WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND QUALITY DIVISION

GUIDELINE NO. 6A

Format and General Content Guideline for Permit Applications, Amendments and Revisions for Coal Mining Operations.

This document is a guideline only. Its contents are not to be interpreted by applicants or DEQ staff as mandatory. Its preparation is the result of numerous requests from applicants who expressed a need for a check-list to assist them in preparation of a comprehensive initial application containing all required information in a format specified by the Administrator. This guideline reflects application requirements for an average large-scale surface mining operation. Underground mining operations should organize the application in the format and contents recommended by this guideline to the extent such information is required. Separate guidelines are available for in-situ and the non-coal mining operations. More detailed discussions on application content are described in other Division guidelines.

Prior to resource inventory or development of a mining and reclamation plan, an applicant should review the following documents which can be obtained from the Land Quality Division upon request:

1. 1973 Wyoming Environmental Quality Act, as amended.
2. Land Quality Coal Rules and Regulations and revisions.
3. Land Quality guidelines:

    No. 1 - Soils and Overburden
    No. 2 - Vegetation
    No. 4 - In-Situ Mining
    No. 5 - Wildlife
    No. 8 - Hydrology
    No. 9 - Alluvial Valley Floors
    No. 10 - Fencing
    No. 11 - Cultural & Paleontological Resources
    No. 12 - Bonding Calculations - Coal

4. Cooperative Agreement between the State of Wyoming and the Department of Interior (for coal operations on federal lands).

The application should consist of two distinct parts. The first part is the adjudication file. This file contains important documents such as the "Permit to Mine" and "License to Mine" forms, Bond, Notification and Consent Forms, etc. The second part is the application supporting information which contains information requested by Section (3.(d)) and (10) of Form 1 (Application for a Permit to Mine).

Forms 1, 3, the surface owner consent, the Certificate of Public Liability and Appendix "C" should be submitted in loose form. All other application documents must be submitted in loose leaf three-ring binders properly labeled as to the contents. The performance bond may be submitted after the bond amount has been agreed to by the District. The information should be on 8½ x 11 inch paper with standard margins and **page numbers on all** pages. The paper should be durable of about 20 pound and good quality. All figures and tables larger than 8½ x 11 inches should be folded to fit into the application and should be physically attached to the appropriate location in the application. All figures and tables should be numbered and referenced in the text.

Three complete copies of the application must be submitted to the Division. For coal mining operations on federal lands, seven complete copies must also be submitted to the Office of Surface Mining. For non-coal mining operations on federal lands consult the appropriate District Supervisor.

Parts I and II of this guideline outline the organization and basic items that should be included in the adjudication file and supporting information document. Part III outlines map and aerial photo requirements, Part IV provides recommendations for certification of maps and plans and Part V provides general information.

I. Part I - Adjudication File

Form 1

Permit to Mine Application. Affix corporate seal.

Form 3

License to Mine Application. Affix corporate seal.

Reclamation Bond

Original execution of bond and Power of Attorney. Cash, Federally Insured Renewable Certificates of Deposit, Government Securities and/or requirements of LQD Coal Rules and Regulations, Chapter XI, for self-bonding can be submitted in lieu of a surety bond. If a personal or company check is submitted as a cash bond, three weeks waiting is required to assure that the check will be paid by the bank. The permit cannot be approved until the check has cleared the bank. To avoid any delay in approval a certified or cashiers check should be used. It is wise to investigate with surety companies the time necessary to process a bond. The bond must be approved by the attorney General's Office and LQD prior to approval of the mining permit. Initial applications for self-bonding must be submitted at the time the operator submits his/her license to mine, Form 3.

Surface Owner Consent and Right of Entry

Associated legal documents such as leases, agreements, letters of consent (LQD Form 8).

Certificate of Public Liability

1. An original certificate with a notarized signature is required.

2. A rider must be attached requiring the insurance company to notify the LQD whenever changes occur or the policy is canceled or not renewed.

Appendix "A" (For lands within the permit area)

1. List of names and last known addresses of:

   a. Owners of record of the surface rights within permit area.
   b. Owners of record of the mineral rights within permit area.

2. Maps showing locations of ownership in 1.a. and 1.b. above.

Appendix "B" (For lands adjacent to permit area)

1. List of names and last known addresses of owners of record of surface rights of lands immediately adjacent to the proposed permit area and for any other persons having a valid legal estate of record within one-half (½) mile of the permit area such as water rights and rights of way owners, etc.

2. List of names and last known addresses of owners of record of coal immediately adjacent to the proposed permit area.

3. Maps showing the locations of the ownership in 1. and 2. above.

Appendix "C"

To be tabulated on LQD Form C-1 and C-2 and signed by the applicant.

1. Tabulation of lands in the proposed permit area by legal subdivision, section, township, range, county, and municipal corporation, if any, and number of acres for each entry listed. If a bearing and distance description is used, it must be presented in either quadrant bearings or azimuths with horizontal distances. The number of acres in each bearing and distance description must be listed.

2. Separate tabulation of lands in the proposed permit area where no right to mine is claimed with the number of acres for each entry.

3. Tabulation of lands which are located within other permit areas and a copy of the agreement with the other permittee(s).

4. An original Geological Survey topographic map, clearly outlining and identifying the lands to be within the proposed permit area. Photo copies or other similar copies are not acceptable unless prior approval is obtained from the Land Quality Division.

Appendix "E"

A map or maps with the boundary of the proposed permit area and adjacent area clearly outlined and identified showing:

1. Lands to be affected over the life of the mine.

2. Drainage area within and surrounding the proposed permit area.

3. Location and names, where known, of all existing roads, railroads, public or private rights-of-way and easements, utility lines, pipelines, buildings, lakes, streams, creeks, springs, and other surface water courses, oil wells, gas wells, and water wells.

4. Outline of the probable limits of all areas previously disturbed or to be disturbed by underground or surface mining, whether active or inactive, within or adjacent to the proposed permit area.

5. For operations which began prior to November 25, 1980, a map distinguishing between phases of the operation.

6. Ownership and use of all buildings on or adjacent to the permit area.

7. Political boundaries of special districts such as water, police, fire, conservation; public and private parks; cemeteries; Indian burial grounds; areas mentioned in Chapter XII.1.a.(v)(A) and (B).

Notes about the Applicant:

Note: Where "Statement of Compliance" and "Identification of Interest" information is required for the applicant, the following is a guide for determining who the applicant is:

Corporations:

close corporations, joint stock companies (rare): the named entity itself is the applicant

Partnership:

the partnership itself and each partner

Joint Venture:

same as partnership

Limited Partnership:

the limited partnership itself and each general partner (not the limited partners, they are mere investors)

Statement of Compliance

1. List all notices of violation incurred by the applicant for any U.S. surface coal mine operated during the three years prior to the date of the application.

2. State whether the applicant or entities controlled by or under control with the applicant have had any mining permit suspended or revoked in the last five years. If so, describe the proceedings and identify the regulatory authority.

3. List all licenses, permits and approvals needed to conduct the surface mining operation. Include information about what you need to do to comply with requirements for all permits not yet obtained.

4. List your Mine Safety and Health Administration number.

5. For all DEQ and State Engineer permits and approvals, list the identification numbers or provide copies.

6. State whether the proposed area to be mined is within an area designated, or being studied for designation as unsuitable for surface coal mining. Also state whether the permit area is within an area where mining is prohibited.

Identification of Interests

1. List all owners of record of the property to be mined:

   a. legal and equitable owners
   b. leaseholders
   c. purchasers of record under a real estate contract

2. If the applicant or any surface or mineral owner is a corporation or partnership, list the name and address of every:

    a. officer
    b. partner
    c. director
    d. principal
    e. resident agent

3. List the names and addresses of all principal shareholders of the applicant.

4. List the names of all surface coal mines operated by the applicant or principal shareholders during the preceding five years.

5. List all current, pending (including this application) and previous U.S. surface coal mining permits held by the applicant, partner, or principal shareholder subsequent to 1970. Include the regulatory authority.

Proof of Publication

Land Quality Division will provide publication notice format. Publication and notification is not to begin until written consent from the Land Quality Division has been received.

Proof of Filing

Submit an original, signed affidavit of filing from appropriate county courthouse just prior to start of publication.

Proof of Notification

Shall be sent to all surface owners of record of the land within the permit area, surface owners of record of immediately adjacent lands, surface owners within 1/2 mile of the proposed mining site and to the operator of any oil and gas well within the permit area or, if there is no oil or gas well, to the lessee of records of any oil and gas lease within the permit area and all water rights owners listed in Appendix D6.

1. PS Form 3877

    a. All three (3) blocks of the lower left-hand corners of the form must be completed by a U.S. Postal Service representative.
    b. The receipts must be affixed to 8 1/2" x 11" sheets and placed in the identical order listed in Appendices A, B, and D6 and paginated for insertion into the application.

    c. Two copies must be submitted, the original and a photo copy.

2. PS Form 3800 - Receipt for Certified Mail aka "white card"

    a. Same as 1. b. and c.

3. PS FORM 3811

    A. Same as 1. b. and c.

4. PS Form 3817 - Certificate of Mailing

1a. Same as 1. b. and c.

The original, plus one copy, of the receipts must be submitted to LQD for validation. The receipts must be affixed to 8 x 10 sheets and placed in either alphabetic order or in the exact same order as the names listed in Appendix A, B, and the water rights owners listed in D6 who are within ½ mile of the permit area.

II. Part II - Supporting Information

Appendix "D" - Description of the Land (Permit to Mine Application, Form 1, Section 3.(d).

1. Appendix "D-1" - Land Use.

a. Past use(s) of land within the permit area, including mining, for last twenty (20) years, if known.
b. Present use of land within permit area. If there are two or more neighboring and different land uses, the location and extent of each should be shown on a premining land use map.
c. A description of the capability of the land to support a variety of uses and where applicable, land use classification under local law.
d. Description of areas designated unsuitable for mining within the area of the proposed mining operation including areas under study for designation or areas prohibited from mining.
e. Description of areas within the permit area or adjacent area where mining is limited or prohibited.

2. Appendix "D-2" - Brief History of the area including description of historic places.

3. Appendix "D-3" - Archeological and Paleontological Resources.

a. Investigative reports.
b. List of persons consulted or responsible for collecting and analyzing the data if other than the applicant.

NOTE: Archeological investigation should be filed in a separate, properly marked 3-ring binder.

4. Appendix "D-4" - Climatology

a. Meteorological data of area.
b. Site-specific data or conditions including location and elevation of monitoring stations.

5. Appendix "D-5" - Topography, Geology, and Overburden Assessment (See Guideline No. 1).

a. Premining topographic slope conditions.
b. Geologic stratigraphy and structure.
c. Geologic cross-sections for pit area(s).
d. Qualitative and quantitative overburden analysis for affected lands.

i. Locate overburden test holes (drill or core holes from which samples are collected for laboratory analyses) on a topographic map and on the geologic cross-sections. The topographic map should also be utilized as a geologic cross-section key.
ii. Geologist's log for each overburden test hole and geophysical logs for cross-section holes.
iii. Overburden sampling and analytical methodology.
iv. Analytical results.

e. Nature and extent of coal deposits in terms of BTUs, ash, water content and sulphur. Include also coal croplines and isopachs of overburden and coal.
f. Evaluation and summary including a list of persons consulted or responsible for collecting and analyzing the data if other than the applicant.

6. Appendix "D-6" - Hydrology (See Guideline No. 8).

a. Groundwater.

i. Geologic setting of permit area and general area.
ii. Aquifer properties within the permit area and the general area.
iii. Piezometric contour maps of aquifer(s) that may be affected.
iv. Quality of groundwater.
v. Monitoring sites located on topographic map.
vi. Identify and locate groundwater recharge areas including estimated rates of recharge.

b. Surface Water.

i. Drainage basin description (general area) with map.
ii. Surface water runoff including flood estimates, critical low flows and seasonal fluctuations.
iii. Surface water quality including sediment loads.
iv. Channel geometry.
v. Monitoring sites located on topographic map.
vi. Perspective of stream channels in relation to the fluvial system.

c. Water Rights.

i. List and map of surface water rights inside and within one-half (½) mile of the permit area boundary.
ii. For any stream leaving the permit area, list and map of surface water rights for a distance of three (3) miles downstream.
iii. List and map of water wells inside and within three (3) miles of permit area boundary.
iv. Location and description of water supply diversions and structures within the permit area and on adjacent areas.

d. Information on surface water, groundwater, and related geology and geomorphology in the general area sufficient to assess probable hydrologic consequences.
e. Evaluation and summary including a list of persons consulted or

responsible for collecting and analyzing the data if other than the applicant.

f. Associated hydrology data should be incorporated into the document (i.e. typewritten and paginated).

7. Appendix "D-7" - Soil Assessment (See Guideline No. 1).

a. Site-specific soil inventory and suitability map with soil units and affected lands clearly outlined and identified.
b. Site-specific soil mapping unit and profile descriptions.
c. Qualitative soil analyses for affected lands.

i. Sampling methodology and summary of analytical results.
ii. Analytical results.

d. Quantitative topsoil analyses.

i. Evaluation of soil resource for topsoiling purposes.
ii. Quantities and characteristics of soil yielded per affected area (noncontiguous areas estimated separately).
iii. Topsoil stripping depth map for affected lands.

e. Prime farmland where such land exists within the permit area:

i. Detailed soil survey and characterization specific types of soil.
ii. Characteristics that qualify the land for prime farmland.

f. Summary and discussion including list of persons consulted or responsible for collecting and analyzing the data if other than the applicant.

8. Appendix "D-8" - Vegetation Inventory (See guideline No. 2).

a. Introduction.
b. Methods.

i. Vegetation type delineation and mapping.
ii. Species list.
iii. Affected area sampling design.
iv. Control area locations.
v. Control area sampling design.
vi. Time of sampling.
vii. Plot size and shape.
viii. Measurements.
ix. Tree and shrub height and density.
x. Cropland and prime farmland productivity.

c. Results.

i. Description of vegetation including acreages of types.
ii. Vegetation map.
iii. Weeds, selenium indicators, endangered or threatened species.
iv. Species list.
v. Cover data.

vi. Productivity data.
vii. Tree and shrub data.
viii. Sample adequacy.
ix. Cover and productivity for entire area.

d. Discussion - Including list of persons consulted or responsible for collecting and analyzing the data if other than the applicant.

9. Appendix "D-9" - Wildlife (See Guideline No. 5).

a. Description of potential and actual faunal distribution within the permit area and on adjacent areas with map.
b. Habitat affinity of animals on-site.
c. Seasonal data including methods and analyses.
d. Identification of unique, critical, and important habitat types within the permit area and adjacent area with map.
e. Occurrence of threatened or endangered species or eagles on or within two (2) miles of the permit area.
f. Determination of the importance of individual waters for aquatic life or wildlife use including the characteristics which makes them important.
g. Changes in hunting and fishing access to public lands during the life of the mine.
h. Wildlife impact, short-term and long-term, resulting from the mining operation.
i. Summary and discussion including list of persons consulted or responsible for collecting and analyzing the data if other than the applicant.

10. Appendix "D-11" - Alluvial Valley Floors (See Guideline No. 9).

a. Information concerning the presence or absence of an alluvial valley floor within the permit area or on adjacent areas.
b. Where an alluvial valley floor exists on affected lands.

i. Information on extent.
ii. Information on historic land use and farming value.
iii. Information to identify essential hydrologic functions.

c. Where an alluvial valley floor exists within the permit area or on adjacent lands, but is not on affected lands.

i. Information on extent and importance to farming.
ii. Information pertaining to material damage to water quantity and quality.

d. List of persons consulted or responsible for collecting and analyzing the data if other than the applicant.

Note: Sections b.(ii) and c are not applicable to operations having a permit prior to August 3, 1977. However, an applicant must provide information on productive capability of the alluvial valley floor.

Mine Plan

1. General description of the mining operation.

    a. Type of mine and method of mining.
    b. Life of mine including years, affected acres, estimated annual production and total recoverable reserves.
    c. Equipment list (include types and numbers).
    d. Definition of "permit term" for which a permit or renewal is being applied including all future anticipated renewals over the life of the mining operation. The permit term boundary should be clearly shown on all mine operations maps, whereas renewal areas only need be shown on one map.
    E. Relationship and impact of proposed operation on existing man-made structures and adjacent mining operations including a description of methods to minimize interference with services and be compatible with adjacent mining operations.

2. Mine facilities design, construction methods and schedule with location maps and where applicable cross-sections.

    a. Buildings, processing plants and other facilities.
    b. Power transmission and communication lines.
    c. Sedimentation and treatment ponds.
    d. Hydraulic diversions and retention systems, temporary and permanent.
    e. Solid waste disposal site.
    f. Storage and/or stockpile sites.
    g. Access control features (fences, etc.).

3. Roads, railroads and other transport systems.

    a. Description of structure and classification if a road.
    b. Location maps, including limits of rights-of-way, and engineering cross-sections and profiles for "term of permit".

4. Mining methods, schedules, and assessments.

    a. Mining sequence.

        i. Mine advance, by year, for life of mine.
        ii. Mine sequence maps for topsoil and overburden removal and rough backfilling including identification of the area to be mined during the permit term.

    b. Topsoil.

        i. Stripping and handling techniques (stockpiling and/or haulback).
        ii. Quantity expected to be stockpiled per stockpile (topsoil stockpiles should be located on mine sequence map).
        iii. Topsoil stockpile and erosion control plan.

    c. Mine pit excavation, backfilling, and contouring.

        i. Methods of pit excavation and pit backfilling including schedule for rough backfilling and demonstration of restoration of the approximate original contours.

ii. Location, design and construction of spoil piles located within and outside the pit boundaries including excess spoil piles. Discuss longevity of piles.

iii. Disposal or treatment of combustible, toxic, acid-forming, or materials which may retard vegetative growth or pollute surface or groundwaters.

iv. Compaction of backfilled material or material placed in spoil piles to prevent leaching and upward movement of toxic substances, provide stability, and prevent subsidence.

v. Tabular listing of volumes of material excavated and backfilled per pit(s) or placed in spoil piles sufficient to demonstrate that proposed postmining contours can be achieved.

d. Commodity (mineral).

i. Removal process.

ii. Handling (preparation, refining, shipping).

iii. Measures to maximize the recovery of the coal resource and minimize reaffecting lands in the future.

5. Mining hydrology (See Guideline 8).

a. Surface drainage plan during mining (maps, design, and hydraulic properties).

b. Quantity and quality of groundwater discharged into mine pit at various stages during mining. Show methods, calculations and numbers used to arrive at discharge estimates. Describe plans for placement and use of water pumped from the mine.

c. Statement of source, quality, and quantity of water, if any, to be used in the mining and reclamation operation.

d. Location and design details for hydrologic control structures, sediment ponds, and treatment systems.

e. Operational monitoring plan for surface and groundwaters during and following mining.

f. Groundwater drawdown estimates including showing on topographic map.

g. Assessment of total mining impact on hydrology, water resources, and water rights, both on-site and off-site.

h. A plan to protect quantity and quality of, and rights to surface water and groundwater.

i. Determination of the probable hydrologic consequences and procedures to minimize impacts to the hydrologic balance and prevent material damage to the hydrologic system outside the permit area.

j. Location and engineering for permanent impoundments.

k. Erosion and drainage control for affected lands.

l. Description of procedures to cap, plug and seal exploration holes, auger holes, wells or other openings.

m. Disposal or treatment plan for toxic, acid-forming or other materials that may pollute surface water or groundwater.

6. Refuse disposal.

Plans for the disposal of waste materials which may result from coal preparation plants, municipal wastes, or solid wastes including contingency plans to preclude or control combustion of materials constituting a fire hazard.

7. Description of and location for signs, markers, and buffer zones.

8. Blasting plan, schedule and location of explosives storage and handling facility.

9. Plans for conducting surface mining activities within 500 feet of underground mine.

10. Compliance plan in cases of temporary or permanent cessation of the operations.

11. Compliance plan where combined surface and underground mining operations will occur.

12. Protection of other resources, structures and services.

13. Location and description of existing structures utilized to facilitate the mining operation.

14. A plan for minimizing adverse impacts on fish and wildlife during operations (See Guideline No. 5).

15. A plan for minimizing adverse impacts on cultural resources (see Guideline No. 11).

16. For alluvial valley floors:

    a. Demonstration that the proposed operation will not interrupt, discontinue, or preclude farming.
    b. Demonstration that the proposed operation will not cause material damage.
    c. Procedures to preserve essential hydrologic functions of alluvial valley floors in off-site areas.
    d. Environmental monitoring plan for alluvial valley floors.

    Note: Sections a. and b. do not apply to those operations having a permit before August 3, 1977.

17. For underground mining operations:

    a. Planned underground mine layout for life of mine including location and dimensions of shafts, slopes, drifts, crosscuts, rooms, haulageways, entries, and barrier pillars.
    b. Assessment of the effects of subsidence and a subsidence control plan.
    c. Plans for removal and disposal of mine development wastes.
    d. Description and location where underground mining is limited or prohibited.

18. Auger mining. Location and diameter of auger holes, depth of drilling, spacing, estimated recovery, etc.

19. Procedures to protect or mitigate impacts to historic and archeological resources.

20. Request for variance from certain environmental performance standards to conduct experimental practices.

Reclamation Plan

1. Postmining land use.

    a. If there is more than one land use proposed, the location and extent of each land use should be shown on a postmining land use map.
    b. Description of support and maintenance activities needed to achieve the proposed postmining land use(s).
    c. Where an alternative land use is proposed, including permanent water impoundments, appropriate discussions, documentation and engineering required for alternative use.

2. Contouring plan for affected lands including:

    a. Reestablishment of surface configurations which are consistent with the postmining land use and resemble premining landforms.
    b. A showing that affected lands are blended with adjacent topography and land uses.
    c. A description of erosion and sedimentation controlled practices.
    d. A description of drainage reestablishment.
    e. An assessment of acceptable postmining slope conditions.
    f. A postmining contour map to illustrate reclaimed land surface contour, configuration and drainage. Contours of the topography (½ mile periphery) outside the permit area should be shown on the map. Contour intervals should be the same inside and outside the permit area. Unless an alternative postmining land use is being proposed, the postmining contour map should illustrate that the approximate original contours will be restored and if excess spoil exists it will be graded to complement adjacent topography, land use, and drainage.

3. Contoured spoil preparation for topsoil or subsoil replacement.

4. Topsoil and/or subsoil replacement.

    a. Methods of replacement.
    b. Schedule for replacement.
    c. Special soil reconstruction procedure for prime farmland.
    d. Minimum depth of topsoil to be replaced on all affected land.
    e. Erosion control and water conservation practices.
    f. Soil amendments.

5. Revegetation practices.

    a. Cover crops or nurse crops.

        i. Reason for use.
        ii. Species to be seeded.
        iii. Seeding rate.
        iv. Method of seeding.
        v. Time of seeding.

    b. Mulch.

        i. Reason for use.

ii. Type applied.
iii. Application rate and method.
iv. Anchoring methods.
v. Areas of application.
vi. Time of application.

c. Species to be seeded or planted with seeding rate for each in pounds or pure live seed per acre or number of nursery stock plants per acre including seeding methods and dates.

d. Where difference mixtures will be seeded, delineate areas to be seeded with each mixture. If trees and shrubs are to be planted in localized areas, these areas should also be delineated.

e. Evaluation techniques for success of revegetation.

i. Vegetation cover.
ii. Productivity.
iii. Species composition with respect to land use goal and approved seed mixes.

f. Irrigation

i. Locations.
ii. Method.
iii. Source and quality of water.
iv. Application rate.
v. Soil conditions.

6. Protection of newly seeded areas.

a. Type of fencing to be used.
b. Criteria to be used to determine when fences may be removed.
c. Other means of providing protection for newly seeded areas.

7. Management plan for revegetated areas and control areas.

8. A plan to restore fish and wildlife habitat where it is a postmining land use.

9. Hydrologic restoration.

a. Final drainage system with maps and channel geometry.
b. Permanent impoundments as part of final land use.
c. Aquifer reconstruction/restoration and post-mining monitoring plan with map.
d. Estimated final water quality and quantity of affected waters.
e. Final anticipated potentiometric surface(s) of affected waters.
f. Restoration of recharge areas.
g. Schedule of restoration events.

10. Procedures for reestablishing the essential hydrologic function and agricultural utility on alluvial valley floors.

11. Where prime farmland occurs on affected lands, procedures for soil handling, reconstruction of the prime farmland, revegetation and written suggestions of the Local Conservation District.

12. Reclamation of mine facilities, roads, railroads and other transport facilities.

    a. Facilities and utilities.
    b. Roads, railroads, and other transport facilities.

13. Reclamation schedule. Estimated annual progression of complete reclamation in accordance with the Mine Sequence Map and rough backfilling schedule.

14. For underground mines, procedures for reclaiming audits, preventing mine drainage and corrective action where unanticipated and significant subsidence occurs.

15. Reclamation costs. Estimate of the total cost of reclaiming all affected lands for the term of the permit and for the first year of operations as if the operation were to stop at the end of this period. Itemize costs on a unit cost basis for the reclamation of the different types of disturbance, such as:

    a. Pit areas.
    b. Overburden and topsoil storage areas.
    c. Mineral stockpiles.
    d. Waste or refuse areas.
    e. Embankments and impoundment basin.
    f. Drainage conveyance and control structures.
    g. Shop areas.
    h. Processing and shipping areas.
    i. Access and haul roads.
    j. Any other activity or facility which will require reclamation.

    Costs for Items a. through j., where applicable, should be based on replacement of overburden and topsoil materials or removal of surface facilities, grading and contouring, seedbed preparation, stabilization, and seeding in accordance with the Reclamation Plan. The reclamation cost estimate should be concluded with a summation of all individual costs along with an estimate of total affected acres for the projected time period.

III. Part III - Maps and Aerial Photos

Maps - all maps and cross-sections should contain:

1. Title block located in lower right hand corner with the following information as a minimum:

    a. Applicant's name and address.
    b. Title of map.
    c. Date map was drawn or revised.
    d. Map sheet page number, exhibit number, etc.
    e. Scale and contour interval.

2. Section, township, and range lines and numbers.

3. North arrow.

4. Permit area clearly outlined and identified. Amendment areas should be clearly

differentiated from original permit area and other amendment areas, clearly outlined, and identified. All should agree with written legal description in Appendix "C" of adjudication file.

5. Legend clearly describing information on map.

6. If only a portion of permit or amendment area is shown, a map location key showing areas with respect to total permit or amendment area should be on a map.

7. If more than one map sheet is used for a specific subject, each sheet should be numbered consecutively, 1 of 4, 2 of 4, etc. These maps should be the same scale.

8. Reference on the map any enlarged view, cross-sections, or more detailed information contained elsewhere.

9. All blueline maps must follow the provisions of (1) above and must be printed with good contrast, suitable for microfilming. Numbers printed on a dark blue background, will not microfilm legibly. The preferred contrast is black on white.

10. Contours.

    a. No more than two (2) contour intervals on any map. Interval should normally not exceed twenty (20) feet.
    b. Contour intervals same for premining and postmining maps.
    c. Contour lines distinct and clearly identified.

11. Scale for specific maps. Departures from the following ranges should have prior approval. Additional overview maps at a smaller scale that accommodates use of a single sheet may be included.

a.	Hydrologic maps	1" = 400' to 2000'
b.	Vegetation maps*	1" = 400' to 700'
c.	Soils maps*	1" = 400' to 700'
d.	Premining contours**	1" = 400' to 1000'
e.	Postmining contours**	1" = 400' to 1000'
f.	Mine sequence maps***	1" = 400' to 1000'
g.	Reclamation sequence maps***	1" = 400' to 1000'

* These maps should be the same scale.

** These maps should be the same scale.

*** These maps should be the same scale.

12. All maps, plats, or designs should conform to one of the following sizes unless a change is requested in writing by the applicant and is approved by the Land Quality Division:

OVERALL DIMENSIONS
MARGINS

Size				

If one sheet is not sufficient to show the proposed works, two or more sheets of the same size may be used.

13. Maps included in the application which are also filed with the State Engineer for a permit in accordance with the State Engineer's map requirements need not meet the map scale and size recommendations of this part. However, certain basic information should be included in the title block as it pertains to the filing for a permit to mine.

Aerial Photos

1. Should be current and show date taken.

2. Eliminate edge distortions on mosaics.

3. If used in place of map, should contain all information required for maps, especially items 1-6 for maps. Mylar overlays are desirable for small photos.

IV. Part IV - Certification of maps and plans (reference Land Quality Division Coal Rules and Regulations Chapter II, Sections 2.a.(vi)(J) and b.(i)(D)).

1. All engineering maps, plans, designs, or reports including cross-sections should be certified by a professional engineer registered under the laws of the State of Wyoming.

2. All geological maps, plans, or reports including cross-sections shall be certified by a professional geologist as defined in W.S. §9-3-1401(a)(iii).

3. Sample certification -

I, _____ certify that this _____ was prepared by myself or under my direct supervision and that all information, locations,

construction details, or maintenance shall be as provided herein.

V. Part V - General Information

The application, once approved, will constitute the enforcement or contractual document which the Department of Environmental Quality, Land Quality Division, will refer to during compliance inspections of the mining operations. The design of the Mine and Reclamation Plans must be based on site-specific conditions. Where success of specific prescribed techniques is questionable, alternative actions should be discussed under the appropriate sections of the application.