
4. Gavilon shall handle no more than 24,000,000 bushels of grain per rolling 12-month period within the grain elevator and permanent storage bins (ARM 17.8.749).
5. Gavilon shall receive by way of straight or hopper truck into the grain elevator no more than 12,000,000 bushels of grain per rolling 12-month period (ARM 17.8.749).
6. Gavilon shall receive by way of straight or hopper truck into flat temporary storage no more than 4,000,000 bushels of grain per rolling 12-month period (ARM 17.8.749).
7. Gavilon shall ship by way of truck or rail no more than 12,000,000 bushels of grain per rolling 12-month period (ARM 17.8.749).
8. Gavilon shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
9. Gavilon shall minimize product drop height during grain loading to and unloading from the flat temporary storage area to ensure compliance with the 20% opacity limitation in Section II.A.9 (ARM 17.8.749).
10. Gavilon 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 (ARM 17.8.308).
11. Gavilon shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.10 (ARM 17.8.749).

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 Montana Department of Environmental Quality (Department) may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. Gavilon 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 required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Gavilon shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include *the addition of a new emissions unit*, 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 17.8.745(1)(d) (ARM 17.8.745).
3. All records compiled in accordance with this permit must be maintained by Gavilon 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 17.8.749).
4. Gavilon shall document, by month, the total amount of grain handled by the grain elevator. By the 25<sup>th</sup> of each month, Gavilon shall total the grain handled for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.4. The information for the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).
5. Gavilon shall document, by month, the total amount of grain received into the grain elevator. By the 25<sup>th</sup> of each month, Gavilon shall total the grain received for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.5. The information for the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).
6. Gavilon shall document, by month, the total amount of grain received into flat temporary storage at this facility. By the 25<sup>th</sup> of each month, Gavilon shall total the grain received for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.6. The information for the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).
7. Gavilon shall document, by month, the total amount of grain shipped by way of truck or rail at this facility. By the 25<sup>th</sup> of each month, Gavilon shall total the grain shipped by way of truck or rail for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.7. The information for the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).

D. Notification

Gavilon shall provide the Department with written notification of the following dates within the specified time periods (ARM 17.8.749):

1. Commencement of construction of the truck to rail grain elevator within 30 days after commencement of construction;
2. Actual start-up date of the truck to rail grain elevator within 15 days after the actual start-up; and
3. All compliance source tests, as required by the Montana Source Test Protocol and Procedures Manual.

SECTION III: General Conditions

- A. Inspection – Gavilon 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 (Continuous Emission Monitoring System (CEMS), Continuous Emission Rate Monitoring System (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 Gavilon fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Gavilon 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 filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of 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, failure to pay the annual operation fee by Gavilon may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

- H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis  
Gavilon Grain, LLC  
MAQP #4673-00

I. Introduction/Process Description

Gavilon Grain, LLC (Gavilon) is proposing to install and operate a truck to railcar grain elevator. The facility will be located approximately one mile west of Chester, Montana and immediately north of US Highway 2. The legal description of the facility is the SW ¼ of Section 19, Township 32 North, Range 6 East, Liberty County, Montana.

A. Permitted Equipment

Gavilon is proposing to install and operate a truck to rail grain handling elevator, consisting of grain receiving, internal handling and loading, as well as two temporary flat grain storage areas. The facility will have a grain storage capacity of approximately 988,400 bushels (bu) of permanent storage and 4,000,000 bu of temporary flat storage. Equipment used at this facility includes, but is not limited to, the following:

- Two (2) grain truck receiving pits - 38,000 bushels per hour (bu/hr) each;
- Grain handling equipment (elevator legs & conveyors) - 38,000 bu/hr;
- Grain silo storage bin(s) - Six (6) 161,000 bu capacity bins (permanent storage bins);
- Grain railcar loading equipment - 70,000 bu/hr;
- Two (2) grain truck loading side taps - 20,000 bu/hr;
- Portable conveyor (flat storage area) - 15,000 bu/hr;
- Dust control systems - Baghouse dust filter, receiving baffles, enclosed conveyors and receiving pit enclosure (truck receiving pit #1 only); and ,
- Associated grain handling equipment;

B. Source Description

The proposed truck to rail grain handling facility would be designed to receive grain from local farms and country elevators and then store the grain until it is shipped to market. The storage capacity of the facility would be approximately 4,988,400 bu. Locally grown grains would be hauled to the facility via truck, whereby the trucks would be routed to the receiving area of the elevator or the temporary flat storage area.

Trucks directed to the elevator would discharge grain into one of the receiving pits, equipped with baffles and dust aspiration to a baghouse. Air with entrained dust particles from the truck receiving pits and receiving conveyor system will be collected and routed through ducts to a baghouse dust filter before exhausting to the atmosphere. All transferring of grain through the elevator will be conveyed through enclosed belt conveyors and elevator bucket legs. The main elevator legs and conveyor system is fully enclosed to minimize the release of dust to the atmosphere. Enclosed conveyors and bucket elevators, each rated at 38,000 bu/hr, will route the grain into the storage silos, or to a bulk weigher located over the railroad track spur. An enclosed belt conveyor will be used to transport grain from below the storage silos back into the elevator legs for distribution. The grain is shipped out by either truck or railcar.



Trucks directed to the temporary flat storage area would discharge grain into one of the two flat storage areas, whereby the grain would be placed into storage piles via a portable conveyor. Grain will be removed annually from storage and loaded directly into trucks for shipment or transport to the elevator for distribution to truck or rail loadout.

C. Response to Public Comments

Person/Group Commenting	Permit Reference	Comment Summary	Department Response
Beth Pierson, Gavilon Grain, LLC	Section II.A.1.b Emission Limitations & MAQP Analysis Section III BACT Determination	BACT present within the application established a 2-sided enclosure while Preliminary Determination (PD) identified a 3-sided enclosure as permit condition.	A 2-sided enclosure has been established to constitute BACT in previously permitting of similar sources. Permit condition II.A.1.b and associated MAQP analysis was changed to require installation of a 2-sided roofed enclosure on Truck Receiving Pit #1.
	Section II.A.2 Emission Limitations	Conveyors used at the flat grain storage piles will be open, while permit condition establishes that "Gavilon shall fully enclose all conveyor systems and bucket elevators".	The Department accepts Gavilon's requested language changes to specifically condition only conveyors directly associated with the grain elevator. Section IV - Emission Inventory of the MAQP Analysis was modified to reflect 100% shipment via truck, as this represents as worst case emission scenario.
	Section II.A.3 Emission Limitations	To clarify which conveyors shall be vented to the baghouse, Gavilon requests/recommends specific language.	Language changes to specifically condition truck receiving pits and truck receiving conveyors.
	Section II.A.7 Emission Limitations	PD places conditions limiting the amount of grain available to be shipped by truck. Gavilon requests the flexibility to ship all grain by truck or by rail.	The Department accepts Gavilon's requested changes as resultant emission increases will not initiate any additional regulatory applicability. Permit language limiting grain shipment via truck was removed and language stating "Gavilon shall ship by way of truck or rail no more the 12,000,000 bushels of grain per rolling 12-month period".
	Section II.A.10 Emission Limitations	Will compliance with Section II.A.1 of the PD demonstrate compliance with condition Section II.A.10 to limit product drop height during grain loading and unloading is	Compliance with Section II.A.1 (specifically Section II.A.1.d requiring telescoping railcar loadout spout ) will demonstrate compliance for that operation. PD Condition Section II.A.10 is a general requirement addressing product handling, placing conditions on Gavilon to minimize product drop height during unloading/loading of grain from temporary storage and truck loading.
	MAQP Analysis Section I Introduction/Process Description	Gavilon requests that the first sentence of the introductory paragraph be changed "Gavilon Grain, LLC (Gavilon) is proposing to install and operate a truck to rail grain elevator. The facility will be located....."	The Department accepts Gavilon's request and changes addressed.
	MAQP Analysis Section I.B - Source Description	Gavilon requests that the second sentence by clarified to read "Air with entrained dust particles from the truck receiving pits and receiving conveyor system will be collected and routed through ducts to a baghouse dust filter before exhausting to the atmosphere."	The Department accepts Gavilon's request and changes addressed.

Person/Group Commenting	Permit Reference	Comment Summary	Department Response
Beth Pierson, Gavilon Grain, LLC	MAQP Analysis Section I.B Source Description	Gavilon requests that the last sentence of the second paragraph be changed to read "Grain will be removed annually from storage and loaded directly into trucks for shipment or transport to the elevator for distribution to truck or rail load out."	The Department accepts Gavilon's request and changes addressed.
	Environmental Assessment - Summary of Comments on Potential Physical and Biological Effects: Item B Water Quality, Quantity, and Distribution	Gavilon requests that the third sentence referencing construction of a storm water retention pond be removed, as construction of a retention pond is not proposed, nor required	The Department accepts Gavilon's request and changes addressed.
	Environmental Assessment - Summary of Comments on Potential Physical and Biological Effects: Item B Water Quality, Quantity, and Distribution	Gavilon requests that the second sentence be changed to read "For the temporary construction process, a construction storm water permits would be obtained. A construction storm water permit requires the use of best management practices to protect water quality."	The Department accepts Gavilon's request and changes addressed.
	Section I.B Plant Location	Gavilon identified typographical error and requests correction.	The Department accepts Gavilon's request and corrections addressed.
	MAQP Analysis Section II Applicable Rules and Regulations	Gavilon identified missing section header and requests inclusion.	The Department accepts Gavilon's request and changes addressed.
	MAQP Analysis Section II.E.5 Applicable Rules and Regulations	Gavilon identified erroneous date for publication of public notice and requests correction.	The Department accepts Gavilon's request and corrections addressed.
	MAQP Analysis Section IV Emission Inventory	Gavilon identified erroneous application of equipment control efficiency and requests correction.	The Department accepts Gavilon's request and corrections addressed.
	MAQP Analysis Section IV Emission Inventory	Gavilon identified erroneous throughput capacity for temporary grain storage pile formation and requests correction.	The Department accepts Gavilon's request and corrections addressed
	MAQP Analysis Section IV Emission Inventory	Gavilon identified erroneous reference for moisture content within formula for estimating storage pile formation emissions.	The Department accepts Gavilon's request and corrections addressed
	MAQP Analysis Section IV Emission Inventory	Gavilon questioned whether emissions from storage pile formation, storage pile wind erosion, paved and unpaved roadways be designated as "uncontrolled?"	The Department Has reviewed these sources to verify designation.
	MAQP Analysis Section IV Emission Inventory	Gavilon identified omission of particle size multiplier in formula for storage pile wind erosion and requests correction	The Department accepts Gavilon's request and corrections addressed.
	Environmental Assessment Item 1 Legal Description of Site	Gavilon identified typographical error and requests correction.	The Department accepts Gavilon's request and corrections addressed.

## 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 Montana Department of Environmental Quality (Department). Upon request, the Department will provide references for location 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 section 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).

Gavilon 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 Testing 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 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 the following:

1. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter (PM)
2. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>

Gavilon 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 an 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 precautions be taken to control emissions of airborne particulate. (2) Under this section, Gavilon 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 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 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources (NSPS). Subpart DD, Standards of Performance for Grain Elevators, indicates that grain terminal elevators that have a permanent storage capacity of more than 2.5 million U.S. bushels are subject to the requirements of this subpart. Gavilon does not have a permanent storage capacity of 2.5 million bushels or more; therefore, NSPS Subpart DD does not apply to this facility.
- 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. Gavilon 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.

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 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 person to obtain an air quality permit or permit alteration to construct, alter, or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. Gavilon has PTE greater than 25 tpy of particulate matter (PM) and particulate matter with an aerodynamic diameter less than 10 microns (PM<sub>10</sub>); therefore, an air quality permit is required.
  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 do not require a permit under 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. Gavilon submitted the required permit application for the current permit action. (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. Gavilon submitted an affidavit of publication of public notice for the June 29, 2011, issue of the *Liberty County Times*, a newspaper of general circulation in the Town of Chester in Liberty 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, which 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 Gavilon 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.
- 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 chapter.
  2. ARM 17.8.818 Review of Major Stationary Source 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 regulation under the FCAA that it would emit, except as this chapter would otherwise allow.

This facility is not a major stationary source because it is not a listed source and does not have the PTE more than 250 tons tpy or more of any air pollutant from point sources of 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 source having:
    - a. PTE > 100 tpy of any pollutant;
    - b. PTE > 10 tpy of any one hazardous air pollutant (HAP), PTE > 25 tpy of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
    - c. PTE > 70 tpy of PM<sub>10</sub> in a serious PM<sub>10</sub> non-attainment area.
  2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. 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 MAQP #4673-00 for Gavilon, the following conclusions were made:
    - a. The facility's PTE is less than 100 tpy for all criteria pollutants.
    - b. The facility's PTE is less than 10 tpy of any one HAP and less than 25 tpy of all HAPs.
    - c. This source is not located in a serious PM<sub>10</sub> non-attainment 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 or a solid waste combustion unit.
    - g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Gavilon would be a minor source of emissions as defined under Title V.

### III. BACT Determination

A BACT determination is required for each new or modified source. Gavilon shall install on the new or modified source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized.

For previously permitted sources similar to Gavilon, the Department has reviewed the following particulate matter control options during review of the BACT analysis.

#### A. Electrostatic Precipitator (ESP)

An ESP ionizes the contaminated air flowing between oppositely charged electrodes. These charged particles migrate towards the oppositely charged plates, which are eventually removed and collected at the bottom of the ESP. An ESP can handle large gas volumes and are very efficient at removing small particles with high removal efficiencies

ranging from approximately 90% to 99%. While an ESP can achieve high removal efficiencies, the installation and operation costs of the ESP are considerably higher than other similar control technologies. For this reason, an ESP has not constituted BACT in previously permitted sources similar to Gavilon.

B. Baghouse

Fabric dust filtration equipment (baghouse) is used to collect dry particles from a gas stream. As the gas stream passes through the fabric dust filter, the dust particles are collected and retained by the fabric. A Baghouse is very efficient at removing small particles and high particulate mass loadings, with removal efficiencies commonly ranging from 95% to 99%. A baghouse can achieve high removal efficiencies and the installation and operation costs of a baghouse are considerably less than an ESP. Therefore, the Department determined that the installation, operation, and maintenance of a baghouse constituted BACT in previously permitted sources similar to Gavilon.

C. Process Enclosure

Enclosing grain handling activities, including receiving, loading, and conveyors, serves to isolate these activities from wind disturbance which could mobilize dust generated during transfer activities. The effectiveness of enclosure is difficult to quantify, however control efficiencies are documented to achieve at least 50%. Enclosures are a comparatively inexpensive add-on control method; therefore, the Department determined that the installation of enclosures around grain handling activities constituted BACT in previously permitted sources similar to Gavilon.

D. Receiving Pit Baffles

Baffles installed in grain receiving pits are gravity-activated mechanical dust control gates that inhibit airborne dust from escaping the confines of the pit. Each baffle consists of a hinged plate that is vertically aligned when closed. The baffles are supported on angled stationary plates; each stationary plate is set adjacent to a baffle so that the bottom of the baffle in the closed position hangs near the bottom of the stationary plate. A small gap exists between the plates to allow air flow into the pit to support aspiration. Grain impacts the hinged baffle during unloading, opening the baffle and allowing grain to fall into the pit. Pit baffle have demonstrated control efficiencies at approximately 30% to 40% and are an inexpensive add-on control as compared to other methods. Therefore, the Department determined that the installation of baffles within receiving pits constituted BACT in previously permitted sources similar to Gavilon.

A BACT analysis was submitted by Gavilon in permit application #4673-00, addressing some available methods of controlling PM emissions from the truck to rail grain elevator and flat storage facility. The Department reviewed these methods, as well as previous BACT determinations to determine the appropriate BACT for this facility. Gavilon proposed the use of the following particulate matter control options for each emitting unit.

Grain Receiving

1. Installation of baffles in truck receiving pits #1 and #2.
2. Installation of baghouse and aspiration of receiving pits and initial receiving pit conveyors in truck to the baghouse filter.
3. Installation of a 2-sided roofed enclosure around receiving pit#1.



Grain Handling

1. Installation of enclosures around internal grain handling conveyors.
2. Installation of enclosure around main elevator legs and bucket conveyors.

Grain Rail Loadout

1. Installation of a telescoping load-out spout.
2. Installation of baffles in railcar reclaim pit.

Based on consideration of previous BACT determinations discussed above and those controls established within Gavilons’s BACT analysis, the Department concurs with the proposed the emissions control methods. The Department determined that installation, operation, and maintenance of the proposed emissions control methods constitute BACT.

IV. Emissions Inventory

Emission Source	Emissions Tons/Year [PTE]					
	Uncontrolled Emissions			Controlled Emissions		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
Grain Receiving - Permanent Storage	32.40	10.62	1.80	25.38	8.32	1.41
Head House & Internal Grain Handling	21.96	12.24	2.09	21.96	12.24	2.09
Storage Bin Vents	9.00	2.27	0.40	9.00	2.27	0.40
Grain Shipping - Truck Loadout	15.48	5.22	0.88	15.48	5.22	0.88
Grain Receiving - Temporary Storage <sup>(1)</sup>	10.80	3.54	0.60	10.80	3.54	0.60
Pile Formation - Temporary Storage <sup>(1)</sup>	0.05	0.02	0.003	0.05	0.02	0.003
Wind Erosion - Temporary Storage <sup>(1)</sup>	1.49	0.74	0.30	1.49	0.74	0.30
Unpaved Roadways - Haul Roads <sup>(1)</sup>	4.16	1.29	0.128	4.16	1.29	0.128
Paved Roadways - Haul Roads <sup>(1)</sup>	1.51	0.30	0.07	1.51	0.30	0.07
<b>TOTAL EMISSIONS ▶</b>	<b>96.85</b>	<b>36.25</b>	<b>6.27</b>	<b>89.82</b>	<b>33.95</b>	<b>5.88</b>

1. Fugitive emission inventory reflects controlled emissions pursuant to federally-enforceable requirements established under ARM 17.8.308.

PM, particulate matter  
 PM<sub>10</sub>, particulate matter with an aerodynamic diameter of 10 microns or less  
 PM<sub>2.5</sub>, particulate matter with an aerodynamic diameter of 2.5 microns or less  
 bu, Bushel  
 lbs, Pounds

**Gavilon Grain, LLC - Grain Handling Facility**

Grain Properties:                    0.03 tons/Bushel [bu]  
     60.00 lbs/Bu

Throughput Capacity

Temporary:            4,000,000 bu/year            120,000 tons/year  
 Permanent:           12,000,000 bu/year           360,000 tons/year

**Grain Handling - Permanent Storage:**

**Grain Receiving - Straight Truck [SCC 3-02-005-51]**

Throughput Capacity:    12,000,000 bu/year                    360,000 tons/year

Control Equipment: Baghouse Filter

Estimated Control Efficiency (C<sub>e</sub>):    21.9 % Capture Efficiency [Receiving Pit Baffles Only]  
     99.0 % Control Efficiency [Baghouse]  
     21.7% % Capture and Control

PM Emissions:

Emission Factor	0.18 lbs/ton grain	[AP-42 Table 9.9.1-1, 3/03]
Calculations	$(0.18 \text{ lbs/ton}) * (360000 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$ $(32.40 \text{ tons/year}) * (1 - 0.217 \text{ Ce}) =$	32.40 tons/year (uncontrolled) 25.38 tons/year (controlled)

PM<sub>10</sub> Emissions:

Emission Factor	0.059 lbs/ton grain	[AP-42 Table 9.9.1-1, 3/03]
Calculations	$(0.059 \text{ lbs/ton}) * (360000 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$ $(10.62 \text{ tons/year}) * (1 - 0.217 \text{ Ce}) =$	10.62 tons/year (uncontrolled) 8.32 tons/year (controlled)

PM<sub>2.5</sub>Emissions:

Emission Factor	0.010 lbs/ton grain	[AP-42 Table 9.9.1-1, 3/03]
Calculations	$(0.01 \text{ lbs/ton}) * (360000 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$ $(1.80 \text{ tons/year}) * (1 - 0.217 \text{ Ce}) =$	1.80 tons/year (uncontrolled) 1.41 tons/year (controlled)

**Head House and Internal Grain Handling [SCC 3-02-005-30]**

Throughput Capacity 24,000,000 bu/year 720,000 tons/year  
Control Equipment: Uncontrolled

PM Emissions:

Emission Factor	0.061 lbs/ton grain	[AP-42 Table 9.9.1-1, 3/03]
Calculations	$(0.061 \text{ lbs/ton}) * (720000 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$	21.96 tons/year (uncontrolled)

PM<sub>10</sub> Emissions:

Emission Factor	0.034 lbs/ton grain	[AP-42 Table 9.9.1-1, 3/03]
Calculations	$(0.034 \text{ lbs/ton}) * (720000 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$	12.24 tons/year (uncontrolled)

PM<sub>2.5</sub>Emissions:

Emission Factor	0.0058 lbs/ton grain	[AP-42 Table 9.9.1-1, 3/03]
Calculations	$(0.0058 \text{ lbs/ton}) * (720000 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$	2.09 tons/year (uncontrolled)

**Storage Bin Vents [SCC 3-02-005-40]**

Throughput Capacity 24,000,000 bu/year 720,000 tons/year  
Control Equipment: Uncontrolled

PM Emissions:

Emission Factor	0.025 lbs/ton grain	[AP-42 Table 9.9.1-1, 3/03]
Calculations	$(0.025 \text{ lbs/ton}) * (720000 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$	9.00 tons/year (uncontrolled)

PM<sub>10</sub> Emissions:

Emission Factor	0.0063 lbs/ton grain	[AP-42 Table 9.9.1-1, 3/03]
Calculations	$(0.0063 \text{ lbs/ton}) * (720000 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$	2.27 tons/year (uncontrolled)

PM<sub>2.5</sub>Emissions:

Emission Factor	0.0011 lbs/ton grain	[AP-42 Table 9.9.1-1, 3/03]
Calculations	$(0.0011 \text{ lbs/ton}) * (720000 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) =$	0.40 tons/year (uncontrolled)

**Grain Shipping - Truck Loadout [SCC 3-02-005-60]\***

\* Assumes 100% shipment by truck as worst case scenario

Throughput Capacity: 12,000,000 Bu/year 360,000 tons/year

PM Emissions:

Emission Factor 0.086 lbs/ton grain [AP-42 Table 9.9.1-1, 3/03]  
Calculations (0.086 lbs/ton) \* (360000 tons/year) \* (0.0005 lbs/ton) = 15.48 tons/year (uncontrolled)

PM<sub>10</sub> Emissions:

Emission Factor 0.0290 lbs/ton grain [AP-42 Table 9.9.1-1, 3/03]  
Calculations (0.029 lbs/ton) \* (360000 tons/year) \* (0.0005 lbs/ton) = 5.22 tons/year (uncontrolled)

PM<sub>2.5</sub> Emissions:

Emission Factor 0.00490 lbs/ton grain [AP-42 Table 9.9.1-1, 3/03]  
Calculations (0.0049 lbs/ton) \* (360000 tons/year) \* (0.0005 lbs/ton) = 0.88 tons/year (uncontrolled)

**Grain Handling - Temporary Storage:**

**Grain Receiving - Straight Truck [SCC 3-02-005-51]**

Throughput Capacity: 4,000,000 bu/year 120,000 tons/year

PM Emissions:

Emission Factor 0.18 lbs/ton grain [AP-42 Table 9.9.1-1, 3/03]  
Calculations (0.18 lbs/ton) \* (120000 tons/year) \* (0.0005 lbs/ton) = 10.80 tons/year (uncontrolled)

PM<sub>10</sub> Emissions:

Emission Factor 0.059 lbs/ton grain [AP-42 Table 9.9.1-1, 3/03]  
Calculations (0.059 lbs/ton) \* (120000 tons/year) \* (0.0005 lbs/ton) = 3.54 tons/year (uncontrolled)

PM<sub>2.5</sub> Emissions:

Emission Factor 0.010 lbs/ton grain [AP-42 Table 9.9.1-1, 3/03]  
Calculations (0.01 lbs/ton) \* (120000 tons/year) \* (0.0005 lbs/ton) = 0.60 tons/year (uncontrolled)

**Grain Storage - Pile Formation**

Throughput Capacity: 4,000,000 Bu/year 120,000 tons/year

Pile Multiplier: 2 [Pile Formation → Load-In & Load-Out]

**Particulate Emissions:**

Emission Factor  $EF = k (0.0032) * (U/5)^{1.3} / (M / 2)^{1.4}$  [AP-42 13.2.4, 11/06]

where: EF, Emission Factor = lbs emitted / ton processed

k, Dimensionless Particle Size Multiplier PM = 0.74 [AP-42 13.2.4, 11/06]

k, Dimensionless Particle Size Multiplier PM<sub>10</sub> = 0.35 [AP-42 13.2.4, 11/06]

k, Dimensionless Particle Size Multiplier PM<sub>2.5</sub> = 0.053 [AP-42 13.2.4, 11/06]

U, Mean Wind Speed (mph) = 11.5 [ASOS Data Great Falls, MT 1996-2006]

M, Material Moisture Content (%) = 15.5 ["Technology and Policy for Suppressing Grain Dust Explosions in Storage Facilities", September 1995]

PM Emissions:

Emission Factor  $EF = 0.74 (0.0032) * (11.5/5)^{1.3} / (15.5 / 2)^{1.4} = 0.0004$  lbs/ton  
Calculations (0.0004 lbs/ton) \* (120000 tons/year) \* (2 pile Transfers) = 95.46 lbs/year  
(95.46 lbs/year) \* (0.0005 tons/lbs) = 0.05 TPY

PM<sub>10</sub> Emissions:

Emission Factor	EF = 0.35 (0.0032) * (11.5/5) <sup>1.3</sup> / (15.5 / 2) <sup>1.4</sup> =	0.0002	lbs/ton
Calculations	(0.0002 lbs/ton) * (120000 tons/year) * (2 pile Transfers) =	45.15	lbs/hr
	(45.15 lbs/year) * (0.0005 tons/lbs) =	0.02	TPY

PM<sub>2.5</sub> Emissions:

Emission Factor	EF = 0.053 (0.0032) * (11.5/5) <sup>1.3</sup> / (15.5 / 2) <sup>1.4</sup> =	0.00003	lbs/ton
Calculations	(0.00003 lbs/ton) * (120000 tons/year) * (2 pile Transfers) =	6.84	lbs/hr
	(6.84 lbs/year) * (0.0005 tons/lbs) =	0.003	TPY

**Storage Pile Wind Erosion**

Maximum Storage Area: 6.1 acre

**Particulate Emissions:**

Emission Factor EF =  $k * 1.7 * (s / 1.5) * [(365 - p) / 235] * f / 15$   
 [Air Pollution Engineering Manual - Air & Waste Management Association (APEM-AWMA)]  
 where: EF, Emission Factor = lbs-day emitted / acre of storage  
 k, Dimensionless Particle Size Multiplier PM = 1 [APEM-AWMA]  
 k, Dimensionless Particle Size Multiplier PM<sub>10</sub> = 0.5 [APEM-AWMA]  
 k, Dimensionless Particle Size Multiplier PM<sub>2.5</sub> = 0.2 [APEM-AWMA]  
 s, Silt Content 0.4 [USDA Foreign Matter Limit-US 1 Grade Wheat]  
 p, Mean Precipitation Days [≥0.01 Inch] 110 [AP-42 13.2.1-2, 01/11]  
 f, Unobstructed Wind Speed [%] = 40.8 [SCRAM Met Data, Great Falls 1984-1992]

PM Emissions:

Emission Factor	EF = 1.0 * 1.7 * (0.4 / 1.5) * [(365 - 110) / 235] * 40.8 / 15 =	1.34	lbs-day/acre
Calculations	(1.34 lbs/day) * (6.1 acres) =	8.16	lbs/day
	(8.16 lbs/day) * (365 days/year) * (0.0005 tons/lbs) =	1.49	TPY

PM<sub>10</sub> Emissions:

Emission Factor	EF = 0.5 * 1.7 * (0.4 / 1.5) * [(365 - 110) / 235] * 40.8 / 15 =	0.67	lbs-day/acre
Calculations	(0.67 lbs/day) * (6.1 acres) =	4.08	lbs/day
	(4.08 lbs/day) * (365 days/year) * (0.0005 tons/lbs) =	0.74	TPY

PM<sub>2.5</sub> Emissions:

Emission Factor	EF = 0.2 * 1.7 * (0.4 / 1.5) * [(365 - 110) / 235] * 40.8 / 15 =	0.27	lbs-day/acre
Calculations	(0.27 lbs/day) * (6.1 acres) =	1.63	lbs/day
	(1.63 lbs/day) * (365 days/year) * (0.0005 tons/lbs) =	0.30	TPY

**Unpaved Roadways**

Vehicle Miles Travelled [VMT]: 22364 VMT-year

Control Method: Water Application

Control Efficiency (Ce): 50%

Emission Factor	EF = $[k(s/12)^a * (S/30)^d / (M/0.5)^c] - C * [(365 - p)/365]$	[AP-42 13.2.2, 11/06]
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where: EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT)  
 k, Empirical Constant PM = 6 [AP-42 Table 13.2.2-2, 11/06]  
 k, Empirical Constant PM<sub>10</sub> = 1.8 [AP-42 Table 13.2.2-2, 11/06]

k, Empirical Constant PM <sub>2.5</sub> =	0.18	[AP-42 Table 13.2.2-2, 11/06]
s, Surface Material Silt Content (%) =	6.4	[AP-42 Table 13.2.2-1, 11/06]
S, Mean Vehicle Speed (MPH) =	10	[Applicant Provided Data]
a, Empirical Constant =	1	[AP-42 Table 13.2.2-2, 11/06]
c, Empirical Constant PM =	0.3	[AP-42 Table 13.2.2-2, 11/06]
c, Empirical Constant PM <sub>10</sub> /PM <sub>2.5</sub> =	0.2	[AP-42 Table 13.2.2-2, 11/06]
d, Empirical Constant PM =	0.3	[AP-42 Table 13.2.2-2, 11/06]
d, Empirical Constant PM <sub>10</sub> /PM <sub>2.5</sub> =	0.5	[AP-42 Table 13.2.2-2, 11/06]
M, Mean Surface Material Moisture Content =	6.52	[AP-42 Table 13.2.2-3, 11/06]
C, EF Vehicle Exhaust, Brake/Tire wear PM/PM <sub>10</sub> =	0.00047	[AP-42 Table 13.2.2-4, 11/06]
C, EF Vehicle Exhaust, Brake/Tire Wear PM <sub>2.5</sub> =	0.00036	[AP-42 Table 13.2.2-4, 11/06]
p, Mean Precipitation Days [≥0.01 Inch] =	110	[AP-42 Figure 13.2.2-1, 11/06]

**PM Emissions:**

Emission Factor	EF = [ 6.0 * (6.4/12) <sup>1</sup> * (10/30) <sup>0.3</sup> - 0.00047 ] * ((365-110/365) =	0.74	lbs/VMT
Calculations	(0.74 lbs/VMT) * (22364 miles/year) * (1 - 0.50 Ce) =	8317.74	lbs/year
	(8,317.74 lbs/year) * (0.0005 tons/lb) =	4.16	TPY

**PM<sub>10</sub> Emissions:**

Emission Factor	EF = [ 1.8 * (6.4/12) <sup>0.5</sup> * (10/30) <sup>0.2</sup> - 0.00047 ] * ((365-110/365) =	0.23	lbs/VMT
Calculations	(0.23 lbs/VMT) * (22364 miles/year) * (1 - 0.50 Ce) =	2587.06	lbs/year
	(2,587.06 lbs/year) * (0.0005 tons/lb) =	1.29	TPY

**PM<sub>2.5</sub> Emissions:**

Emission Factor	EF = [ 0.18 * (6.4/12) <sup>0.5</sup> * (10/30) <sup>0.2</sup> - 0.00036 ] * ((365-110/365) =	0.02	lbs/VMT
Calculations	(0.02 lbs/VMT) * (22364 miles/year) * (1 - 0.50 Ce) =	256.26	lbs/year
	(256.26 lbs/year) * (0.0005 tons/lb) =	0.13	TPY

**Paved Roadways:**

Vehicle Miles Travelled [VMT]: 1636 VMT-year

Emission Factor EF = [ k(sL)<sup>0.91</sup> \* (W)<sup>1.02</sup> ] \* (1-p/4N) [AP-42 13.2.1, 01/11]

where: EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT)

k, Particle Size Multiplier PM =	0.011	[AP-42 Table 13.2.1-1, 01/11]
k, Particle Size Multiplier PM <sub>10</sub> =	0.0022	[AP-42 Table 13.2.1-1, 01/11]
k, Particle Size Multiplier PM <sub>2.5</sub> =	0.00054	[AP-42 Table 13.2.1-1, 01/11]
sL, Mean Surface Material Silt Content [g/m <sup>2</sup> ] =	7.4	[AP-42 Table 13.2.1-3, 01/11]
W, Mean Vehicle Weight [tons] =	27.5	[Applicant Provided Data]
p, Mean Precipitation Days [≥0.01 Inch] =	110	[AP-42 Figure 13.2.1-2, 01/11]

**PM Emissions:**

Emission Factor	[ 0.011 * (7.4) <sup>0.91</sup> * (27.5) <sup>1.02</sup> ] * (1-110 / (4*365) =	1.85	lbs/VMT
Calculations	(1.85 lbs/VMT) * (1,636.00 miles/year) =	3021.88	lbs/year
	(3,021.88 lbs/year) * (0.0005 tons/lb) =	1.51	TPY

**PM<sub>10</sub> Emissions:**

Emission Factor	[ 0.0022 * (7.4) <sup>0.91</sup> * (27.5) <sup>1.02</sup> ] * (1-110 / (4*365) =	0.369	lbs/VMT
Calculations	(0.37 lbs/VMT) * (1,636.00 miles/year) =	604.38	lbs/year
	(604.38 lbs/year) * (0.0005 tons/lb) =	0.30	TPY

PM<sub>2.5</sub> Emissions:

Emission Factor [ 0.00054 \* (7.4)<sup>0.91</sup> \* (27.5)<sup>1.02</sup> ] \* (1-110 / (4\*365)) = 0.091 lbs/VMT  
 Calculations (0.09 lbs/VMT) \* (1,636.00 miles/year) = 148.35 lbs/year  
 (148.35 lbs/year) \* (0.0005 tons/lb) = 0.07 TPY

V. Existing Air Quality

Gavilon’s proposed grain handling facility is to be located in the SW ¼ of Section 19, Township 32 North, Range 6 East, Liberty County, Montana. The air quality of this area is classified as unclassifiable/attainment for National Ambient Air Quality Standards (NAAQS) criteria pollutants, including particulate matter (PM<sub>10</sub>/PM<sub>2.5</sub>).

VI. Ambient Air Impact Analysis

The area surrounding the proposed facility is predominantly agricultural and rural in nature. The emissions from the proposed facility would be intermittent and seasonal in nature with generally good dispersion characteristics in the area. Therefore, in the view of the Department, the amount of controlled emissions from this facility will not cause an exceedance of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
✓		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	✓	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	✓	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	✓	4. Does the action deprive the owner of all economically viable uses of the property?
	✓	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	✓	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	✓	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	✓	7a. Is the impact of government action direct, peculiar, and significant?
	✓	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	✓	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?

	✓	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)
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Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

#### VIII. Environmental Assessment

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

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

**FINAL ENVIRONMENTAL ASSESSMENT (EA)**

*Issued To:* Gavilon Grain, LLC  
3365 Whitlash Road  
Chester, Montana 59522

*MAQP Number:* #4673-00  
*Preliminary Determination Issued:* 07/19/2011  
*Department Decision Issued:* 08/04/2011  
*Permit Final:* 08/20/2011

1. *Legal Description of Site:* Gavilon's grain handling facility under the subject permit is proposed to be located west of Chester, Montana and immediately north of US Highway 2. The legal description of the facility is the SW ¼ of Section 19, Township 32 North, Range 6 East, Liberty County, Montana.
2. *Description of Project:* Gavilon is proposing to install and operate a truck to rail grain handling elevator and temporary flat grain storage facility. The facility will have a grain storage capacity of approximately 988,400 bushels of permanent storage and 4,000,000 bushels of temporary flat storage. A complete list of the permitted equipment is included in Section I.A of the permit analysis
3. *Objectives of Project:* Increased business and revenue. The proposed facility would receive, store, and ship grain for the area farms. The proposed facility would provide area producers and local county grain elevators with a regional site for high speed loading of locally produced grains.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no action" alternative. The "no action" alternative would deny the issuance of the MAQP to the proposed facility. However, the Department does not consider the "no action" alternative to be appropriate because Gavilon has demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, 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 MAQP #4673-00.
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.

Potential Physical and Biological Effects							
		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 Resource			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

The proposed project would result in increases in PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. Conditions requiring control mechanisms have been placed within MAQP #4673-00 to ensure that only minor air quality impacts would occur. Additionally, limitations established within MAQP #4673-00 would minimize air pollution. Overall, any adverse impact on terrestrial and aquatic life and habitats is anticipated to be minor.

B. Water Quality, Quantity, and Distribution

This permitting action would have little or no effect on the water quality, water quantity, and distribution, as there would be no discharge to groundwater or surface water associated with the completed project. For the temporary construction process, a construction storm water permits would be obtained. A construction storm water permit requires the use of best management practices to protect water quality. Additionally, water may be applied to control fugitive dust associated with unpaved roadways. Water and sewer services are available, therefore eliminating the need for additional surface or groundwater use. Minor pollutant deposition on surface waters near the project area may occur. Therefore, the project would have minor, if any, impacts to water quality, quantity or distribution in the area.

C. Geology and Soil Quality, Stability, and Moisture

This permitting action would have a minor effect on geology and soil properties with land disturbances associated with construction of the facility. Approximately 42 acres would be disturbed. PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from this project may have a minor effect on the soil quality; however, the air quality permit associated with this project would contain limitations and conditions to minimize the effect of the emissions on the surrounding environment. The Department determined that any impacts from deposition would be minor due to dispersion characteristics of pollutants, the atmosphere, and conditions that would be placed in MAQP #4673-00.

D. Vegetation Cover, Quantity, and Quality

The proposed project would have minor impacts on the surrounding vegetation because of construction of the facility. The existing surrounding land is currently agricultural in nature. The PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from this project may have a minor effect on the surrounding vegetation; however, the air quality permit associated with this project would contain limitations to minimize the effect of the emissions on the surrounding environment. Overall, this project would have minor effects on the vegetation cover, quantity and quality.

E. Aesthetics

Construction of the truck to rail grain elevator would have minor impacts on the surrounding property from both the visual perspective, as well as noise pollution. The facility is proposed to be constructed within an area that is predominately of agricultural or undeveloped land use. The Department determined minor changes in the aesthetic value of the site would be experienced as the land use would be altered.

F. Air Quality

The air quality of the area would realize minor impacts from the proposed project because the facility would emit the following air pollutants: PM, PM<sub>10</sub>, and PM<sub>2.5</sub>. These emissions would be minimized by limitations and conditions that would be included in MAQP #4673-00. While deposition of pollutants would occur as a result of operating the facility, the Department determined that the impacts from deposition of pollutants would be minor due to dispersion characteristics of pollutants, the atmosphere (wind speed, wind direction, ambient temperature, etc.), and conditions that would be placed in MAQP #4673-00. The air concentration of pollutants would be relatively small, and the corresponding deposition of those air pollutants 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). In this case, the area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone. Search results identified five (5) vertebrate animals of concern; The Lon-billed Curlew the Loggerhead Shrike, the Brewer's Sparrow, the McCown's Longspur, the Chestnut-collared Longspur were listed with a sensitive status by the United States Bureau of Land Management. Because minor emissions and disturbance of the property and surroundings are anticipated, the Department has determined that there will be a minor disturbance to unique, endangered, fragile, or limited environmental resources in the area.

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

The proposed project would have minor impacts on the demands for the environmental resources of air and water because the facility would be a source of air pollutants. Deposition of pollutants would occur as a result of operating the facility; however, as explained in Section 7.F of this EA, the Department determined that any impacts on air and water resources from the pollutants (including deposition) would be minor. The Department determined that controlled emissions from the source would not cause or contribute to a violation of any ambient air quality standard. Therefore, any impacts to air quality from the proposed facility would be minor.

The proposed project would be expected to have minor impacts on the demand for the environmental resource of energy because power would be required at the site. The impact on the demand for the environmental resource of energy would be minor because the facility would be relatively small by industrial standards. Overall, the impacts for the demands on the environmental resources of water, air, and energy would be minor.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites located near the proposed project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, a single previously recorded site was noted in the vicinity the project, however, not on the subject property. SHPO stated that there is a low likelihood cultural properties would be impacted by this project. Therefore, the Department determined that the chance of the project impacting any historical and archaeological sites in the area would be minor.

J. Cumulative and Secondary Impacts

The proposed project would cause minor effects on the physical and biological aspects of the human environment because the project would cause a slight increase in emissions of PM, PM<sub>10</sub>, and PM<sub>2.5</sub> in the proposed area. However, conditions have been placed in MAQP #4673-00 to ensure that only minor air quality impacts would occur. Limitations would be established in the permit to minimize air pollution. Overall, any impacts to the physical and biological environment would be minor.

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

Potential Social and Economic Effects							
		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 SOCIAL AND ECONOMIC EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The proposed project would not cause disruption to any native or traditional lifestyles or communities (social structures or mores) in the area because the proposed project is located in a moderately remote area predominately used for agricultural purposes. The proposed project would not change the predominant use of the surrounding area and the facility would be relatively small by industrial standards.

B. Cultural Uniqueness and Diversity

Only minor impacts to the cultural uniqueness and diversity of the area would be anticipated as the location is moderately remote and land use will remain for agricultural purposes. Operation of the truck to rail grain elevator would require employment of approximately six employees, which is not likely to cause a significant immigration of new people to the area for employment purposes. In addition, based on previous cultural resource inventories in the area, SHPO stated that there is a low likelihood cultural properties will be impacted. Therefore, the cultural uniqueness and diversity of the area would not likely be affected.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in minor impacts to the local and state tax base and tax revenue as a result of the proposed project. However, the proposed project would necessitate negligible construction activities and typically would not require an extended period of time for completion. Therefore, any construction related jobs would be temporary and any corresponding impacts on the tax base/revenue in the area would be minor. Overall, any impacts to the local and state tax base and tax revenue would be minor.

D. Agricultural or Industrial Production

The land at the proposed location is currently used for agricultural purposes. The proposed project would have a minor impact on agricultural production as area farmers would have access to a local facility to receive, store, and ship their grain products. The proposed project would result in minor impacts to industrial production because the proposed project would be a new industrial source. However, because the facility would be relatively small by industrial standards, only minor impacts to industrial production would be expected.

E. Human Health

The proposed project would result in minor, if any, impacts to human health. As explained in Section 7.F of this EA, deposition of pollutants would occur; however, the Department determined that the proposed project would comply with all applicable air quality rules, regulations, and standards. These rules, regulations, and standards are designed to be protective of human health. Overall any impacts to public health would be minor.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would be implemented within an area currently utilized for agricultural purposes. No impacts to access and quality of recreational and wilderness activities in the project area are anticipated.

G. Quantity and Distribution of Employment

The proposed project would have minor impacts on the quantity and distribution of employment as a limited number of employees would be hired as a result of the proposed project. Additionally, temporary construction-related positions could result from this project. Any impacts to the quantity and distribution of employment would be minor due to the relatively small size of the facility.

H. Distribution of Population

The proposed project would have minor impacts on the employment and population of the area as four to five employees would be required for normal operations. Additionally, temporary construction-related positions would result from this project. However, any

impacts to the quantity and distribution of employment from construction related employment would be minor due to the relatively small size of the facility and the relatively short time period that would be required for constructing the facility. Overall, any impacts to the distribution of population in the area would be minor.

I. Demands of Government Services

There would be minor impacts on the demands for government services because additional time would be required by government agencies to issue MAQP #4673-00 and, in the future, to assure compliance with applicable rules, standards, and conditions that would be contained in MAQP #4673-00. Overall, any demands for government services to regulate the facility or activities associated with the facility would be minor due to the relatively small size of the facility.

J. Industrial and Commercial Activity

Only minor impacts would be expected on local industrial and commercial activity because the proposed project would represent only a minor increase in the industrial and commercial activity in the area. The proposed project would be relatively small and would take place at a moderately remote location.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals affected by issuing MAQP #4673-00. This permit would contain limits for protecting air quality and keeping facility emissions in compliance with any applicable ambient air quality standards. Because the project is small, any impacts from the facility would be minor.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social aspects of the human environment in the immediate area. Due to the relatively small size of the project, the industrial production, employment, and tax revenue (etc.) impacts resulting from the proposed project would be minor. In addition, the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in MAQP #4673-00.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of a truck to rail grain handling facility. MAQP #4673-00 would include conditions and limitations to ensure the facility would operate in compliance with all applicable air quality rules and regulations. In addition, there are no major or unknown effects associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Natural Heritage Program and the Montana Historical Society.

Individuals or groups contributing to this EA: Montana Department of Environmental Quality, Montana Natural Heritage Program, Montana Historical Society.

EA prepared by: D. Kuenzli

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