



**ENVIRONMENTAL SOLUTIONS, INC.**

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P. O. Box 149

Beulah, WY 82712

(307) 283-1245

February 16, 2010

Mr. Tim Lyons  
Crook County Growth and Development  
PO Box 848  
Sundance, WY 82729

RE: Planning and Zoning Request


Dear Tim:

I am working on Wyoming Air Quality Division and Land Quality Division permits for a rock quarry operation located in Sections 3 and 4 in Township 53 North, Range 66 West and Section 33 in Township 54 North, Range 66 West. Earth Work Solutions currently has a WDEQ/LQD Limited Mining Operation (Ten Acre Exemption) in that area and will be expanding that operation to a small mine permit. As part of the permitting requirements, I have to provide a letter from your office stating that Crook County has no special zoning or planning regulations applicable for aggregate operations. I obtained a similar letter from your office for a previous permitting exercise in 2008 but was not aware of your new formal request requirement. Therefore, I have the air permit application ready to send in for my client and I would appreciate your help in obtaining the necessary letter as soon as possible.

I have enclosed a document outlining air quality permitting requirements and a copy of the application form. Both documents contain the request to provide the requested letter from either your office or the county commissioners

If you have any questions or require additional information, please call me at (307) 283-1245 or my cell phone is 660-1594 and my e-mail is [mcgirr@vcn.com](mailto:mcgirr@vcn.com).

Sincerely,

  
Dennis R. McGirr

## ENVIRONMENTAL SOLUTIONS, INC.

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P. O. Box 149

Beulah, WY 82712

(307) 283-1245

March 10, 2010

Wyoming Department of Environmental Quality  
Air Quality Division  
Herschler Building  
122 W. 25<sup>th</sup> Street  
Cheyenne, WY 82002

RE: Permit Application for Earth Work Solutions Lake Ranch Quarry

Dear Sir or Madam:

Enclosed for your review are three copies of an air permit application (Form AQD-MN) for Earth Work Solution's mine facility in Crook County known as the Lake Ranch Quarry and operated as a Limited Mining Operation 10 acre exemption number 1459ET.

I am pleased to present a new Air Quality Application for our Lake Ranch pit. This site is the location where the US Bureau of Reclamation mined the rip rap for the Keyhole Reservoir in Crook County. This location is extremely remote. They chose this location for the quality of rock, not for the location. We found this location by building roads for the land owner. Due to the remote location we processed the material for their roads in this deposit. When we realized that there may be a commercial market for this material, the land owner was extremely pleased and is completely cooperative.

This rock is phonolite. The properties that the Bureau of Reclamation needed for a durable rip rap, also possesses qualities for not producing dust when it is used for all road purposes including gravel surfacing, asphalt paving, concrete, chip seals, and salt sand. The properties that produce these results are tested by ASTM as their LA wear test and Soundness testing. This phonolite has an LA Wear of 18 vs. about 35 for local limestone. Soundness for this phonolite is between .004 and 0, the local limestone is always greater than 1. All other aggregates used in the area including shale, scoria and river gravel are much softer than the limestone we have compared it too. The difference in wear or hardness and soundness cause our material to produce much less dust during crushing and also during its end use, on a road.

The Wyoming DOT is very excited about this source of aggregate, and has completed many tests on this material. They conclude they would prefer to use our aggregate. Unfortunately this is also a rather costly product to produce, and politically they cannot specify our material for all local area projects. Therefore they have decided that if we can produce the products they desire they will specify its qualities for wear courses and chip seals for most of their District 4. The many factors they considered where, longer road life, better skid resistance (safety), less rutting and the lack of polishing, that other aggregates produce. WYODOT would also like to produce stone matrix asphalt with this aggregate due to the compressive strength.

All of the adjacent county and private roads are surfaced primarily with gray shale. Gray shale is very dusty, and has a relatively short life before needing to be replaced. We have contacted Crook County and they have been very pleased to have a new source of aggregate in this area and the roads we will be using will be resurfaced with this aggregate as needed. The local surrounding residents also look forward to being able to surface their roads with a quality aggregate at a reasonable price.

The cost involved with processing this material will limit the volume as well as freight costs. The quality of this rock will produce higher air quality on the roads that are surfaced with this aggregate. Also the crushing and screening will produce less dust than other aggregates.

All crushing will be done by a subcontractor that has the appropriate air quality permits for their equipment. They will use water spray as needed to control dust at the crushing location. We will use water trucks and Magnesium Chloride as needed for our haul roads.

If you have any questions or require additional information, please call me at (307) 283-1245 or (307) 660-1594 or e-mail me at [mcgiirr@vcn.com](mailto:mcgiirr@vcn.com). My address is PO Box 149, Beulah, Wyoming 82712.

Sincerely,

Dennis R. McGiirr

cc: Tyler Miller



**STATE OF WYOMING**  
**Department of Environmental Quality**  
**Air Quality Division**  
**WAQS&R Chapter 6, Section 2 Permit Application**  
**Mining/Quarry Operations - Non Coal**  
**Permit Application Form**



*Please submit three (3) copies of the complete application*

**COMPANY:** Earth Work Solutions (WY)  
**Contact:** Tyler Miller **Title:** President  
**Mailing Address:** PO Box 1007  
**City:** Gillette **State:** Wyoming **Zip:** 82717  
**Phone:** (307) 682-4346 **Fax:** (307) 682-3088 **E-Mail:** Tyler.miller@earthwork.us.com

**MINE/QUARRY NAME:** Lake Ranch  
**New Mine/Quarry:**  **Modification to existing Mine/Quarry:**   
**Size of Mine/Quarry:** 10 **Acres**  
**Legal Description:** NE 1/4 NE 1/4 **Section** 4 **T** 53 **N** **R** 66 **W**  
**Latitude:** \_\_\_\_\_ **Longitude:** \_\_\_\_\_  
**County:** Crook  
**Number of residences within 1 mile radius:** One **Distance to nearest residence:** ¼ mile

**TYPE OF MATERIAL MINED:** (This form is **Not** for Coal Mines) Phonolite Rock Talus  
**Total Material Available:** 5,000,000 **tons** **Max. Annual Production:** 150,000 **tons/yr**  
**Max. Hourly Production:** 400 **tons/hr** **Avg. Hourly Production:** 300 **tons/hr**  
**Max. Hours of Operation:** 10 **hours/day** 5 **days/week** 24 **weeks/year**

**EQUIPMENT/OPERATION PLANNED AT THIS SITE:** (mark all that apply)  
**Crushing\*** + **Stockpiling\***   
**Screening\*** + **Blasting\***   
**Hot Mix Asphalt Plant\*** + **Concrete Batch Plant\*** +  
**\*Operation of crushers, screens, stock piling, blasting, hot mix asphalt plants or concrete batch plants at the quarry will only be allowed if so designated on this application.**  
**+Any crushers, screens, hot mix asphalt plants, or concrete batch plants must have a separate, valid air quality permit to operate at this mine/quarry.**

- This application must include:**
- Documentation that the proposed site is located in accordance with proper land use planning as determined by the appropriate state or local agency charged with such responsibility (local planning and zoning department, county commissioners, etc) (Per Chapter 6, Section 2(c)(iv) of the WAQS&R).**
  - A map identifying the site location and mining activities (for operations 10 acres or less) or a mine plan (for operations more than 10 acres). (The mine plan from the Land Quality Division (LQD) Application [Item 9 on LQD Form 1(s)] may be used; a reclamation plan is not required.)**

I, Tyler Miller,  
**Responsible Official** (Please print or type) **Title**  
state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further certify that the maximum production rate listed in this application reflects the maximum anticipated production rate at this mine/quarry. The facility will operate in compliance with all Wyoming Air Quality Standards and Regulations.

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**FORM: AQD-MN1** **REVISED: August 2008**



**STATE OF WYOMING**  
**Department of Environmental Quality**  
**Air Quality Division**  
**WAQS&R Chapter 6, Section 2 Permit Application**  
**Mining/Quarry Operations - Non Coal**

**DISTURBED/OPEN ACREAGE**

Acreage Subject to Wind Erosion: 3 acres

**TOPSOIL**

Tons/day removed: 0 tons/year removed: \_\_\_\_\_

Fugitive Particulate Control Method and Frequency: NA

**TOPSOIL STOCKPILES**

No. of Topsoil Stockpiles: 0 Size of Piles: 0 tons or yd<sup>3</sup> (circle one)

Topsoil Stockpile Fugitive Control Method and Frequency: \_\_\_\_\_

**OVERBURDEN**

Tons/day removed: 0 tons/year removed: 0

Fugitive Particulate Control Method and Frequency: \_\_\_\_\_

**OVERBURDEN STOCKPILES**

No. of Overburden Stockpiles: 0 Size of Piles: 0 tons or yd<sup>3</sup> (circle one)

Overburden Stockpile Fugitive Control Method and Frequency: \_\_\_\_\_

**MINED MATERIAL**

Tons/day Removed: 2,000 tons/year removed: 100,000

Fugitive Particulate Control Method and Frequency: Water spray as needed

**MINED MATERIAL STOCKPILES**

No. of Mined Material Stockpiles 2 Size of Piles: 25,000 yd<sup>3</sup>

Mined Material Stockpile Fugitive Control Method and Frequency: Water spray as needed

**BLASTING**

Number of Blasts per year: 0

Type of Blasting Agent Used: \_\_\_\_\_ Amount of Blasting Agent Used: \_\_\_\_\_ tons/yr

Horizontal Area of Blast: \_\_\_\_\_ ft<sup>2</sup>

Operational Practices used for Emission Control: Blasting not planned at this time or for many years but may be implemented in the future.



**STATE OF WYOMING**  
**Department of Environmental Quality**  
**Air Quality Division**  
**WAQS&R Chapter 6, Section 2 Permit Application**  
**Mining/Quarry Operations - Non Coal**  
**Mined Material Information 2**



**ACCESS & HAUL ROADS \***

Maximum Distance Material will be Hauled until Reaching Pavement: ten miles

Fugitive Particulate Control Method: Water spray and magnesium chloride

Type of Dust Suppressant Used: Water and Magnesium chloride

Control Application Frequency: As needed

\* The application **MUST include a map** identifying all haul roads, including county roads, other unpaved roads, and the first paved road associated with the mining activities.

**HAUL TRUCKS (Trucks that Transport Product from the Quarry)**

Truck Type 1 (Description): Tractor with side dump

No of Trucks: 10 Capacity (tons): 32 Empty Weight (lbs): 30,000

Truck Type 2 (Description): \_\_\_\_\_

No of Trucks: \_\_\_\_\_ Capacity (tons): \_\_\_\_\_ Empty Weight (lbs): \_\_\_\_\_

Truck Type 3 (Description): \_\_\_\_\_

No of Trucks: \_\_\_\_\_ Capacity (tons): \_\_\_\_\_ Empty Weight (lbs): \_\_\_\_\_

Truck Type 4 (Description): \_\_\_\_\_

No of Trucks: \_\_\_\_\_ Capacity (tons): \_\_\_\_\_ Empty Weight (lbs): \_\_\_\_\_

**CRUSHING/SCREENING/HOT MIX ASPHALT PLANT/CONCRETE BATCH PLANT:**

If crushing or screening equipment, a hot mix asphalt plant, or concrete batch plant will be operating at the mine and does not have a valid air quality permit or relocation permit, the appropriate application form (Forms AQD-CS1-4, AQD-HM1-4, or AQD-CB1-3) must be submitted for the equipment.

**OTHER** None

Other Emission Sources and Control: \_\_\_\_\_



# Air Quality Permitting of Mining and Quarry Operations - Non Coal

Mining and quarry operations are required to submit a permit application to the Wyoming Department of Environmental Quality - Air Quality Division and obtain a construction permit or a permit waiver under Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 6, Section 2 prior to any operations at the quarry. A construction permit is required for mining and quarry operations of more than 10 acres. A construction permit or permit waiver is required for mining and quarry operations of 10 acres or less. A determination on whether a permit or waiver will be issued will be made once the application is received.

Applications for construction permits or permit waivers should be submitted as early as possible. In general, a waiver will take approximately 45 days to issue and a construction permit 120 days to issue from receipt of the application. If a permit is to be issued, the process is as follows:

The application will be reviewed within thirty (30) days of receipt, and you will be notified as to whether or not the application is complete. If the application is complete, a decision will be made to either approve or disapprove your request within sixty (60) days of the determination that the application is complete. Once the decision to approve your request is made, a thirty(30) day public comment period is required. A public hearing can also be requested any time during the public comment period. A public hearing will be scheduled after the public comment period. Comments received at a public hearing are addressed along with those received during the public comment period.

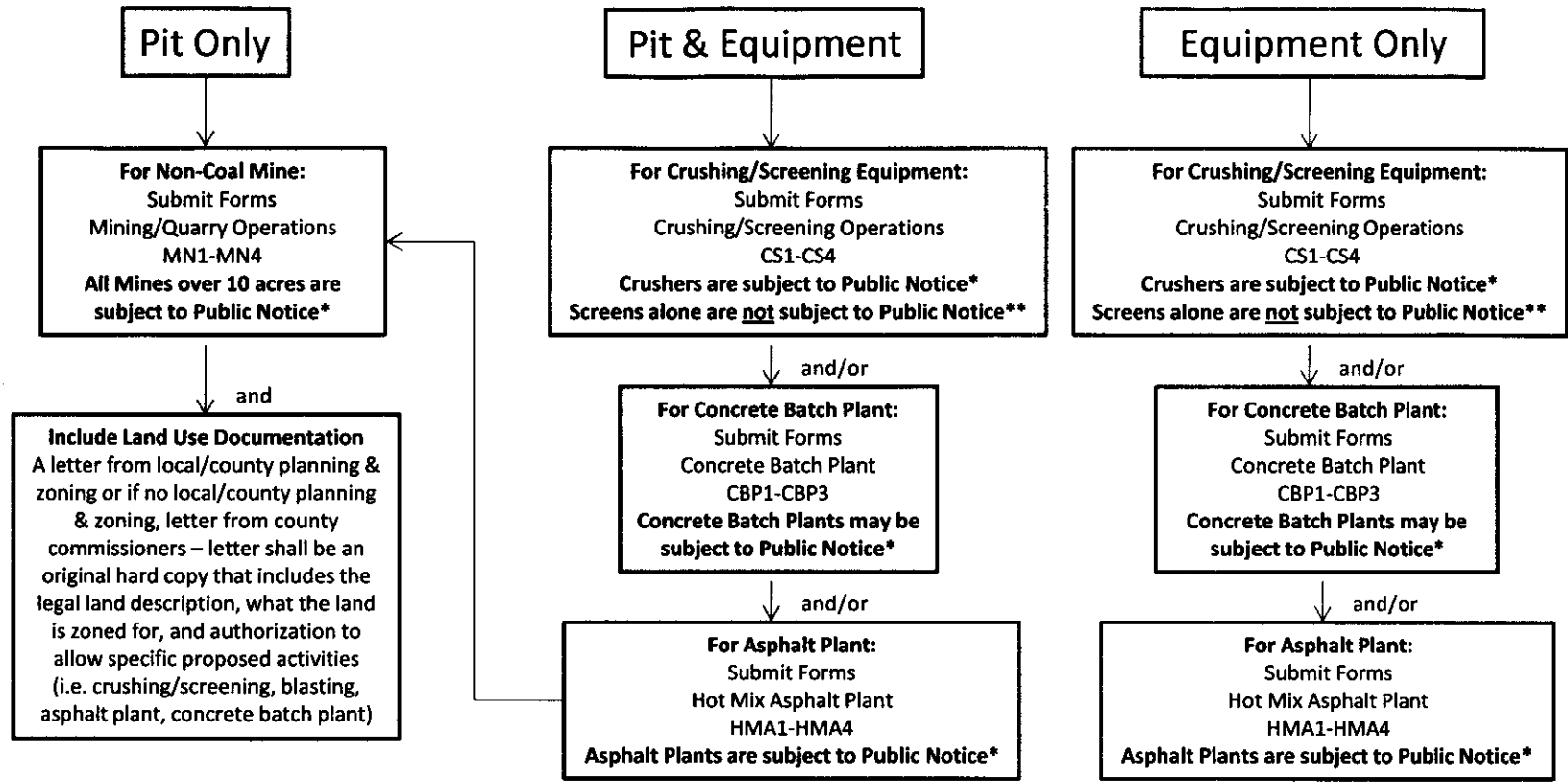
Conditions of the waiver or permit will include the requirement to treat haul routes, work areas, and stockpiles with water and/or chemical dust suppressants to control fugitive dust. Also, a general condition requiring water sprays at all belt transfer points, shaker screens, and discharge points for any crushing/screening equipment as necessary to limit visible emissions.

**Operation of crushers, screens, hot mix asphalt plants or concrete batch plants at the quarry will only be allowed if so designated on the application for the quarry.** Make sure and check the appropriate boxes for equipment/operations planned at the site.

**Any crushers, screens, hot mix asphalt plants or concrete batch plants must have a separate, valid air quality permit.** If new equipment of this type is planned for the quarry, a separate air quality application must be submitted. Previously permitted equipment with a valid air quality permit that allows relocation may be moved to the quarry using relocate permit forms provided by the Division.

**Land Use Documentation** is required and consists of a letter from local/county planning & zoning or if no local/county planning & zoning, letter from county commissioners – letter shall be an original hard copy that includes the legal land description, what the land is zoned for, and authorization to allow specific proposed activities (i.e. crushing/screening, blasting, asphalt plant, concrete batch plant)

Please contact Jamie Sharp at (307) 777-7817 with any questions pertaining to air quality permitting requirements.



**Approximate Permit Processing Times**

- \*Subject to Public Notice**
- Completeness review up to 30 days
- Technical review up to 60 days
- Public Notice processing for local paper
- Public Notice period of 30 days
- Request for public hearing may extend the processing time
- Permit preparation & signatures

- \*\*Not Subject to Public Notice**
- Completeness review up to 30 days
- Technical review up to 60 days
- Permit preparation & signatures

**Payment for Permits**

Applicants are billed based on actual time spent processing the application. Payment is not required at the time of application submission.

**Relocate Permits**

Crushers, screens, engines, hot mix asphalt plants, and concrete batch plants may be relocated throughout the state with an existing Air Quality Permit through a self-issuance process.

**Fred D**

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**From:** Fred D  
**Sent:** Friday, February 19, 2010 10:17 AM  
**To:** 'hopkins@uwyo.edu'  
**Cc:** Tim Lyons; 'jeanne whalen'  
**Subject:** Small mine permit

19 February 2010

Dear Ms. Hopkins:

On 8 March 2010 the Crook County Land Use Planning & Zoning Commission will be acting on a request for a letter regarding land use regulations in the Little Missouri Buttes area. As per our recent conversation I am seeking the State Historic Preservation Office's input regarding archeological concerns it may have with mining operations in this area.

The site is described in the permit application as being in **Sections 3 and 4, Township 53 North, Range 66 West, and Section 33, Township 54 North, Range 66 West,**

The company currently has a Limited Mining Operation exemption (10 acres or less) to remove rock from the site. The owners of the property do not allow crushing on-site, so the rock is hauled to a site on Cabin Creek Road for crushing. The crusher is located just west of the Left Creek Road/Cabin Creek Road intersection in **Section 7, Township 52 North, and Range 66 West.** Please check the crusher location to see if the State Historic Preservation Board has any archeological concerns in that area.

As per our recent conversation we are aware your Board will not provide specifics regarding archeological items existing in the area, but will describe the hazards this mining operation presents and concerns they have.

Thank you for your assistance with this request.

Fred M. Duncan  
Crook County Planner

2/19/2010