RAILROAD COMMISSION OF TEXAS
SURFACE MINING AND RECLAMATION DIVISION

Application for Surface Mining Operation

General Instructions:

This application form, SMRD-1C, requires the use of the "Surface Coal Mining and Reclamation Act of 1979" and the "Rules of the Surface Mining and Reclamation Division," Railroad Commission of Texas, in order to fully understand the application requirements. All information requested in the application should be regarded as the minimum required. The application should contain any other information which is pertinent to the situation or setting. Where required in the permit application, the applicant should consult, prior to application submission, with appropriate representatives of the Surface Mining and Reclamation Division for the purpose of determining, on a site-specific basis, what additional information will be required. Further information may be requested by the Director of the Surface Mining and Reclamation Division.

Please submit your application on legal size paper. Other information on format, general information on maps and drawings, and other general requirements may be found in Rule 107. Sections applicable to the given item are referenced on the application form.

Where physical properties of materials are requested, the data should be oriented to the setting in which it will be used, i.e., agronomic, geologic, or engineering. Where chemical properties are requested, the following minimum data should be supplied:

I. Ground Water

A. Obtain at least two samples from each usable aquifer affected by mining as near the immediate area of mining activity as possible. Preferably, the wells should be cased and cemented. Standard methods of water analysis, such as those referenced in Appendix A, should be utilized. (If toxic material is present in such concentration as to cause concern, additional representative samples may be requested.)

B. General parameters -- temperature, pH, arsenic, calcium, magnesium, sodium, potassium, bicarbonate, sulfate, chloride, fluoride, nitrate, total dissolved solids, cation-anion balance.

C. Metals -- aluminum, cadmium, chromium, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, and zinc.

II. Surface Water: SEE Rule 129

III. Overburden: A minimum of one test boring or core sample per proposed mining area, but not less than one test boring or core sample per 500 acres, shall be submitted. The aforementioned minimum test hole spacing requirements may be waived if the applicant can demonstrate that the overburden within the mining area is stratigraphically similar with respect to lithologic and depositional facies.

A. Objective

1. Characterize the overburden as a plant growth medium for reclamation purposes.

2. Determine the total concentration of selected trace elements in the overburden and the potential effect, if any, on ground water.

B. Selection of Cores

1. Cores to be used for chemical and physical analyses should be representative of the depositional environment and overburden lithology of the area(s) to be mined.

2. The lithologic units to be analyzed shall be selected based on rock type, texture, chroma, lithology, thickness and depositional environment.

3. Description of the rock type, texture, lithology, thickness and depositional environment shall be determined by a geologist using an accepted classification system.

4. All lignite/coal rider seams, thin seams, carbonaceous shales, and/or unmineable seams shall be sampled separately and included as part of the overburden analysis.

5. Chroma shall be determined using a Munsell color chart.

6. All mineable seams shall be sampled and the required analyses are described in Section IV.

7. See the references on selection of overburden in Appendix A.

C. Collection

Cores should be collected, sampled, logged and labeled in the field under the direction of a geologist. Methods of core collection should be used which will maximize core recovery and provide representative samples of the complete overburden lithology.

D. Chemical Analysis

The analytical procedures listed are intended to standardize the analyses of overburden materials. The Technical Services staff of the Surface Mining and Reclamation Division recognizes that other procedures are currently being utilized and new procedures are being developed. If the applicant proposes to use a different procedure or a modification of the procedures listed, they must obtain written approval from the Director of the Surface Mining and Reclamation Division.

1. Chemical analyses of each sample shall be performed on the 2mm size fraction. The sample may be ground if sufficient material of 2mm size is not available for analysis. The procedure used to grind the sample should be indicated.

2. Saturated paste or a 1:1 extract shall be used to determine pH, salinity (EC), Ca, Mg, Na, K, HCO_3, CO_3, C1, SO_4. Analysis should be performed on each sample as received from the field. Procedure reference--Black, C.A., 1965, pages 933-936 or USDA Handbook 60.

3. Cation exchange capacity (CEC in milliequivalents/100 grams of material) should be determined on each sample using either ammonium acetate (NH_4OAC) or sodium acetate NaOAC). In distinctly acid overburden (pH 4.2), the summation of the exchangeable

hydrogen (exchange acidity) shall be used. Procedure reference--Black, C.A., 1965, page 891. Specify the method used.

4. Total Exchangeable Bases: Percent base saturation should be determined for each sample, with the exception of the lignite/coal rider seam(s). Procedure reference--Black, C.A., 1965, page 902.

5. Acid-base accounting consists of measuring total or pyritic sulfur and neutralization potential as $CaCO_3$ equivalent on each sample. Procedure references--Sobek et al, 1978; Smith et al, 1974; ASTM Method D-2492. Acid-base accounting can also be determined by oxidizing a composite sample of the entire overburden core. See Brown, K.W., and L. E. Deuel, February 1977.

6. Trace element analyses should be performed for each sample including lignite/coal rider seams. Samples should be tested as received from the field.

   (a) Since the objective is to determine the total concentration of each element in the element in the sample, either a HNO_3-$HC10_4$ or HF extraction procedure should be used for the following trace elements:

      (1) Cadmium -- atomic absorption (direct aspiration or furnace). EPA method 213.1 or 213.2, March 1979.
      (2) Copper -- atomic absorption (direct aspiration or furnace). EPA method 220.1 or 220.2, March 1979.
      (3) Chromium -- atomic absorption (direct aspiration or furnace). EPA method 218.1 or 218.2, March 1979.
      (4) Lead -- atomic absorption (direct aspiration or furnace). EPA method 239.1 or 239.2, March 1979.
      (5) Manganese -- atomic absorption (direct aspiration or furnace). EPA method 243.1 or 243.2, March 1979
      (6) Molybdenum -- atomic absorption (direct aspiration or furnace). EPA method 246.1 or 246.2, March 1979.
      (7) Zinc -- atomic absorption (direct aspiration or furnace). EPA method 289.1 or 289.2, March 1979.

   (b.) The following trace element concentrations should be determined using the designated procedure utilized for each element analysis.;
      (1) Arsenic
         i. atomic absorption - gaseous hydride to determine both inorganic or organic forms. EPA methods 206.2 and 206.3, March 1979.
         ii. Leiderman, D., Analytical Chemistry, Volume 31: 2052-2054, 1959.
      (2) Selenium
         i. atomic absorption hydride generator and deuterium background corrector. EPA method 270.3, March 1979.
         ii. Black, C.A., 1965, page 1117.
      (3) Boron
         i. colorimetic (curcumin). EPA method 212.3, March 1979.
         ii. colorimetic, Black, C.A., 1965 pages 949 and 1059.

E. Physical

1. Texture (particle size distribution) should be determined on each sample as received from the field. The analyses procedures are outlined in either Black, C.A., 1965, page 545, or ASTM. Specify whether the texture was determined by sieve analysis, hydrometer or pipette.

2. Water holding capacity can be expressed as either field capacity or the percent held between 1/3 bar and 15 bar soil moisture tension. Water holding capacity should be determined on each sample using the procedures outlined in Black, C.A., 1965 page 280.

IV. Lignite/coal

The following chemical parameters should be determined for each mineable seam.

A. Total concentrations for the following trace elements should be determined for each seam using HNO_3-$HC10_4$ or HF digestion procedures (ASTM D36-82-78, D36-83-78, and D36-84-78): arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, molybdenum, mercury, nickel, selenium, vanadium, and zinc.

B. The pH should be determined on a representative sample as outlined in 1975 ASTM procedures for coal/lignite analysis.

C. Total pyritic, organic, and sulfate sulfur content should be determined as outlined in 1975 ASTM procedures.

D. Total uranium as outlined by Francois, C.A., Rapid Spectrophotometric Determination of Submilligram Quantities of Uranium. Analytical Chemistry, Volume 30: 1-50, 1958 and Centanni, F.A., A. M. Ross, and M. A. DeSesa, 1956. Fluorometric Determination of Uranium. Analytical Chemistry, Volume 28:11, pages 1651-1657.

RAILROAD COMMISSION OF TEXAS
SURFACE MINING AND RECLAMATION DIVISION

Application for Coal Mining Operations Permit

All items should be as complete as possible. Please submit your application on standard size paper. File seven (7) complete copies with the Director of the Surface Mining and Reclamation Division. See "Rules of the Surface Mining and Reclamation Division" and "Texas Surface Coal Mining and Reclamation Act" for information.

I. General Information

A. Name

1. Name of applicant: _____

Name of mining operation: _____

Permanent mailing address: _____
Street or P.O. Box

_____
City State Zip Code

Telephone: _____

2. Name, address, and telephone number of person or persons authorized to act for applicant during consideration of this application (attorneys, engineering firms, applicant's mining superintendent, etc.)

3. Name, address, and telephone number of ownership, and management officers of the permit applicant and affiliated persons engaged in surface mining.

B. Type of permit application: ☐ Regular ☐ Original ☐ Revision ☐ Renewal

C. Product to be mined: ☐ Coal ☐ Lignite

D. Type of mining operation ☐ Open-pit mining ☐ Strip mining ☐ Underground mining

E: Location

1. County or counties

2. Give a general description of the location of the proposed mining area with respect to cities, streets, highways, churches, schools, water courses, landmarks, etc.

II. Administrative Information

A. Interested persons (Rule 116). Give name and address of:

1. Every owner of record of property to be mined.
2. Leaseholders of record.
3. Real estate contract holders of record.
4. Owners of record of all surface and subsurface areas contiguous to application area.
5. Operator, if different from owner, for application area.
6. Resident agent and telephone number.

B. Applicant's Organization (Rule 116). Provide:

1. A statement of organization: single proprietorship, corporation, etc.
2. If other than single proprietorship:
   (a) Name and address of any person functioning like a director of the applicant.
   (b) Name and address of any principal shareholder.
   (c) Names under which the applicant operated surface coal mines in the U.S. in the previous five years.
   (d) Name and address of their principal officers and resident agent.
3. A list of current or previous coal mining permits held in U.S. since 1970 by applicant and by principal shareholders and authority issuing the permit.
4. If it exists, the Mining Safety and Health Administration identification number.
5. A statement of lands contiguous to application area in which the applicant is interested.

C. Compliance History (Rule 116). Provide:

1. A statement of:
   (a) Suspended or revoked permits in the last five years for applicant or person controlled by or with applicant.
   (b) Any forfeited bond on security.
2. For any of the above include:
   (a) Identification of the permit issued, date and amount of bond.
   (b) Identification of authority taking action.
   (c) Current status of situation causing suspension or revocation.
   (d) Date, location and type of any administrative or judicial proceeding.
   (e) Status of proceeding.
3. A list of violations for the past three years for applicant or persons controlled by or with applicant. Include violations of mining and environmental statutes, rules, regulations -- state or federal.

   Details should include:
   (a) Date and identification or authority.
   (b) Description of violation.
   (c) Descriptions of administration of judicial proceedings.
   (d) Status of proceedings.
   (e) Abatement action taken by applicant.

D. Right to Mine (Rule 117 and 118).

1. Provide descriptions and/or copies of all documents conveying rights (surface and subsurface) to enter and mine including consent of surface owners or authority under state law to extract coal at the site.
2. Designate on a map areas designated as unsuitable for mining.
3. Provide statement regarding Lands Unsuitable as designated procedurally under Subchapter F or under study or exemptions under Rule 216.
4. Provide waivers from dwelling owners within 300 feet of the mining area.

E. Permit tenure and sequences Rule 119). Provide

1. Size, sequence and timing for each phase of mining and number of acres affected for the life of the permit. (Attach map)
2. If application is for greater time than five years, additional information relating to financing and operations for the longer period.

F. Certificate of liability or self-insurance (Rule 120).

G. Other licenses and permits required (Rule 121). Include:

1. Issuing authority
2. Status
3. Identification number if issued.

H. Locations where application may be reviewed by the public (Rule 122).

I. Copies of published notice and proof of publication when available. (Rule 123).

III. Environmental Resources Information - Premining (PART 779 and Rule 107).
Provide:

A. Archeological survey. (Rule 125)

B. Analysis of geological and hydrological resources. (See Rules 126-130) Where applicable, the applicant may request that the Surface Mining and Reclamation Division provide environmental resource information, to the extent that it is available from an appropriate Federal or State agency. The request shall be in writing.

C. Climatological information. (Rule 131)

D. Vegetative cover. (Rule 132)

E. Fish and wildlife resources. (Rule 133)

F. Soils resources. (Rule 134)

G. Land use information. (Rule 135)

H. Maps, plans and cross-sections. (Rules 136 and 137)

I. Prime farmland investigation. (Rule 138)

IV. Mining Plan (See Rule 107 for format and general requirements, subchapter K and Rules 139 through 144). Provide narrative including:

A. Mining procedures.

B. Engineering techniques.

C. Equipment to be used.

D. Production rates.

E. Operation plan including design and handling of the following new facilities:

1. Dams, embankments, and impoundments
2. Storage areas (noncoal)
3. Coal handling
4. Waste handling and disposal
5. Mine
6. Air pollution control (Rule 143, if applicable)

F. Existing facilities use, modification, destruction and environmental plan. (Rule 140)

G. Blasting plan. (Rule 141)

H. Fish and wildlife plan. (Rule 144)

V. Reclamation Plan (See Rule 107 for format and general requirements and Rules 145 through 154).

A. Demonstrate compliance with environmental standards. Include:

1. Timetable for each step in reclamation plan.
2. Detailed cost of reclamation.
3. Plans and maps for soil handling and final disposition.
4. Revegetation plan.
5. Plan for maximization and conservation of coal resource.

6. Plan for handling and disposal of waste, toxic and fire hazard material, contingency plan to preclude sustained combustion.
7. Maps, cross-sections, and narrative for sealing or managing wells and openings.

B. Demonstrate compliance with air and water quality laws and regulations, and health and safety standards.

C. Reclamation Plan should emphasize:

1. Protection of the hydrologic balance.
2. Post mining land use.
3. Design, operation and final disposition of ponds, impoundments, banks, dams and embankments.
4. Surface mining near underground mining.
5. Maps and cross-sections of stream and channel diversions.
6. Protection of public and historic facilities.
7. Spoil disposal.
8. Design, handling and final disposition of transportation facilities.

I, (name)_____, (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 state that to the best of my knowledge and belief, the project for which application is made will not in any way violate any law, rule ordinance, or decree of any duly authorized governmental entity having jurisdiction.

Date: _____ Signature: _____

APPENDIX A

Water Analysis References:

American Public Health Association, American Water Works Association and Water Pollution Control Federation, Standard Methods for the Examination of Water and Wastewater, 14th Edition: New York, American Public Health Association, 1975.

American Society for Testing and Materials, "Water and Atmospheric Analysis", Annual Book of ASTM Standards, Part 23, Philadelphia, American Society Testing Material, 1975.

Brown, Eugene, M. W. Skougstad, and M. J. Fishman, Methods for Collection and Analysis of Water Samples for Dissolved Minerals and Gases: Techniques of Water Resources Investigations of the U.S. Geological Survey, Book 5 Chapter A-1, Washington, D.C., Superintendent of Documents, U.S. Printing Office, 1970.

Environmental Protection Agency, Methods for Chemical Analysis of Water and Wastes, Environmental Monitoring and Support Laboratory, Office of Research and Development, Cincinnati, Ohio, (EPA-600/4-79-020), 1979.

Soil Analysis References:

Black, C.A., (editor), "Part I: Physical and Mineralogical Properties", "Part II: Chemical and Microbiological Properties", Methods of Soil Analysis, American Society of Agronomy and American Society for Testing and Materials, Agronomy Series Number 9.

Brown, K.W. and L. E. Deuel, "Final Report: The Suitability of Overburden as a Medium for Plant Growth and Growth and Characteristics of existing Soils at the Proposed Mine Area in Grimes County", Texas A&M Research Foundation and Texas Agricultural Experiment Station, Department of Soil & Crop Sciences, College Station, Texas February 1977.

Sobek, A.A., et al, "Field and Laboratory Methods Applicable to Overburdens and Minesoils", USEPA (600/2-78/054-NTIS PB 280 495), Industrial Environmental Research Laboratory, Cincinnati, Ohio, 1978

USDA, "Diagnosis and Improvement of Saline and Alkali Soils", Agricultural Handbook No. 60, U.S. Government Printing Office, Washington, D.C., 1969.

USDA - Soil Conservation Service, "Soil Survey Laboratory Methods and Procedures for Collecting Soil Samples", U.S. Government Printing Office, Washington, D.C. 20402, (0107-0298), 1972.