DEPARTMENT OF ENVIRONMENTAL QUALITY
Environmental Assessment

Water Protection Bureau

Name of Project: Yellowstone Energy Limited Partnership Ash Monofill

Type of Project: Placement of petroleum coke ash at an existing monofill.

Location of Project: SE 1/4, Section 24, Township 08 South, Range 25 East
NE 1/4, Section 25, Township 08 South, Range 25 East
Carbon County
Latitude: 45.12015°, Longitude: -108.60194°

City/Town: Warren **County:** Carbon

Description of Project: This Environmental Assessment (EA) is associated with the renewal of an existing Montana Ground Water Pollution Control System (MGWPCS) permit (MTX000061) for the Yellowstone Energy Limited Partnership Ash Monofill (facility). The MGWPCS permit reauthorizes Yellowstone Energy Limited Partnership's (permittee) placement of petroleum coke ash at an existing ash monofill. The monofill has been in use since the early 1990's.

Fly ash is a byproduct of the petroleum coke-fueled combustion process at the permittee's electrical generating power plant in Billings. The ash is transported and deposited by truck on top of the existing monofill site that is located in the foothills of the Pryor Mountains, northeast of Warren. The monofill is used for disposal only when the ash cannot be repurposed/reused.

The MGWPCS permit requires:

- Long term ground water and underdrain monitoring for potential monofill leachate;
- Best management practices for fugitive dust and erosion control; and,
- Rehabilitation of the monofill.

The scope of this EA addresses the operation, placement of waste, best management practices, and monitoring conditions of the facility. The magnitude and significance of potential impacts are summarized below (bullet #26).

Agency Action and Applicable Regulations: The proposed action is to reissue the individual MGWPCS permit that contains limitations, monitoring, reporting, rehabilitation requirements, and best management practices to control dust and erosion. The permit is issued under the authority of the Montana Water Quality Act, and the Montana Ground Water Pollution Control System rules.

Summary of Issues: The purpose of this action is to:

- Continue monitoring facility activities and site conditions for any potential impact to state waters;
- Maintain best management practices to control dust and erosion; and,
- Maintain rehabilitation plans for the ash monofill.

Affected Environment & Impacts of the Proposed Project:

Y = Impacts may occur (explain under Potential Impacts).
N = Not Present or No Impact will likely occur.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	**[Y]** The natural topography and the constructed embankment of the ash monofill have steep grades which may increase the chances of erosion. The MGWPCS permit requires the permittee to use best management practices for the active control of on-site erosion and sedimentation. The permit also requires the permittee to place a top soil cap on the ash monofill and to establish a native vegetation community. Post-rehabilitation monitoring for ground water, surface water, erosion control, and vegetation cover shall be continued as mitigation measures until approved and terminated by DEQ.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	**[Y]** The facility overlies the Madison Aquifer that is regarded as the main ground water aquifer in the region. The MGWPCS permit requires the monitoring of the shallow portion of the Madison Aquifer that underlies the ash monofill. Monitoring wells are monitored to detect any potential leachate that occurs from the ash monofill. The permit also requires monitoring of the monofill underdrain. Monitoring of the facility commenced in the early 1990's when the facility was first established. To date, the administrative record does not show detection of potential leachate in the ground water, nor leachate in the underdrain. Monitoring information from the

IMPACTS ON THE PHYSICAL ENVIRONMENT	
	last permit cycle is summarized in Table 4 and 5 of the associated Fact Sheet document. Since 2015/2016 monitoring of shallow ground water has been irregular due to dry and non-viable monitoring well conditions (Table 4, Fact Sheet document). DEQ therefore has established mitigation measures in the form of permit special conditions. The permittee is required to reestablish long term viable ground water monitoring. These special conditions are summarized within Section 6 of the Fact Sheet document.
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	**[Y]** Fugitive dust may be of concern. The MGWPCS permit therefore requires the permittee to use best management practices for the active control of dust emissions. The permittee currently hydrates each load of ash with water from on-site water tender trucks. The MGWPCS permit requires rehabilitation of the monofill site upon closure which will include a native vegetation cap. DEQ will require post-rehabilitation monitoring.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	**[Y]** As the monofill grows in size so does the disturbance area. Total site disturbance was first proposed within the 1991 reclamation plan. The State of Montana in turn established rehabilitation requirements including the placement of top soil, the establishment of a native vegetative community, and post-rehabilitation monitoring. Based on a search of the Natural Heritage Database, there are no vegetative species listed as either S1, S2, LE, or LT in the general vicinity of the facility. (http://fieldguide.mt.gov/statusCodes.aspx#msrc:rank)
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	**[N]** Based on a search of the Natural Heritage Database, there are three animal species listed as either S1, S2, LE, or LT in the vicinity of the facility (http://fieldguide.mt.gov/statusCodes.aspx#msrc:rank). The headwater for Piney Creek is located approximately 4,700 feet to the southeast of the monofill. It is believed to be habitat for *Oncorhynchus clarkii bouvieri* (Yellowstone Cutthroat Trout)

IMPACTS ON THE PHYSICAL ENVIRONMENT	
	which is listed by the state as a S2 species. The Madison aquifer near the facility has a bearing to the southwest which places the creek sidegradient of the monofill (Section 2, Fact Sheet document). There have been observations of *Polioptila caerulea* (Blue-gray Gnatcatcher), which is listed by the state as a S2B species, within the region surrounding the facility. The facility area has been disturbed since the early 1990's. Upon the end of the life of the monofill, rehabilitation including reestablishment of a native vegetative community will provide a benefit to all species. The facility area falls within general habitat for *Centrocercus urophasianus* (Greater Sage Grouse), which is listed by the state as a S2 species. More information on this species is provided in #7 below.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	**[N]** There are no federally listed, threatened, or endangered species in or around the facility, see #4 and #5 above. The site lies in the Bighorn Basin, a unique ecosystem in Montana. This area has very rich biological diversity values due to the environmental gradient, geographic location, and plant endemism. The bighorn desert region contains many endemic and peripherally uncommon plant and animal species with communities that are more typical of the Great Basin and Colorado Plateau. Site and habitat inventories for the applicable species were recommended in consultation with the Montana Natural Heritage Program. The applicant is encouraged to contact and consult with this program or other Natural Resource Information Programs available at the Montana State Library: http://nris.msl.mt.gov/
7. SAGE GROUSE EXECUTIVE ORDER: Is the project proposed in core, general or connectivity sage grouse habitat, as designated by the Sage Grouse Habitat Conservation Program (Program) at: https://sagegrouse.mt.gov/	**[Y]** The Montana Sage Grouse Habitat Conservation Program's website shows that the facility area falls within the general habitat area for the Greater Sage Grouse (*Centrocercus urophasianus).* The facility is close to but just outside of the BLM Priority Habitat Management Area. https://sagegrouse.mt.gov/ The permittee has been referred to the Sage Grouse Habitat Conservation Program for consultation: https://sagegrouse.mt.gov/. The permittee must provide DEQ with

IMPACTS ON THE PHYSICAL ENVIRONMENT	
	notice of any restrictions (or recommendations) placed upon the project. The facility was first established in the early 1990's prior to the current sage grouse conservation program. DEQ requires that all disturbance be rehabilitated with a native vegetation community.
8. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	**[N]** A general recommendation by the Montana State Historic Preservation Office (MSHPO) states that in the event that cultural materials are inadvertently discovered, the permittee should contact the MSHPO office for investigation.
9. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	**[N]** No significant impacts have been identified.
10. DEMANDS ON ENVIRONMENTAL RESOURCES OF 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? Will new or upgraded power line or other energy source be needed?	**[N]** The on-site activity of hydrating ash utilizes ground water from the underlying Madison Aquifer. Montana Department of Natural Resources and Conservation regulates water as a resource and may be consulted at: http://dnrc.mt.gov/divisions/water/water-rights.
11. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	**[N]** The facility is adjacent to the active and expanding Bighorn Limestone Quarry.

IMPACTS ON THE HUMAN ENVIRONMENT	
12. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	**[N]** The facility is located in a rural area. The closest populated town is Frannie, Wyoming located over ten miles away (as the crow flies). DEQ requires the permittee to actively control any fugitive dust emissions in use of best management practices. The permittee currently hydrates the ash using an on-site water tender truck.
13. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	**[Y]** The ash monofill operates as a disposal option for the permittee's electrical generating power plant in Billings.

IMPACTS ON THE HUMAN ENVIRONMENT	
14. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	**[N]** Employees are needed on-site during operation.
15. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	**[N]** No significant impacts have been identified.
16. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	**[N]** The project was first created in the early 1990's. Trucks hauling ash will continue to use the main highways and county roads in between Billings and the monofill.
17. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	**[N]** No significant impacts have been identified.
18. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	**[N]** There is no public access through the facility. The nearby mining operations of the limestone quarry may limit any local access by the public.
19. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	**[N]** No significant impacts have been identified.
20. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	**[N]** No significant impacts have been identified.
21. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	**[N]** No significant impacts have been identified.
22. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	**[N]** No significant impacts have been identified.
23(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	**[N]** No significant impacts have been identified.

IMPACTS ON THE HUMAN ENVIRONMENT	
23(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	**[N]** No significant impacts have been identified.
23(c). PRIVATE PROPERTY IMPACTS: If the answer to 23(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	**[ ]** No significant impacts were identified in 23(b).

24. **Description of and Impacts of other Alternatives Considered:**

A. No Action: Under the "No Action" alternative, the Department would not reissue the existing ground water discharge permit. "No Action" may lead to the creation of a non-permitted facility. This may result in the loss of:

- facility and ground water monitoring and reporting;
- rehabilitation requirements;
- fugitive dust control requirements; and,
- erosion control requirements.

B. Approval with Modification: The Department has not identified any necessary modifications to grant approval.

25. **Cumulative Effects:**

Each load of ash is hydrated on-site with water. Hydration triggers the pozzolanic reaction of the ash's calcium hydroxide and siliceous/aluminous materials resulting in cementation, therefore leeching of pollutants from the monofill is not likely. The permit requires ongoing monitoring and reporting of the underlying ground water.

26. **Summary of Magnitude and Significance of Potential Impacts:**
Impacts were assessed with the assumption that the facility will comply with the terms and conditions of the permit. Violations of the permit could lead to significant adverse impacts to state waters. Violations of the permit are not an effect of the agency action since the permit itself forbids such activities. However, the Department has taken steps to ensure that violations do not occur. The Department provides assistance to applicants in understanding and implementing the requirements of the permit. The Department also conducts periodic inspections of permitted facilities, and identifies potential problems with design or management practices. If violations of the permit do occur, the Department will take appropriate action under the water quality act. Enforcement sanctions for violations of the permit include injunctions, civil and administrative penalties, and cleanup orders.

27. **Preferred Action Alternative and Rationale**: The preferred action is to reissue the existing individual MGWPCS discharge permit. This action is preferred since the permit provides a regulatory mechanism for monitoring ground water quality, dust emission controls, erosion controls, and rehabilitation requirements.

Recommendation for Further Environmental Analysis:

[ ] EIS [ ] More Detailed EA [**X**] No Further Analysis

Rationale for Recommendation: An EIS is not required under the Montana Environmental Policy Act because the project lacks significant adverse effects to the human and physical environment.

28. **Public Involvement:** Legal notice information for water quality discharge permits are listed at the following website: http://deq.mt.gov/Public/notices/wqnotices. Public comments on this proposal are invited any time prior to close of business on August 14, 2019. Comments may be directed to:

DEQWPBPublicComments@mt.gov

or at:

Water Protection Bureau
PO Box 200901
Helena, MT 59620

All comments received or postmarked prior to the close of the public comment period will be considered in the formulation of the final permit. DEQ will respond to all substantive comments pertinent to this permitting action and may issue a final decision within thirty days of the close of the public comment period.

All persons, including the applicant, who believe any condition of the draft permit is inappropriate, or that DEQ's tentative decision to deny an application, terminate a permit, or prepare a draft permit is inappropriate, shall raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period (including any public hearing). All public comments received for this draft permit will be included in the administrative record and will be available for public viewing during normal business hours.

Copies of the public notice were mailed to the applicant, state and federal agencies and interested persons who have expressed interest in being notified of permit actions. A copy of the distribution list is available in the administrative record for this draft permit. Electronic copies of the public notice, draft permit, fact sheet, and draft environmental assessment are available at the following website: http://deq.mt.gov/Public/notices/wqnotices.

Any person interested in being placed on the mailing list for information regarding this permit may contact the DEQ Water Protection Bureau at (406) 444-5546 or email DEQWPBPublicComments@mt.gov. All inquiries will need to reference the permit number (MTX000061), and include the following information: name, address, and phone number.

During the public comment period provided by the notice, DEQ will accept requests for a public hearing. A request for a public hearing must be in writing and must state the nature of the issue proposed to be raised in the hearing.

29. **Persons and/or Agencies Consulted or Referenced in the Preparation of this Analysis**:

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U.S. Environmental Protection Agency, Guidance Manual for Developing Best Management Practices http://www.epa.gov/npdes/pubs/owm0274.pdf>, 1993.

U.S. Department of Interior. National Park Service. 2003. Bighorn Canyon National Recreation Area: Reclamation of Abandoned Uranium Exploration Sites, Environmental Assessment. May 2003.

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EA Checklist Prepared By:

Chris Boe June 25, 2019

Approved By:

Jon Kenning, Chief
Water Protection Bureau

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Signature Date