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Richard H. Opper, Director

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July 6, 2010

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Allan L. Barth, PO Box 1514, Baker, MT 59313

Ladies and Gentlemen:

To comply with the Administrative Rules of Montana, 17.4.607(2) and 17.4.609(2), the Department of Environmental Quality (Department), prepared the enclosed Environmental Assessment (EA). The attached EA is for the land application of septage, portable toilet/vault toilet type waste, grease trap waste, and sump waste in Fallon County, Montana. Land application would occur at this site on an as-needed basis.

The purpose of the EA is to inform all interested governmental agencies, public groups, and individuals of the action and to determine whether or not the action may have a significant effect on human health and the environment. The Department will not make a licensing decision until at least thirty (30) days after publication of the EA. A copy of this EA may be viewed on the Department's website at <http://deq.mt.gov/ea/SepticPumpers.mcp>.

If you wish to comment on this proposed action within the 30-day period, please do so in writing by mailing your comments to the Waste and Underground Tank Management Bureau, Solid Waste Program, P.O. Box 200901, Helena, MT 59620-0901, or by E-mail to mailbox_wutbcomments@mt.gov.

If you have any questions or need additional information, please contact me at the Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Solid Waste Section, (406) 444-1434 or e-mail renhill@mt.gov.

Sincerely,

A handwritten signature in black ink that reads 'Renai Hill'.

Renai Hill
Environmental Science Specialist
Waste & Underground Tank Management Bureau

Enclosure: EA - B & B Septic Services, Inc
File: Fallon County/ B & B Septic Services, Inc/S-1054

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

Permitting and Compliance Division
Waste and Underground Tank Management Bureau
Solid Waste Management Section
Metcalf Building
PO Box 200901
Helena, MT 59620-0901

ENVIRONMENTAL ASSESSMENT

DESCRIPTION OF PROJECT – SUMMARY OF ANALYSIS:

Mr. Allen Barth (applicant) of B & B Septic Services, Inc., has submitted an application to the Department of Environmental Quality (Department) for the land application of septage, portable toilet\vault toilet type waste, grease trap waste, and sump waste in Fallon County. This Environmental Assessment (EA) will document environmental issues related to the land application of the proposed wastes. The applicant proposes to land apply septage, portable toilet\vault toilet type waste, grease trap waste, and sump waste on the Arthur Degrand property in Fallon County. The proposed land application site is located in a remote area approximately one mile northeast of the town of Baker. Specifically, the site is located in the NW ¼ of Section 8, T7N, R60E, Fallon County, Montana (Figure 1). The Arthur Degrand property has 320-acres available for land application, however, the applicant proposes to use only 200-acres. Land application will occur at this site on an as-needed basis. Pumpings will be collected from individual and commercial customers. The pumpings will be applied to the land using a dispersive mechanism and then incorporated into the soil using a disc or harrow within 6-hours of application.

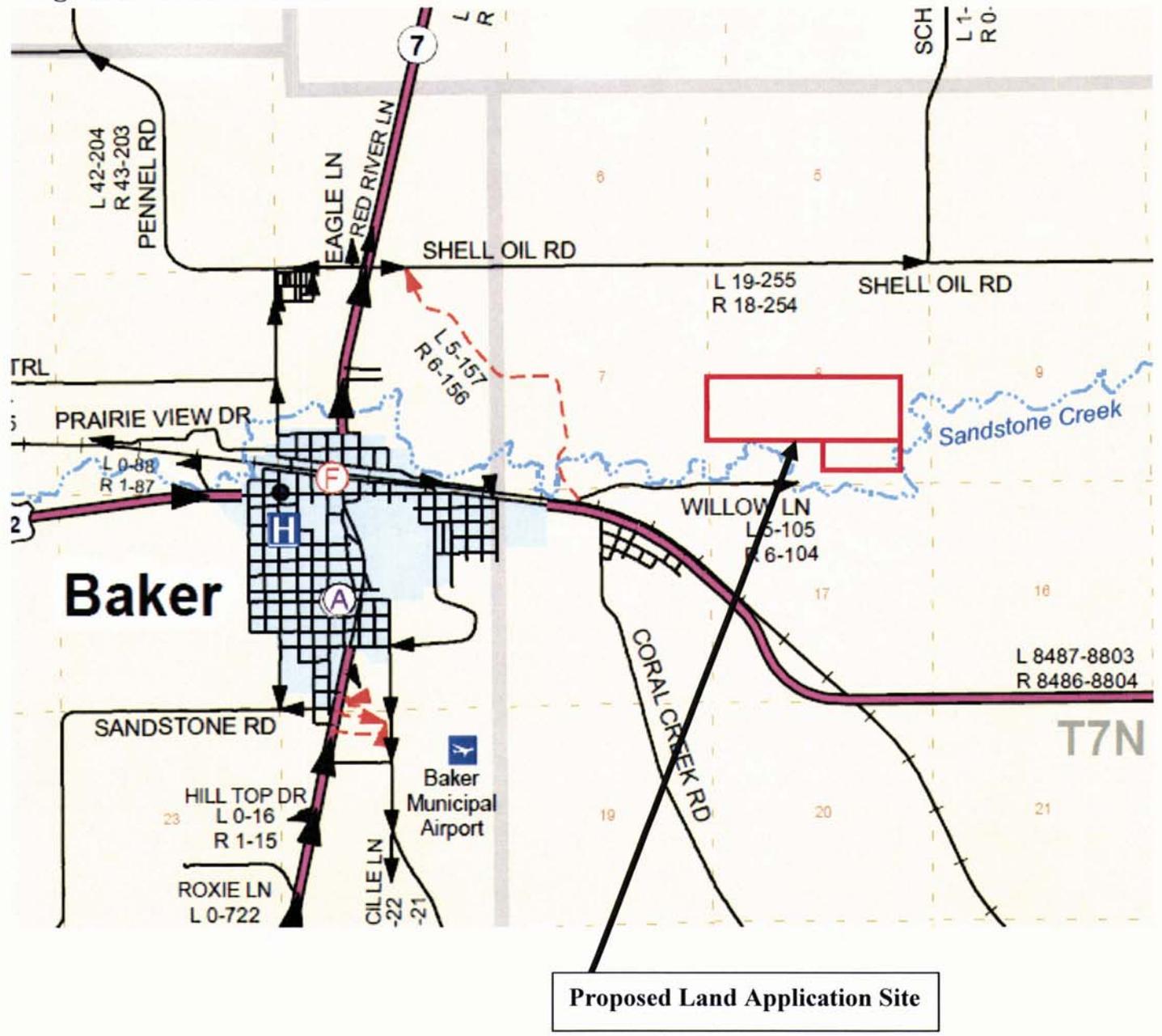
Benefits and Purpose of Project:

The land application of domestic septage is an economical and environmentally sound practice in most areas in Montana and is a viable alternative to treatment at a wastewater treatment facility. A properly managed land application program can benefit from the reuse of the organic matter and nutrients in the waste without adversely affecting public health. The land application of domestic septage is considered the beneficial use of a waste product when the material is applied in accordance with the laws and rules governing land application.

Site Geography:

The proposed land application site is located a half-mile east of Highway 7 off of Shell Oil Road. The Sandstone Creek runs along the lower southern and eastern portion of the property. No rivers or ponds are located within the proposed 200-acre land application site. The proposed site has slopes ranging from 0 to 2%, and in some areas 2 to 8%. Wastes will not be land applied to areas within the property where slopes exceed 6%.

Figure 1 – Site Overview



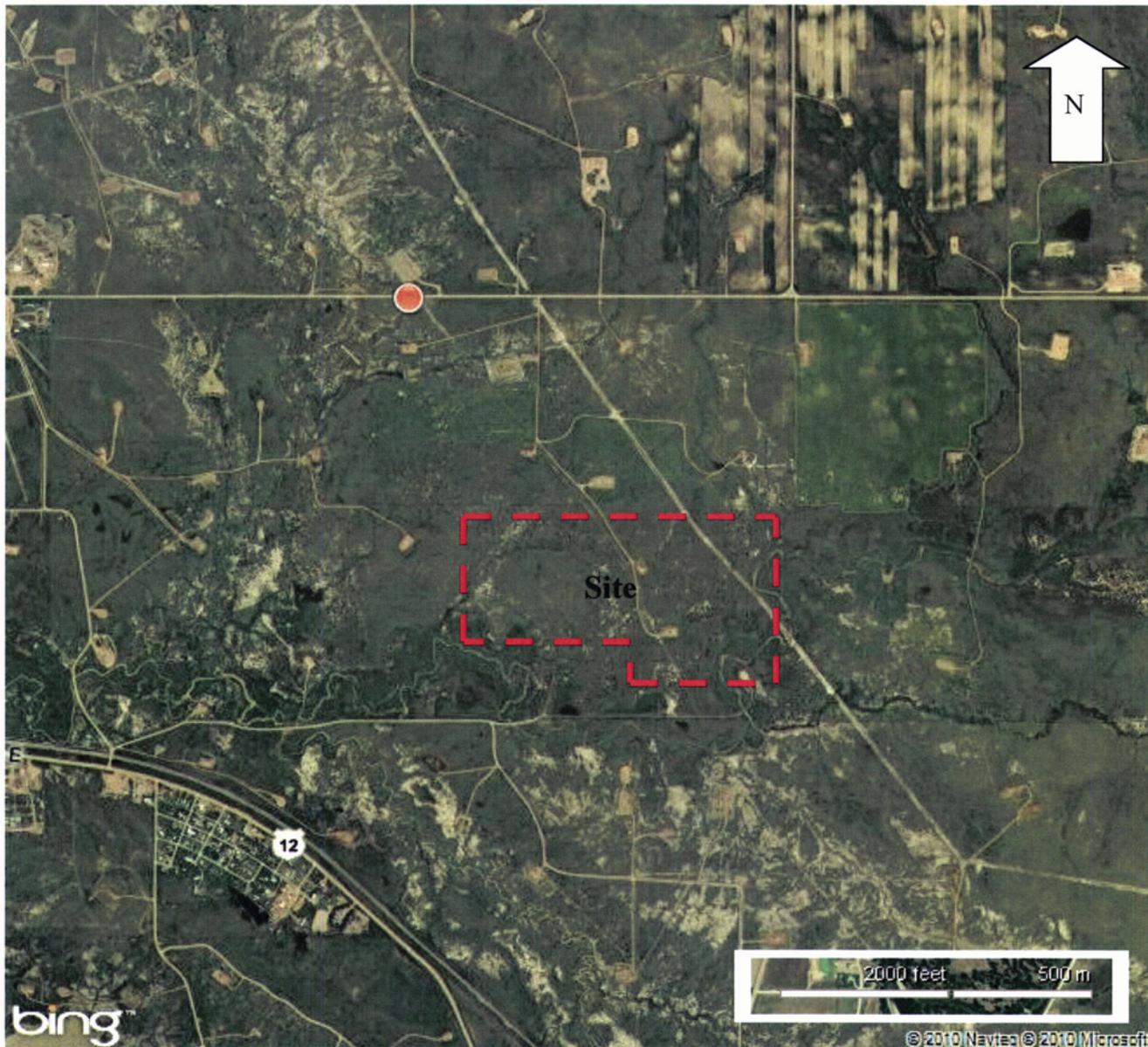
Setback Requirements

The Administrative Rules of Montana (ARM) establishes minimum setback criteria for land application as follows:

ARM Reference	Site Setback - Disposal Restrictions
17.50.809(1)	Pumpings may not be applied to land within 500-feet of any occupied or inhabitable building.
17.50.809(2)	Pumpings may not be applied to land within 150-feet of any state surface water, including ephemeral or intermittent drainages and wetlands.
17.50.809(3)	Pumpings may not be applied to land within 100-feet of any state, federal, county, or city-maintained highway or road.
17.50.809(4)	Pumpings may not be applied to land within 100-feet of a drinking water supply source.
17.50.809(6)	Pumpings may not be applied to land with slopes greater than 6%.
17.50.809(8)	Pumpings may not be applied to land where seasonally high ground water is 6-ft or less below ground surface.
17.50.809(10)	All non-putrescible litter must be removed from the land application site within 6-hours of application.
17.50.809(12)	Pumpings may not be applied at a rate greater than the agronomic rate of the site for crop nitrogen requirement on an annual basis.
17.50.810(1)	Pumpings may not be applied to flooded, frozen, or snow covered ground if the pumpings may enter state waters.
17.50.810(3)(a)	Pumpings may not be applied to to frozen or snow covered ground with slopes greater than 3%.
17.50.811(3)	<p>Pumpings may be applied only if the person first performs one of the following vector attraction and pathogen reduction methods:</p> <ul style="list-style-type: none"> • injection below the land surface so no significant amount remains on the land surface within one-hour of injection; • incorporation into the soil surface plow layer within 6-hours of application; • addition of alkali material so that the pH is raised to and remains at 12 or higher for a period of at least 30-minutes; or, • management as required by 17.50.810 when the ground is frozen.

The applicant proposes to rotate land application within the available 200-acres annually. The 200-acre parcel will be divided into separate fields which will be rotated on an annual basis, so that parcels used one year will be inactive the next year. This rotation allows the vegetation or crop of choice to utilize the nitrogen and other nutrients added from the land application process.

Figure 2: Proposed land application site boundaries



As shown in Figure 2, the proposed site is located greater than 500-feet from any occupied or inhabitable building, greater than 100-feet from any state, federal, county, or city-maintained road, and greater than 100-feet from any drinking water supply. A 150-foot setback is required from the Sandstone Creek (state surface water) which runs along the lower southern and eastern section of the land application site.

Site Operation and Maintenance:

Pumpings will be collected from individual and commercial customers and land application will occur at the site on an as needed basis. The septage, portable toilet/vault toilet type waste, grease trap waste,

and sump waste will be land applied using a dispersive mechanism, such as a spreader bar or splash plate. The splash plate or spreader bar does not cause an aerosol of waste to be dispersed into the air, but rather causes the waste to be applied in a wide pattern, rather than a single, narrow, heavy stream. This is done to ensure that the material is applied evenly in a beneficial manner and not applied in excess of the agronomic rate. In addition, the dispersive mechanism will help minimize the potential for ponding or runoff by causing the material application in a thin, even layer.

In accordance with ARM Title 17, Chapter 50, Sub-chapter 8, wastes will not be land applied in excess of the annual application rate (AAR). The AAR is based upon the use of the nitrogen and other nutrients by the native grasses that require 75-pounds of nitrogen per acre for continued production. This AAR volume is equal to approximately 1.06-inches of liquid per acre. Septage waste will be applied at a rate not to exceed the AAR of 28,846 gallons per acre per year and portable toilet/vault toilet type waste will be applied at a rate not to exceed the calculated AAR of 14,423 gallons per acre per year.

Historical precipitation records show the area receives approximately 13.94 inches of precipitation per year. Most precipitation falls during the months of May and June, while February is the driest month with an average precipitation of only 0.35 inches. For comparison, the average precipitation received during the month of April is close to what would be land applied per acre per year. (See Table 1). For the purpose of this analysis, most individual septic tanks are between 1,000- and 1,500-gallons, so waste from 19-28 septic tanks (depending upon their individual volumes) could be land applied on a per acre per year basis. Using a conservative approach that waste from 24 septic tanks could be land applied per acre, each individual septic tank would contribute approximately 0.044-inches of liquid per acre. However, experience shows that most licensed pumpers will land apply, at the most, 4 tanks per day.

Table 1: Monthly Climate Summary

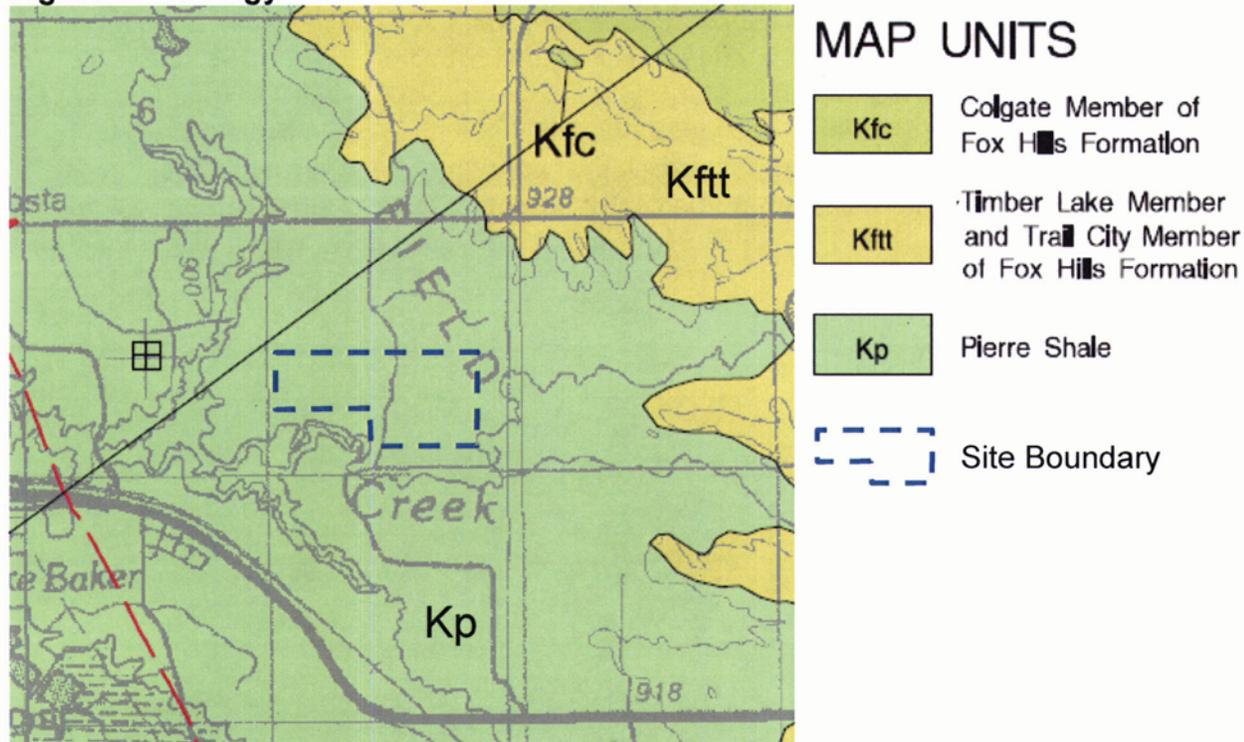
BAKER, MONTANA (240412)													
Period of Record Monthly Climate Summary													
Period of Record : 9/28/1922 to 12/31/2009													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	29.2	32.8	41.7	58.2	66.9	75.4	89.3	86.4	73.9	57.5	44.2	33.5	57.4
Average Min. Temperature (F)	6.6	10.8	19.5	33.4	42.4	51.1	59.5	57.1	45.2	32.3	19.8	10.0	32.3
Average Total Precipitation (in.)	0.44	0.35	0.61	1.26	2.06	3.00	1.79	1.26	1.34	0.97	0.45	0.41	13.94
Average Total SnowFall (in.)	5.0	3.8	5.0	2.9	0.8	0.1	0.0	0.0	0.3	1.5	3.5	4.9	27.8
Average Snow Depth (in.)	4	4	2	0	0	0	0	0	0	0	1	2	1
Percent of possible observations for period of record:													
Max. Temp.: 0.2% Min. Temp.: 0.2% Precipitation: 99.4% Snowfall: 96.9% Snow Depth: 91.1%													

The septage, portable toilet/vault toilet type waste, grease trap waste, and sump waste will be land applied and incorporated into the soil. A disc or harrow will be used within 6-hours of application and all non-putrescible litter contained in the septage will be removed from the site within 6-hours of application. The licensee is required to maintain records of the volumes of waste being land applied. The Department requires the submittal of disposal records from all licensed pumpers on a semi-annual basis. In addition, Department staff regularly inspects land application sites for compliance with the site specific requirements and the laws and rules governing land application.

General Geology and Hydrogeology

The Arthur Degrand property is located on the Upper Cretaceous Pierre Shale (Kp) (Figure 3). The Pierre Shale is composed of dark-gray and black bentonitic mudstone and shale with some fossiliferous limestone concretions. The Pierre Shale is 1,300 to 2,600 feet thick in eastern Montana.

Figure 3: Geology

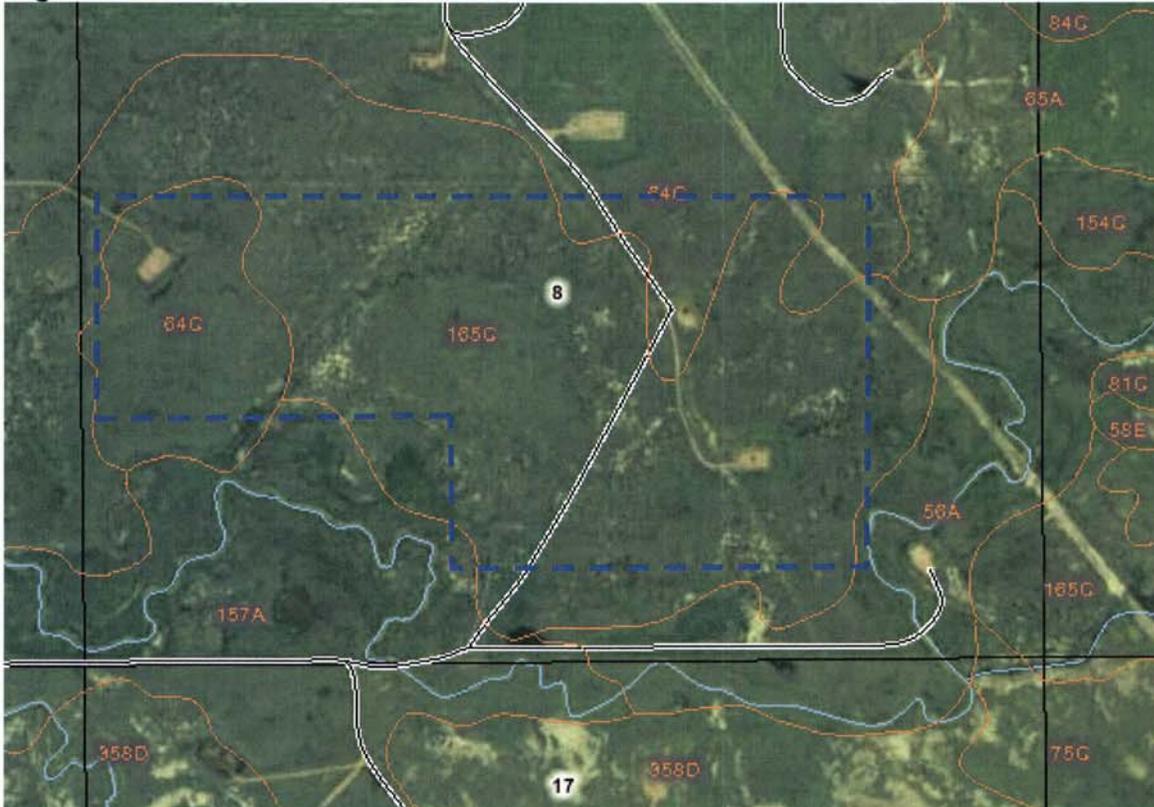


There are no domestic wells within one mile of the Arthur Degrand property. Several low yield stockwells are located in the vicinity of the site, and are completed in the Fox Hills Formation or the Pierre Shale. These wells range from 22 to 200 feet deep with water levels from 16 to 119 feet below ground. There are many petroleum wells in the area surrounding the land application site.

There are two primary soil types at the land application site (Figure 4). The Tanna silty clay loam is well drained with a low available water capacity and a typical depth to the water table greater than 80 inches. The Tanna soils are formed from semi-consolidated shale or clayey residuum and have

moderately low to moderately high permeability. Bedrock is typically 20 to 40 inches below the surface in the areas covered by the Tanna silty clay loam. The Gerdrum-Absher complex is formed from clayey alluvium and typically has greater than 80 inches to bedrock and greater than 80 inches to the water table. The Gerdrum-Absher soils are well drained with a moderate available water capacity and very low to moderately low permeability. The Gerdrum-Absher complex soils are slightly to moderately saline.

Figure 4: Soils



- 56A Havre Loam, 0 to 2 percent slopes
- 64C Tanna silty clay loam, 2 to 8 percent slopes
- 157A Harlake silty clay loam, 0 to 2 percent slopes
- 165C Gerdrum-Absher complex, 2 to 8 percent slopes

Roles and Responsibilities:

The Department’s Solid Waste Section is responsible for ensuring activities proposed under the Solid Waste Management Act are in compliance with the Act and with other State and Federal regulations. A land application site must be first approved by the county in which it is located, and then by the Department’s Solid Waste Section, prior to being added to the license. Each licensee is responsible for following the Administrative Rules of Montana for Cesspool, Septic Tank and Privy Cleaners, the Septage Disposal - Licensure (SDL) laws, and other restrictions and requirements put in place by the county in which the land application site is located. Sites not approved by the county or local government authority cannot be approved by the Department.

ANALYSIS OF POTENTIAL IMPACTS

Description and analysis of reasonable alternatives whenever alternatives are reasonably available or prudent to consider:

The Department considered the following alternatives in the preparation of this EA:

Alternative A – No Action: Under the “no-action” alternative, the Department would not license the land application site as proposed because the applicant chose to withdraw the application. As a result, the applicant will be required to obtain the required approval for an alternative site.

Alternative B – Approve the Site: Approve the use of the land application site as proposed by the applicant. Several factors support the viability of this option:

1. This site meets all of the requirements of the SDL law and Administrative Rules.
2. The site soils, slopes, depth to ground water, approvals, and setback requirements have been met;
3. The site is located on private property in a remote area; and,
4. All activities will be performed in accordance with an approved Operation and Maintenance Plan (O&M), so the effects on human health and the environment are minimized.

Alternative C – Deny the Site: Under this alternative, the Department would deny the land application site as proposed. The site fails to meet the requirements of the SDL and the Administrative Rules. As a result, the applicant will be required to obtain the required approval for an alternative site.

BASIS OF THIS EVALUATION:

Based on the information provided and Department’s research on the area surrounding the proposed land application site, the potential environmental impacts of Alternative B were evaluated for the proposed project. The results of the Department’s evaluation are summarized in Tables I and II and are provided in the Appendix.

FINDINGS:

The Department finds that there would be little or no impacts to the physical and human environment if the septage, portable toilet/vault toilet type waste, grease trap waste, and sump waste are treated in a manner consistent with the rules and regulations. Therefore, an EA is the appropriate level of analysis and an Environmental Impact Statement is not needed. This treatment option is a beneficial reuse of a waste product.

RECOMMENDATION:

The recommendation of the Department is to distribute the EA and request comments from the public regarding the proposed land application site.

EVALUATION OF MITIGATION, STIPULATIONS, AND OTHER CONTROLS ENFORCEABLE BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY OR ANOTHER GOVERNMENT AGENCY:

The proposed land application site and O&M plan must meet the requirements of the Montana Septage Disposal-Licensure law, Air and Water Quality Acts and other Montana environmental laws and regulations as well as County ordinances. Obtaining a Department license and remaining in compliance with these laws and regulations should minimize any adverse environmental effects. The required approvals are given by the Department after appropriate review of complete submittals, unless specified otherwise. The licensee will operate the site under the guidelines of the approved O&M Plan. The licensee's failure to operate within the constraints of the approved O&M Plan will result in Department enforcement action which may include penalties and revocation of the site approval.

In accordance with ARM 17.50.809(12) and 17.50.816(6), the septage type waste may be applied at a rate not to exceed the calculated AAR. The annual rate calculation is determined to prevent the over application of nitrogen in excess of crop needs and its potential movement through soil to groundwater. Based upon the stand of native grasses on site, the AAR for the Arthur Degrand property is calculated to be 28,846 gallons per acre per year for septage type waste and 14,423 gallons per acre per year for portable toilet/vault toilet type waste. The AAR is based upon the use of the nitrogen and other nutrients in the waste by the native grasses that require 75-pounds of nitrogen per acre for continued production.

Other groups or agencies contacted or which may have over-lapping jurisdiction:
Fallon County Health Department

Individuals or groups contributing to this EA:

Mr. Allen Barth/B & B Septic Services, Inc
Mr. Martin Van Oort/Solid Waste Program Hydrogeologist
Montana Natural Heritage Program
Montana Historical Society State Historic Preservation Office
Natural Resource Information System
Montana Bureau of Mines and Geology
"Process Design Manual, Land Application of Sewage Sludge and Domestic Septage", US
Environmental Protection Agency, EPA/625/K-95/001
"Fertilizer Guidelines for Montana Crops", Montana State University Extension Service, Publication
EB-161, January 2003
Berg, R.B., Lopez, D.A., 2000, Geologic map of the Livingston 30' x 60' quadrangle, south-central
Montana, Montana Bureau of Mines and Geology: Open-File Report 406, 21 p., 1 sheet(s), 1:100,000.
Montana Tech of the University of Montana, Montana Bureau of Mines and Geology, Groundwater
Information Center, <http://mbmggwic.mtech.edu/>
United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey,
<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

EA prepared by:

Renai Hill - DEQ Permitting and Compliance Division, Waste and Underground Tank Management
Bureau, Solid Waste Program

Date: July 6, 2010

APPENDIX

EVALUATION OF POTENTIAL ENVIRONMENTAL IMPACTS RELATED TO THE PROPOSED FACILITY

This section evaluates potential environmental effects that may occur if the land application site is licensed. **Bolded headings I and II** corresponds to Tables 1 and 2. The number on each of the underlined resource headings corresponds to one of the resources listed in the tables. Generally, only those resources potentially affected by the proposal are discussed. If there is no effect on a resource, it may not be mentioned in the appendix.

Direct and indirect impacts are those effects that occur in or near the proposed project area and might extend over time. Often, the distinction between direct and indirect effects is difficult to define, thus in the following discussion, impact or effect means both types of effects.

Cumulative impacts are restricted to the net effects of the proposed project because no other known projects are proposed in this area. Secondary impacts are induced by a direct impact and occur at a later time or distance from the triggering action. No secondary impacts are expected.

Table 1 - IMPACTS TO THE PHYSICAL ENVIRONMENT

<u>PHYSICAL ENVIRONMENT</u>		Major	Moderate	Minor	None	Unknown	Attached
1. TOPOGRAPHY: Are there unusual geologic features? Will the surface features be changed?					✓		
2. GEOLOGY & SOIL QUALITY, STABILITY & MOISTURE: Are fragile, compactible, or unstable soils present? Are there special reclamation considerations?					✓		
3. WATER QUALITY, QUANTITY & DISTRIBUTION: Are important surface or ground water resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?					✓		
4. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?					✓		
5. DEMANDS ON ENVIRONMENTAL RESOURCES OR LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?					✓		
6. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other studies, plans or projects on this tract?					✓		
7. TERRESTRIAL, AVIAN, AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds, or fish?				✓			✓
8. VEGETATION COVER, QUANTITY & QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?					✓		
9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Any species of special concern?				✓			✓
10. HISTORICAL AND ARCHAEOLOGICAL SITE: Are any historical, archaeological, or paleontological resources present?				✓			✓
11. AESTHETICS: Is the project on a prominent topographical feature? Will it be visible from populated or scenic areas? Will there be excessive noise, light, or odors?					✓		
12. AGRICULTURE: Will grazing lands, irrigation waters or crop production be affected?				✓			✓

CUMULATIVE AND SECONDARY IMPACTS — The cumulative impacts from the proposed approval and licensure of the land application site are minor. The land application parcels will be rotated to facilitate the use of the nitrogen and other land applied nutrients for the production of native grasses. There are no recognized secondary impacts.

Table 2 - IMPACTS TO THE HUMAN ENVIRONMENT

HUMAN ENVIRONMENT		Major	Moderate	Minor	No	Unknown	Attached
1. SOCIAL STRUCTURES & MORES: Is some disruption of native or traditional lifestyles or communities possible?					✓		
2. CULTURAL UNIQUENESS & DIVERSITY: Will the action cause a shift in some unique quality of the area?					✓		
3. DENSITY & DISTRIBUTION OR POPULATION & HOUSING: Will the project add to the population and require additional housing?					✓		
4. HUMAN HEALTH & SAFETY: Will this project add to health and safety risks in the area?					✓		
5. COMMUNITY & PERSONAL INCOME: Will the facility generate or degrade income?					✓		
6. QUANTITY & DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimate number.					✓		
7. LOCAL & STATE TAX BASE REVENUES: Will the project create or eliminate tax revenue?					✓		
8. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?					✓		
9. INDUSTRIAL, COMMERCIAL, & AGRICULTURAL ACTIVITIES & PRODUCTION: Will the project add to or alter these activities?					✓		
10. ACCESS TO & QUALITY OF RECREATIONAL & WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?					✓		
11. LOCALLY ADOPTED ENVIRONMENTAL PLANS & GOALS: Are there state, county, city, USFS, BLM, tribal, etc., zoning or management plans in effect?					✓		
12. TRANSPORTATION: Will the project affect local transportation networks and traffic flows?					✓		

CUMULATIVE AND SECONDARY IMPACTS — There are no cumulative impacts recognized from the applicant's use of the proposed land application site. There are no recognized secondary impacts.

I. POTENTIAL IMPACTS OF THE PROPOSED LAND APPLICATION SITE ON THE PHYSICAL ENVIRONMENTS (See Table 1)

7.0 Terrestrial, Avian, and Aquatic Life and Habitats

There are no wetlands or permanent surface water bodies located on the proposed site. Because no continuously active aquatic systems exist within the boundary of the proposed site, it is unlikely that there is any significant aquatic life or habitat anywhere on the site. Therefore, the impact to aquatic species is negligible. There was no intensive survey performed to study the presence of or impact to terrestrial or avian species within the land application site. However, there is adequate acreage of similar habitat available in the vicinity of the site to accommodate any species that may be forced to relocate. Consequently, any terrestrial or avian species will likely relocate to the adjacent locations.

9.0 Unique, Endangered, Fragile, Or Limited Environmental Resources

A search of the Montana Natural Heritage Program indicated the Greater sage-Grouse is listed as sensitive within a 1-mile radius of the site. There are no wetlands or permanent surface water bodies located on the proposed site. In addition, no intensive site survey was conducted to study the presence of or impact to sensitive, unique, endangered, or fragile species within or adjacent to the proposed land application site. Therefore, due to the sparse development and human population adjacent to the proposed site, there is adequate acreage of similar habitat available in the vicinity to accommodate any species that may be forced to relocate.

10.0 Historical and Archaeological Site

A cultural resource file search was conducted for the site. Records indicate there have been no previously recorded sites within Section 8, T7N R60E. The State Historic Preservation Office feels that there is a low likelihood cultural properties will be impacted and therefore a cultural resource inventory is unwarranted at this time. However, if cultural materials are inadvertently discovered during this project, the State Historic Preservation Office will be contacted and the site investigated.

12.0 Agriculture

Agricultural activities in the area consist primarily of grazing lands. The pumpings from the pumper business will be land applied to the ground surface using annual application rates (AAR) for those wastes. At this site, septage type waste will be applied at a rate not to exceed 28,846 gallons per acre per year and portable toilet/vault toilet type waste will be applied at a rate not to exceed the calculated AAR of 14,423 gallons per acre per year. This will ensure that over application does not occur and that the native grass grown on the site can use the nitrogen being land applied. Land application sites are rotated on an annual basis to facilitate the production of crops/grasses that will utilize the nitrogen and other nutrients contained in the waste. The impacts on agricultural production due to the proposed land application of septage type waste at this site will be minor.