

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND QUALITY DIVISION

NONCOAL RULES AND REGULATIONS

CHAPTER 8

EXPLORATION BY DRILLING

**Section 1. Conducting Exploration by Drilling.**

(a) Any discoverer conducting exploration by drilling within this State, shall do so in strict compliance with all the provisions of W.S. § 35-11-404 (2007) this Chapter. Prior to conducting any exploration by drilling the discoverer shall provide notification (Drilling Notification) and a reclamation bond acceptable to the Administrator for the proposed exploration activity.

**Section 2. General Drill Hole Abandonment Requirements.**

(a) All exploration drill holes shall be capped, sealed or plugged in the manner described hereinafter.

(b) Drill holes that have artesian flow of groundwater to the surface shall be plugged in the manner described in W.S. § 35-11- 404(c)(i) to prevent adverse changes in water quality or quantity.

(c) Drill holes that have encountered any ground water or saturated stratum shall be sealed utilizing sealant materials (grout) and emplacement methods as prescribed hereinafter to prevent fluid communication and adverse changes in water quality or quantity.

(d) Sealant materials (grout) shall meet the technical requirements for making a proper seal. Grout products shall meet applicable ASTM, API, NSF, AWWA, or other recognized industry standards. Grout shall be prepared according to manufacturer's directions and shall be mixed as specified for specific site requirements. The following are approved grout materials:

(i) Neat Cement Grout Slurry must consist of a mixture of Portland Cement and not more than 6 gallons of clean water per bag (1 cubic foot or 94 pounds) of cement;

(ii) Sand Cement Grout Slurry must consist of a mixture of Portland Cement, sand, and water in the proportion of not more than 1 part by weight of sand to 1 part of cement with not more than 6 gallons of clean water per bag of cement (1 cubic foot or 94 pounds);

(iii) Concrete Grout Slurry must consist of a mixture of Portland Cement, sand and gravel aggregate, and water in the proportion of not more than 1 part by weight of aggregate to 1 part of cement with not more than 6 gallons of clean water per bag of cement;

(iv) Cement/Bentonite Grout Slurry must consist of a mixture of cement and bentonite in the proportion of not more than 6.5 gallons of water and 3 to 5 pounds of powdered bentonite per 94-pound sack of Portland cement;

(v) Bentonite Grout Slurry means an inorganic mixture with a slurry density of 9.4 lbs./gal. minimum (20%) by weight of solids bentonite, with polymers, water, or other additives for the yield/rate control, which forms a low permeability seal (not greater than  $1 \times 10^{-7}$  cm/sec), and is mixed to the manufacturer's specifications; and

(vi) Nonslurry Bentonite Grout must consist of chipped or pelletized bentonite varieties that are hydrated to manufacturer's specifications.

(e) Sealant materials (grout) shall be emplaced in a manner that provides a water tight seal utilizing one of the following approved methods:

(i) By placing a sealant material by drill pipe, tremie pipe, or similar device in an upward direction from the bottom of the drill hole to within five (5) feet of the ground surface; or

(ii) By placing sodium bentonite chips or pellets specifically designed to be used to seal drill holes from the bottom of the drill hole to within five (5) feet of the ground surface; or

(iii) By placing any of the sealant materials described above in this subsection from the bottom of the drill hole to 50 feet above the uppermost saturated groundwater stratum to within five (5) feet of the surface.

(f) If the sealant material is not brought to within five (5) feet of the ground surface, the discoverer responsible for sealing the drill hole shall:

(i) Measure the depth of the top of the sealant column with the appropriate equipment after sufficient time (minimum 24 hours) has been allowed for the sealant column to set up;

(ii) Continue to install sealant material until the top of the sealant column remains at least 50 feet above the top of the uppermost saturated groundwater stratum;

(iii) Install uncontaminated fill material, drill cuttings, or one of the sealant materials described in Section 2 (d) from the top of the sealant column to within five (5) feet of the ground surface; and

(iv) If sodium bentonite chips or pellets (nonslurry grout), drill cuttings, or uncontaminated earthen material are placed in the drill hole, the drill hole must be four inches or greater in diameter and less than 500 feet in depth and the material must be placed in such a manner that a bridge does not occur. Nonslurry grout may not be placed in more than 300 feet of standing liquid.

(g) If the drill hole is a dry hole, that is the hole was drilled without the use of drilling fluids and the bottom of the hole is above the preexisting natural elevation of the uppermost saturated groundwater stratum, the drill hole may be abandoned by completely backfilling from the bottom of the drill hole to the surface with uncontaminated earthen material or drill cuttings or approved sealant materials described in Section 2(d). When using uncontaminated earthen material or drill cuttings as a backfill material, this material should be tamped frequently during the backfill operation to promote settling and compaction and to verify that bridging has not occurred.

(h) The Administrator and Director may approve other drill hole abandonment procedures at the request of the discoverer.

(i) Drill holes shall be capped in the manner described in W.S. § 35-11-404(c)(iii) to ensure the safety of people, livestock, wildlife, and machinery in the area.

(j) Drill holes shall be capped immediately after drilling and probing in accordance with W.S. 35-11-404(h). If it is necessary to temporarily delay the capping or keep the drill hole open for any reason, the drill hole must be securely covered in a manner which will prevent injury to persons or animals.

(k) Each drill hole shall be marked with a metal or plastic tag or washer that clearly identifies the name of the discoverer and the hole number. For drill holes with a concrete cap, the tag or washer should be attached by wire or cable to the surface cap. For dry holes that have been backfilled to the surface, the tag may be attached to a durable wooden stake driven into the ground or other method acceptable to LQD.

### **Section 3. Reclamation of Drill Sites and Affected Lands.**

(a) Each drill site as defined in Chapter 1, and associated access routes, shall be restored as nearly as possible to their original condition.

(b) All drilling fluids, drill cuttings and geologic samples shall be confined and buried below grade to the extent possible. Excess drilling mud and drill cuttings or any acid-forming or toxic materials uncovered during or created by exploration by drilling, including petroleum contaminated soils, shall be properly disposed of so as not to constitute a fire, health, or safety hazard during or after the exploration by drilling;

(c) To the extent possible, any surface preparation of the drill site shall be accomplished in a manner consistent with Chapter 3, Section 2(b), Land Quality Noncoal Rules and Regulations;

(d) To the extent possible, topsoil removal and stockpiling shall precede any excavation within the drill site and associated improved access routes in a manner consistent with Chapter 3, Section 2(c), Land Quality Noncoal Rules and Regulations; and

(e) To the extent possible, the discoverer shall reestablish the vegetative cover where vegetation has been removed or destroyed within the drill site and access routes by seeding, planting, transplanting, or by other adequate methods in a manner consistent with Chapter 3, Section 2(d), Land Quality Noncoal Rules and Regulations.

(f) All lands, including access roads or terrain damaged in gaining access to or clearing the site, or lands whose natural state has been substantially disturbed as a result of the exploration by drilling, shall be restored as nearly as possible to their original condition, including reseeding if grass or other crop was destroyed.

#### **Section 4. Bond.**

(a) In order to assure and secure performance of the discoverer's obligations, each discoverer shall agree to post a bond for each exploration area. The amount of the bond shall be computed in accordance with established engineering principles, for accomplishing proper drill hole abandonment and surface restoration in accordance with the standards set out in this Chapter. The bond amount may be reduced when the discoverer demonstrates to the satisfaction of the Administrator that drill hole abandonment has been accomplished in accordance with the standards set out in this Chapter.

(b) All bonds must originate from a good and sufficient corporate surety licensed to do business in the State, shall be signed by the discoverer as principal, and be made payable to the State of Wyoming and the Federal land management agency as appropriate.

(c) In lieu of a Surety Bond, the discoverer may submit cash, Certificate(s) of Deposit, Letter(s) of Credit, Treasury Bill(s), Money Market Account(s), or any combination thereof to meet reclamation bond obligations.

(d) The Administrator may accept the bond of the discoverer itself without separate surety when the discoverer demonstrates to the satisfaction of the Administrator

substantial compliance with the applicable provisions of Chapter 6, Land Quality Noncoal Rules and Regulations.

### **Section 5. Termination and Report of Operations.**

(a) Within 12 months after the completion and proper abandonment of any exploration drill hole, the discoverer shall comply with the reporting requirements of W.S. § 35-11-404(e) or (f). After receipt of such report, the Administrator shall have one year to inspect and evaluate the abandoned drill holes, drill sites, and access routes and make a determination of whether to release the bond to the discoverer, require additional reclamation, or institute forfeiture proceedings. The abandoned drill hole reports shall be held as confidential information for a period of five years following full bond release unless the discoverer justifies an additional five-year period.

(b) Forfeiture proceedings and release of bonds shall be according to the procedure set forth in W.S. §§ 35-11-421 through 35-11-423; substituting therein “discoverer” for “operator;” “surface restoration” for “reclamation,” and “exploration by drilling” for “surface mining.”

(c) Failure to so inspect and evaluate abandoned drill holes shall constitute a decision by the Administrator that the discoverer has complied with this Chapter for release of bond purposes only. This one year limitation shall not be construed to alter or affect W.S. § 35-11-404(k)-(n), or any other rights of action against the discoverer granted pursuant to the statutory provisions of the Wyoming Environmental Quality Act.

### **Section 6. Exceptions.**

Sections 2 and 3 of this Chapter, relating to drill hole abandonment and site reclamation, shall not apply to holes drilled in conjunction with open-pit development within an existing permitted surface mine operation that are projected to be mined through within 12 months of drilling. This Chapter shall not apply to holes drilled for the purpose of conducting oil and gas exploration operations. Specific exceptions from certain requirements of this Chapter shall also be preserved in accordance with W.S. § 35-11-404(g) and (h).

### **Section 7. Installation of Wells for Collection of Baseline Information.**

(a) Construction of wells may be authorized by the Administrator under a Drilling Notification for the purpose of collecting ground water baseline data in preparation of a mine permit application.

(b) Prior to installation, a plan shall be submitted and approved by the Administrator that describes the location and completion details of each proposed well.

(c) Wells shall be constructed and permitted in accordance with requirements of

the State Engineer's Office, in accordance with W.S. 35-11-404 (c)(iv).

(d) Wells that do not require a permit from the State Engineer's Office shall be constructed according to the standards contained in Chapter 11, Sections 6(b), 6(c), 6(d), 6(e), and 6(f), Land Quality Noncoal Rules and Regulations.

(e) Provisions shall be made such that each well is secured to prevent contaminant entry.

(f) Adequate bond shall be provided to assure that all wells are properly plugged and sealed and the sites restored.

(g) Well drilling, plugging and sealing and site reclamation shall follow the procedures outlined in Section 2. Well casing shall be cut off two (2) feet below ground surface and any pump and associated appurtenances removed, as applicable, before the well is plugged and sealed.

(h) Abandonment reports as described in Section 5 of this Chapter shall be filed with the Administrator and the State Engineer's Office within 12 months.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND QUALITY DIVISION

NONCOAL RULES AND REGULATIONS

CHAPTER 9

SMALL MINING OPERATIONS

**Section 1. Mining Permit Requirements.**

(a) Prior to the commencement of a small surface mining operation involving not more than 10,000 cubic yards of overburden plus topsoil and subsoil and ten acres of affected land in any one year, an application shall be submitted to the Administrator in duplicate on forms supplied by the Division. Each application shall contain:

(i) The name and address of the applicant, and, if the applicant is a partnership, association, or corporation, the names and addresses of all managers, partners and executives directly responsible for operations in this state;

(ii) A sworn statement stating that the applicant has the right and power by legal estate owned to mine from the land for which the permit is desired;

(iii) A sworn statement that the applicant has not forfeited a bond posted for reclamation purposes and that all statements contained in the permit application are true and correct to the best knowledge of the applicant;

(iv) The names and last known addresses of the owners of record of the surface and mineral rights on the land to be covered by the proposed permit;

(v) The names and last known addresses for the owners of record of the surface rights of the lands immediately adjacent to the proposed permit area;

(vi) An identification of the land to be included in the permit area to include:

(A) The location of the proposed permit area by legal subdivision, section, township and range. If there is no other survey, give the location by protracted survey and map, metes and bounds, claim number and mining district.

(B) The name, if any, by which such lands or any part thereof are known;

(C) The approximate number of acres to be affected, including the total number of acres in the area covered by the permit application;

(vii) A general description of the land which shall include as nearly as possible the following:

(A) A map of vegetation types and a range site-range condition survey on the proposed permit area along with a list of species and a ranking of their relative abundance in each vegetation type. The applicant is encouraged to submit labeled photographs to demonstrate each vegetation type and to document areas of sparse vegetation. Locations photographed should be shown on the vegetation map;

(B) A description of the present land use within the permit boundary including a map at the same scale as the postmining map showing the contours of the proposed permit area and the surrounding lands;

(C) A description of any surface waters within the proposed permit area including estimated average flow rates, storage volume of any reservoirs and associated water rights within the permit area of any stream, reservoir, or lake. Depth to the groundwater shall be indicated; and

(D) A soil map which identifies the soil types, location, their suitability for reclamation and depths and volume of suitable topsoil present on the proposed affected lands. Also, a description of the subsoil and/or overburden material existing between the topsoil and mineral seams.

(viii) A United States Geological Survey map, if available, of the permit area;

(ix) A map based upon public records showing the boundaries of the land to be affected that also includes the following:

(A) The names of any surface waters within the proposed permit area;

(B) Water wells on and within one-half mile of the permit area shall be located on a map where the maximum expected depth of disturbance is within 20 feet of or below the water table; and

(C) An outline of all areas previously disturbed by underground mining or which will be affected by future underground mining as a guide to potential subsidence problems.

- (x) The mineral or minerals to be mined;
  - (xi) The estimated dates of commencement and termination of the proposed permit;
  - (xii) A minimum fee of one hundred dollars (\$100.00) plus ten dollars (\$10.00) for each acre in the requested permit, but the maximum fee for any single permit shall not exceed two thousand dollars (\$2,000.00). The permit is amendable without public notice or hearing if the area sought to be included by amendment does not exceed twenty percent (20%) of the total permit acreage, is contiguous to the permit area and if the operator includes all of the information necessary in the application to amend that is required in this section including a mining and reclamation plan acceptable to the Administrator. The fee for a permit amendment shall be two hundred dollars (\$200) plus ten dollars (\$10.00) for each acre not to exceed two thousand dollars (\$2,000);
  - (xiii) A description of any significant artifacts, fossil or other article of cultural, historical, archeological or paleontological value. Upon recommendation by a qualified archeologist or a qualified paleontologist, the Administrator may require an evaluation of the proposed permit area prior to the time that a permit or license is issued;
  - (xiv) A written statement from the appropriate city and/or county agency documenting that the proposed mining operation does not conflict with existing city regulations/ordinances or county zoning/planning provisions; and
  - (xv) Such other information as the Administrator deems necessary or as good faith compliance with the provisions of the Environmental Quality Act require.
- (b) The application shall include a mining plan and reclamation plan dealing with the extent to which the mining operation will disturb or change the lands to be affected, the proposed future land use or uses and a plan whereby the operator will reclaim the affected lands to proposed future use or uses. The mining plan and reclamation plan shall include the following:
- (i) A statement of the present and proposed use of the land after reclamation;
  - (ii) Plans for surface gradient to a contour suitable for proposed use after reclamation is completed and a proposed method of accomplishment and shall include statements as to the maximum slope that will be created and a plan to reestablish the original surface drainage;
  - (iii) Type of vegetation and manner of proposed revegetation or other surface treatment of the affected area and shall also include a description of the methods and schedule of seedbed preparation and seeding, the amounts of plants to be used, and protective

measures against grazing animals;

(iv) A map showing the location of all activities associated with the operation including roads, temporary drainage diversions, ponds, stockpiles for topsoil, overburden, ore product and waste, plant site and other processing facilities;

(v) An estimate of the total cost of reclaiming the affected lands as outlined in the written proposal computed in accordance with established engineering principles;

(vi) A contour map on the same scale as the reclamation map showing to the extent possible the proposed contours of the affected area after completion of proposed reclamation. The Administrator may waive this requirement if requested by the operator and the degree of surface disturbance is small;

(vii) A description of how topsoil and subsoil will be salvaged, stockpiled, and replaced during reclamation;

(viii) A plan for ensuring that all acid forming, or toxic material, or materials constituting a fire, health or safety hazard uncovered during or created by the mining process in a manner designed to prevent pollution of surface or subsurface water or threats to human or animal health and safety. Such method may include, but not limited to covering, burying, impounding or otherwise containing or disposing of the acid, toxic, radioactive or otherwise dangerous material;

(ix) If surface owner consent cannot be obtained, the options contained in W.S. § 35-11-406(b)(xi) and (xii) shall apply;

(x) The procedures proposed to avoid constituting a public nuisance, endangering the public safety, human or animal life, property, wildlife and plant life or adjacent to the permit area including a program of fencing all stockpiles, roadways, pits and refuse or waste areas to protect the surface owner's ongoing operations;

(xi) The operation shall not lie within three hundred (300) feet of any existing occupied dwelling, home, public building, school, church, community or institutional building, park or cemetery, unless the landowner's consent has been obtained;

(xii) The methods of diverting surface water around the affected lands where necessary to effectively control pollution or unnecessary erosion;

(xiii) The methods of reclamation for effective control of erosion, siltation and pollution of affected stream channels and stream banks by the mining operations;

(xiv) A statement of the source, quality and quantity of water, if any, to be

used in the mining and reclamation operations; and

(xv) A projected timetable for accomplishment of the reclamation plan.

(c) The applicant may have the local conservation district, assist in preparation of, provide data for, perform research, review and comment upon the proposed reclamation plan.

(d) Notification and publication requirement. Upon written notification by the Division that the application is complete, the procedures contained in W.S. § 35-11-406(d) through (p) shall apply as applicable except the notice to be placed in a newspaper of general circulation in the location of the proposed operation for W.S. § 35-11-406(j) shall be two consecutive weeks instead of four consecutive weeks.

## **Section 2. Conversion of Small Mine Permit to Standard Mine.**

If an operator, holding a valid mining permit under W.S. § 35-11-401(j) for a small mining operation, intends to expand his operation to remove more than 10,000 cubic yards of overburden per year or affect more than ten acres of land per year, the operator shall submit revised mining and reclamation plans, revised maps and an appropriate reclamation bond to the Land Quality Division, and obtain approval for the expansion prior to the time when he intends to exceed the established limits. The provisions of W.S. § 35-11-406(d), (j) and (k) will be required. Any public hearing shall apply only to the request of the operator to expand his operation, and the valid mining permit already held by the operator will not be affected.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND QUALITY DIVISION

NONCOAL RULES AND REGULATIONS

CHAPTER 10

LIMITED MINING OPERATIONS

FOR TEN ACRES OR LESS OF AFFECTED LAND

Section 1. **Commencement.**

(a) Prior to the commencement of surface mining operations for the removal of sand, gravel, scoria, limestone, dolomite, shale, ballast, or feldspar from an area of ten acres or less of affected land, a notification shall be submitted by the operator to the Administrator on forms supplied by the Division and shall contain the following:

(i) The name, address, and telephone number of the operator.

(ii) The written consent for the operation from the surface owner and surface lessee, if any, of the land to be affected.

(iii) The location of the area of the operation by legal subdivision, section, township, and range. If there is no other survey, the location by protracted survey, metes and bounds, or claims.

(iv) The mineral to be mined.

(v) The proposed commencement and completion dates of the operation.

(vi) A USGS topographic map:

(A) Each notification (Form 10) must be accompanied by an original quadrangle map (photo copies or other similar copies are not acceptable unless prior approval is obtained from the Land Quality Division).

(B) The following information shall be shown on the quadrangle map:

(I) A legal description of the ten acres or less of land to be affected.

(II) If any previous mining has taken place, or is taking place, within the ten acres or less to be affected, show the location and identity of this mining as an existing mining operation.

(III) Show any existing or proposed access or haul roads into, or away from the proposed mining operation. Any roads to be constructed or upgraded by the operator shall be included as part of the ten-acre operation from that point that they provide exclusive service and shall be covered by a reclamation bond.

(vii) The operator shall provide a description of the proposed mining operation. This description shall include:

- (A) Number of acres to be affected.
- (B) Maximum depth to which mining will occur.
- (C) Depth to groundwater where known.
- (D) Brief description of the mining operation(s) and methods.
- (E) The premining and proposed postmining land use.

(viii) A sworn statement that all information contained in the notification is true and correct to the best knowledge of the operator.

#### Section 2. **Bond.**

The operator shall file a bond pursuant to W.S. § 35-11-401(e)(vii).

#### Section 3. **Annual Reports.**

The operator shall file annual reports pursuant to W.S. § 35-11-401(k).

#### Section 4. **Operation.**

(a) A sign shall be posted and maintained at the entrance of the operation that, at a minimum, clearly shows:

- (i) The name, address, and telephone number of the operator;
- (ii) The name of the operator's local authorized agent; and
- (iii) The LQD limited mining operation number.

(b) All topsoil from affected lands shall be saved and stockpiled in such a manner to minimize wind and water erosion. Such stockpiles shall be clearly identified by a sign.

(c) In no case shall any materials be pushed or dumped over natural escarpments.

#### Section 5. **Reclamation.**

(a) After the mining operations have ceased or within 30 days after the abandonment of the mining operation, the operator shall notify the Administrator of such fact and commence reclamation and restoration. Provided however, that immediate reclamation will not be required if the landowner advises the Department in writing of his intent to further utilize the product of the mine, and if he assumes the obligation of reclamation and furnishes an appropriate bond to the Administrator.

(i) The operation will be considered to be abandoned if any of the following occur:

(A) The individual, partnership, or corporation conducting the operation goes out of business.

(B) No further mining or reclamation work has been done from one annual report to the next.

(C) The mineral being mined has been exhausted.

(D) The period of time for which the surface owner (or lessee) gave permission has expired and a written extension has not been obtained.

(b) The reclamation of the affected lands shall be in accordance with the following:

(i) Reclamation shall be consistent with the proposed postmining land use.

(ii) On commencement of reclamation the topsoil shall be redistributed evenly over the affected area.

(iii) The affected land shall be reclaimed using sound agricultural practices. Surface preparation of affected areas to be seeded, seed types, amounts, methods of seeding and time shall be subjected to approval by the Division prior to seeding.

(iv) Mulching and/or fertilization may be required at the Administrator's discretion to ensure revegetation.

(v) Petroleum wastes and other toxic materials shall be disposed of by methods which ensure that topsoil, vegetation, surface water and groundwater are not contaminated.

(vi) For soft rock operations, final slopes shall be gentle enough to allow for contour seeding and final topography shall be approved by the Division, provided that the final slope shall not be greater than a ratio of 3:1.

(vii) For hard rock operations, whenever possible, the highwall shall be reduced to no greater than a 3:1 slope. The operator must demonstrate the stability of any steeper slope or of any remaining highwall, so that the reclaimed area is left in a condition so as not to create a potential erosion problem or safety hazard to the public or wildlife. Slopes, including any remaining highwall, shall be modified to blend as much as possible to the native landscape.

#### **Section 6. Transfers**

The right to operate under a limited mining exemption may be transferred to a new operator with written approval of the existing operator and written acceptance by the Administrator, provided the new operator submits a new Form 10 and bond required for the new operation and assumes the reclamation liability of the existing operator and does not violate the limitations provided in Section 8 below.

#### **Section 7. Release of Bonds and Forfeiture of Bonds.**

Bond release. Forfeiture and cancellation shall be handled as provided in W.S. §§ 35-11-417 through 35-11-424.

#### **Section 8. Limitation of Operations.**

(a) The operator will not be allowed to:

(i) Conduct more than one operation under W.S. § 35-11-401(e)(vi) within adjacent areas when the operations are to mine the same minerals, or

(ii) Conduct more than one operation of ten acres or less within any six-mile radius when the two operations are to mine the same mineral, so as to circumvent the general requirements of the Environmental Quality Act. The Administrator may allow two operations for the same mineral within the six-mile radius if one of the operations has completed reclamation work and is awaiting bond release. Complete reclamation for the purposes of this section means backfilling, grading, topsoil application and final seeding activities have been completed.