January 8, 1996

TO: Price Field Office,
    Joe Helfrich, Permit Supervisor
FROM: Steven M. Johnson, Reclamation Hydrologist
RE: Sediment Control Guidelines.

The Price Field Office (PFO) has provided good comments on the sediment control guideline drafts. All comments have been considered in revising the drafts, but not all were directly included in the latest versions. This memorandum addresses the thought employed in editing the guidelines.

First, PFO has suggested that a section on compliance be added to each of the guidelines. This section was not created as a separate subheading because the scope of these guidelines does not include compliance. These documents are intended as design guidelines only. They should be used predominately through the design (by the permittee) and permitting processes (by the Division). As an alternative to compliance sections the guidelines have been changed to include discussions and tables that will guide the designers into creating the compliance criteria within the plan.

Second, PFO has raised six regulatory and policy questions about the guidelines. Most of the questions respected compliance of the measures. Again, the guidelines are not intended to govern compliance. Therefore, the questions were addressed in a capacity that would lead the designer into better defining the compliance criteria without creating enforcement policy. The six questions with responses are listed below.

1) What constitutes a failure to maintain (742.110)?

Specific quantitative criteria may be necessary in the creation of a design. For example, areas that are critical may need values which define the amount of time to reach a certain threshold. Table 1-1 was added to aid in defining these criteria. It is not necessary that all of these criteria are met for each design. Some designs may include all criteria; while other designs may not have any. This decision will be made in the permitting process. Compliance activities should follow the permitted plan.
Other than specific time and quantity information that may define compliance criteria, an inspector may use physical field evidence to qualify regulatory action. Physical evidence may include, but is not limited to, excessive rill erosion and down gradient sedimentation. These criteria have been addressed in the latest versions of the guidelines.

2) **What constitutes a failure to adequately treat disturbed runoff (742.111 et. al, Table 1 Tech-003A)?**

This was not directly addressed in the design guidelines because it is not a design/permitting issue. Once again it is a compliance issue that may be better defined in the design, but is not the main issue of these documents. However, the water monitoring plan and physical evidence should be used to judge this factor. If the water monitoring plan begins to show negative effect, then the measure is not adequately treating runoff. If there is an increase in downslope sediment load attributable to the ASCA, the measure has failed.

3) **What constitutes a failure to minimize erosion (742.113)?**

The response to this question is the same as Number 1, above.

4) **What constitutes adequate storage over time on runoff detention measures (Table 1, Tech-003A)?**

None of the measures addressed in the guidelines are the type in which a storage volume could be predicted. The "adequate storage" requirement of Tech-003A is only applicable to impounding type devices. While most roughening techniques create some water storage, the primary sediment control purpose for roughening is to break up slope lengths.

5) **What constitutes adequate vegetation?**

This question is addressed in the latest version of the guideline on vegetation cover. Adequate vegetation is to be defined in the permitting process. Inspectors would, on a site by site basis, evaluate each area treated by vegetation cover.

6) **What constitutes an adequate demonstration? (Table 1, Tech-003A)?**

According to Table 1 of Tech-003A, demonstrations are only necessary for areas exempt from sediment control. Any area covered under these guidelines would not be an exempt area, but would be alternate sediment control areas. The guidelines state that demonstrations can be submitted as part of the design to show the practicability of the measure. They are not necessary for the design to be permitted unless the Division
The size of an alternate sediment control area is already required by Tech-003A. However, it may be beneficial to include the requirement in the guidelines. These requests have been added to the latest versions of the guidelines.

2) Drainage patterns as related to topographic, edaphic, climatic, and biotic factors.

Most of these are required information under other regulation. However, it is not clear what information should be requested to enhance these guidelines. PFO should clarify this request by including specific suggested changes to the latest versions of the guidelines.

3) Disturbed/undisturbed drainage areas and how they interface.

The information requested here should be obtainable from other information required in the guidelines and regulations.

4) Designs tied to storm events.

The regulations do not require that all alternate sediment control areas be design for specific storm events. Please clarify how storm events should be tied to the designs.

5) Runoff/storage calculations need to demonstrate the ASCA will treat, control runoff, and minimize erosion on the disturbed area.

Demonstrations are not necessary to meet the regulatory requirements of ASCA’s.
When using professionally acceptable measures that are specifically designed for an area, the Division does not typically require demonstration (Tech-003A, Section 5 and Table 1).

6) Maintenance requirements need to be addressed in the design/plan.

Please refer to Number 1 in the first section of this memorandum.

7) The bottom line on design can be summarized in a single sentence. Design should first consider and provide the headwork on how runoff will be controlled. If runoff is provided for and controlled, the balance of the items will fall into place a lot easier.

The objective of mulching, roughening and vegetation cover when used as sediment control is to control runoff and erosion rather that treat runoff. Please clarify this request by including specific suggested changes to the latest versions of the guidelines.

Finally, PFO is right when they say that there are two goals for the sediment control program. These are keeping the soil particles in place, and meeting the performance standards for sediment control measures. Further, PFO is also right to say that the operator has the responsibility and the right to choose the proper sediment control measures. This requires that sediment control designs be worked out between the permittee and the Division technical staff.

In conclusion, the latest versions of the sediment control guidelines should better represent PFO's position. However, the guidelines intend, only, to address the design of sediment control measures. To expand them would reach outside the intent of Tech-003A, which sets up the Divisions Design Guideline Manual.

It must be stated that the duty in inspecting these, or any measure, is to view them in light of their designed use. If an inspector sees problems with how sediment control measures are implemented or how they are functioning, enforcement action could be warranted. However, if the measures approved by the Division are implemented as designed and the measures appear to be functioning well, they should be considered in compliance with all design and performance standards.

Please review the attached guidelines, and respond by marking these copies and returning them to me. I would like all comments by January 31.
Design Guidelines for Vegetative Cover as an Alternate Sediment Control Measure

Background:

According to the Divisions Technical Direction Tech-003A, Vegetative Cover can be used as an Alternate Sediment Control (ASCA) measure when the disturbed area has a vegetative growth that is at least as effective at controlling erosion as the predisturbance vegetation. An approved design for vegetative cover must exist when used as a sediment control measure.

Guideline:

A design for vegetative cover used as sediment control may include a comparison of the amount and type of cover before and after disturbance. Other nonerodible cover, such as rock and litter cover, which exists before disturbance should also be considered in determining the effectiveness of vegetative cover, as well as physical characteristics for the land, such as slope length, slope grade, aspect, and geometry. When no data is available on the vegetation before disturbance, the permittee and the Division may agree upon a nearby, undisturbed reference area that most likely reflects the predisturbance composition of vegetation and nonerodible cover. It may be desirable to include a contingency sediment control measure, such as silt fence or straw bales, should the vegetative cover become ineffective. The OSM Design of Sediment Control Measures for Small Areas in Surface Coal Mining and other professionally acceptable reference can be referred to for possible design criteria.

The designed vegetative cover must meet the performance standards of controlling or preventing additional contributions of sediment to stream flow or runoff outside the permit area. Quantitative monitoring of the vegetation will be completed by the permittee after any event that causes a significant decrease in vegetation quantity, such as wild fire, drought or heavy grazing. The Division will be responsible for compliance monitoring of vegetation on a season to season basis, except when monitoring is justified after one of the previously mentioned events. Vegetation sampling and comparisons will be based on commonly accepted, statistically valid, scientific methods.

Since areas treated by vegetation alone are active in vegetation development, the amount of vegetation on the site will vary. Maintenance plans for these areas must acknowledge this variations and must be based on more than simple measurements of quantity and quality of vegetation. A minimum quantity criteria will be required in the design, but also an erosional standard must be met. The quantity criteria will be site specific and based on the background vegetation measurements and the amount of vegetation necessary to control erosion. The erosional standard will also be site specific, but typically excess rill development of greater than 6-inch depth will require site maintenance. Again the maintenance plan will be part of the sediment control design for areas treated by vegetation cover.

1 Simons et al., 1993.

2 Appendix A of the Division Vegetation Guidelines
A design for vegetative cover used as an alternate sediment control measure may include data similar to the information used in deciding revegetation success. However, the following differences should be noted:

1) Vegetation cover will be based on an area measurement of total canopy cover existing prior to the growing season. Data for the growing season may be included as well as that amount of litter and rock cover. *

2) Cover data should show the amount of perennial and annual vegetation by species or life form and the amount of rock and litter available on the disturbed and undisturbed areas. The composition of both areas should be used to show that the disturbed area cover is at least as effective at controlling erosion and sedimentation than the undisturbed.

3) Minimum sample size requirements do not have to be met, but sufficient samples should be taken to make a statistical analysis. Twenty samples should be the minimum number used unless a lesser number can be shown to be statistically valid.

The following information should also be considered when designing a vegetative cover alternate sediment control measure:

1) The designed area should be shown on a map as an Alternate Sediment Control. Other design criteria can be presented in graphical, tabular or narrative formats. The total area measurement must be given in the design.

2) Each proposed ASCA must be statistically compared with the reference area (or other approved standard) using commonly accepted methods, such as a t-test or signed-rank test.

3) Division Biologist should be contacted if any question as to acceptable methodology arises.

4) Slope measurements (length and grade) or maps showing adequate slope information can be used to show that runoff from the disturbed area is no more erosive than the predisturbance or undisturbed surroundings. Slope information should be available on the area both after disturbance and before disturbance (or on an undisturbed reference area if information is not available).

5) Soil erodibility information is necessary when it is changed by the disturbance.

6) Designs may be supplemented with a demonstration, such as SedCad, or other models that estimate the difference in the amount of sediment production between the

* Ibid.

4 The use of trade names in this guideline is for clarification purpose only and does not constitute endorsement by the Division.
disturbed and undisturbed areas. These demonstrations are not necessary for completeness of design, but may aid in expediting the approval process.

If requested by the Permittee, the Division Biologist may assist in data collection when available. The Permittee may also request a visit from a Division Hydrologist and/or Biologist before submittal of the designs. This visit may help in determining whether the area is likely to succeed with vegetation as the primary sediment control measure. These visits are not necessary but could be beneficial in the permitting process.

Limitations:

Vegetation must not be the primary control during an establishment period. Other sediment and erosion control measures must be in place until vegetation reaches the designed level of effectiveness.

Design Criteria:

An example of design and design criteria is presented in Table 1-1. This example contains possible criteria but is not an all inclusive list of criteria which may be necessary. Furthermore, not every item listed is necessary in every design. The footnotes to Table 1-1 show the relative importance to each criterion.

References:


Simons et al., 1983, Design of Sediment Control Measures for Small Areas in Surface Coal Mining, Department of the Interior, Washington, D.C.
Work Group/Division Contacts:

Steven Johnson, Reclamation Hydrologist  
Susan White, Reclamation Biologist  
Paul Baker, Reclamation Biologist  
Sharon Falvey, Reclamation Hydrologist

Table 1-1  Example of design parameters required to design a vegetation cover alternate sediment control area:

<table>
<thead>
<tr>
<th>Design Criteria</th>
<th>Significance</th>
<th>Value Predisturb</th>
<th>Value Postdisturb</th>
<th>Time from seeding to postdisturbance condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of Vegetation</td>
<td>X</td>
<td>in percent cover</td>
<td>in percent cover</td>
<td>in years or date</td>
</tr>
<tr>
<td>Type of Vegetation</td>
<td>X</td>
<td>descriptive list of plant types</td>
<td>descriptive list of plant types</td>
<td>in years or date</td>
</tr>
<tr>
<td>Amount of nonerodible cover</td>
<td>X</td>
<td>in percent cover</td>
<td>in percent cover</td>
<td>N/A</td>
</tr>
<tr>
<td>Slope length</td>
<td>X</td>
<td>in feet</td>
<td>in feet</td>
<td>N/A</td>
</tr>
<tr>
<td>Slope grade</td>
<td>X</td>
<td>in percent</td>
<td>in percent</td>
<td>N/A</td>
</tr>
<tr>
<td>Aspect</td>
<td>X</td>
<td>direction</td>
<td>(same as predisturb)</td>
<td>N/A</td>
</tr>
<tr>
<td>Soil texture</td>
<td>X</td>
<td>percent sand, percent silt, percent clay</td>
<td>percent sand, percent silt, percent clay</td>
<td>N/A</td>
</tr>
<tr>
<td>Soil K factor</td>
<td>X</td>
<td>SCS designation</td>
<td>SCS designation</td>
<td>N/A</td>
</tr>
<tr>
<td>Modeled runoff TSS concentration</td>
<td>X</td>
<td>in mg/L</td>
<td>in mg/L</td>
<td>in years</td>
</tr>
</tbody>
</table>

1 Mandatory to design.  
2 May be taken from maps or other sources within the reclamation plan.  
3 Helpful in showing design suitability but not necessary unless specifically requested by the Division on a case by case basis.
Design Guidelines for Mulching as an Alternate Sediment Control Measure

Background:

According to the Divisions Technical Directive Tech-003A, and the Utah Coal Mining Rules alternate sediment control measures may be permitted by the Division when an appropriately applied design is submitted. One such design methodology is the use of mulching on disturbed areas. Mulching as methods of sediment control is covered in the OSM Handbook of Alternative Sediment Control Methodologies for Mined Lands¹ on pages 5 through 17.

Guideline:

Typically mulching will be used with seeding when applied as sediment control. Some dry mulches that may be used are straw, woodchips, gravel, manure, hay, and fiber matting. Wood-fiber hydromulch can be used as an aid to sediment control measures. No matter which of the following methods is used, the designs must include treatment area measurements, slope length and average slope grade:

Mulch laid on the surface or incorporated into the soil of disturbed and reclaimed soil controls sediment by minimizing the amount of sediment produced by erosion. Erosion protection comes from two aspects. First, rain splash cannot loosen soil particles as readily when soil is protected with mulch. Second, soil is roughened which makes overland flow more difficult.

The design for a mulch as sediment control must include a description of the amount and type of mulch applied to the surface, and application. The quantity of mulch can be given as a tonnage per acre or other weight per unit area. Types of acceptable mulch may include, but are not limited to, straw, alfalfa hay, grass hay, rock, wood fiber, and wood chips.

Typically, the rate for straw mulch should be at least two tons per acre. Straw mulch may be applied to the surface, crimped by using teeth to tuck the mulch into the soil surface, or mixed within the first few inches of the soil surface. Nets and tackifiers may be desirable to hold surface mulches in place. Table 2-1 is a guide to application rates for many types of mulches.

Designs may be supplemented with a demonstration such as SedCad² or other model that estimates the difference in the amount of sediment production between the disturbed and undisturbed areas. These demonstrations are not necessary for completeness of design, but may aid in expediting the approval process.

The Permittee may request a visit from a Division Hydrologist, Biologist and/or Soils Specialist before submittal of designs. This visit may help in determining whether the area is likely to

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¹MRCA et al, 1985.
²The use of trade names in this guideline is for clarification purpose only and does not constitute endorsement by the Division.
succeed with mulching as a sediment control measure. These visits are not necessary but should be beneficial in properly permitting the measures.

**Limitations:**

Mulches should typically be used in conjunction with other sediment control measures. They should not be relied upon as the primary sediment control on slopes greater than 10 percent unless specific methods are employed to hold the mulch in place, such as tackifiers or nets.

**References:**


Simons et al., 1983, Design of Sediment Control Measures for Small Areas in Surface Coal Mining, Department of the Interior, Washington, D.C.

**Work Group/Division Contacts:**

Steven Johnson, Reclamation Hydrologist

**Table 2-1 -- Mulch Material and Application rates for Utah.**

<table>
<thead>
<tr>
<th>Mulches</th>
<th>Rates Per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straw</td>
<td>2-3 tons</td>
</tr>
<tr>
<td>Woodchips</td>
<td>4-6 tons</td>
</tr>
<tr>
<td>Bark Chips</td>
<td>50-70 cu. yd</td>
</tr>
<tr>
<td>Wood fibers</td>
<td>2,000-3,000 lbs</td>
</tr>
<tr>
<td>Manure</td>
<td>8-10 tons</td>
</tr>
<tr>
<td>Rock</td>
<td>50-100 tons</td>
</tr>
<tr>
<td>Excelsior - blanket</td>
<td>cover entire area</td>
</tr>
<tr>
<td>Excelsior - loose</td>
<td>2 tons</td>
</tr>
</tbody>
</table>

3 Adapted from Simons et al., 1983.

4 Benkobi, Trlica and Smith, 1993.
Design Guidelines for Roughening as an Alternate Sediment Control Measure

Background:

According to the Divisions Technical Directive Tech-003A, and the Utah Coal Mining Rules alternate sediment control measures may be permitted by the Division when an appropriately applied design is submitted. One such design methodology is the use of surface roughening techniques on reclaimed mine lands. Roughening methods for sediment control are covered in the OSM Handbook of Alternative Sediment Control Methodologies for Mined Lands on pages 18 through 31. This reference includes many different roughening techniques, but does not include all methods addressed in this guideline.

Guideline:

There are five types of roughening that are available for sediment control design: contour furrowing, land imprinting, pitting, ripping and deep gouging. Specific design considerations for each method are outlined in this guideline. The design criteria for contour furrowing, land imprinting, ripping and deep gouging are listed in Table 3-1. No matter which of the following methods is used, the designs must include treatment area measurements, slope length and average slope grade.

Contour furrowing is used to reduce soil loss and to enhance the establishment of vegetative cover. Furrows break slope lengths to decrease the rate of rill and gully formation, and create water storage areas that enhance revegetation potential. Typically contour furrowing is used on slopes of less than 10-percent grade with moderately deep soils (approximately 10 inches or deeper). Contour furrowing should not be used in reclaiming Utah coal mine lands unless the above criteria are met.

Land imprinting is a method that creates small water holding basins, microbasins, in reclaimed land by running a large gravitational imprinter over the surface. The microbasins collect water to enhance revegetation and decrease the amount of overland flow. This method can be used on a variety of soil types and slopes, but when the slope is greater than 8 percent the land should be imprinted perpendicular to the slope to create microterraces. Land imprinting can be done after seeding and mulching.

Pitting is a treatment method that creates microbasins by ripping and disking soil in a designed, discontinuous pattern. This method is a water conservation technique that is effective on slopes of less than 10-percent grade, medium textured soils. Water holding capacity of the

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1 MRCA et al., 1985.

2 Ibid.
microbasins is relatively low and decreases over time. This should not be used in reclaiming Utah coal mine lands unless the above criteria are met.

Ripping is a treatment that breaks compacted layers of soil. This method creates a better environment for root penetration, thus encouraging vegetation growth. The Utah Coal program frequently requires ripping prior to seeding an area, but discontinuous ripping should be used when done as a part of a sediment control plan on slopes greater than 10 percent.

Deep roughening in which microbasins are created using a backhoe or trackhoe. In this method an operator would use the shovel by digging 1-1/2 to 2 feet into the soil leaving behind pocks and piles of soil. The pocks are to be placed in a relatively random pattern to make flow paths discontinuous over a hill slope. The microbasins collect water to increase revegetation and should allow for little surface runoff. This method has been successful on Utah slopes as steep as 1:1. Deep roughening should be used to prevent erosion and enhance revegetation on moderate to steep slopes. However, any slope greater than 2h:1v may require additional erosion control matting depending upon soil type.

Designs may be supplemented with a demonstration such as SedCad or other model that estimates the difference in the amount of sediment production between the disturbed and undisturbed areas. These demonstrations are not necessary for completeness of design, but may aid in expediting the approval process.

The Permittee may request a visit from a Division Hydrologist, Biologist and/or Soils Specialist before submittal of designs. This visit may help in determining whether the area is likely to succeed with roughening as a sediment control measure. These visits are not necessary but should be beneficial in properly permitting the measures.

Limitations:

Slope and soil dependant limitations exist for each measure. The limitations are shown in Table 3-1.

References:


Simons et al., 1983, Design of Sediment Control Measures for Small Areas in Surface Coal Mining, Department of the Interior, Washington, D.C.

3 Ibid.

4 The use of trade names in this guideline is for clarification purpose only and does not constitute endorsement by the Division.
Work Group/Division Contacts:

Steven Johnson, Reclamation Hydrologist

Table 3-1 -- Design criteria for sediment control roughening methods.\(^5\)

<table>
<thead>
<tr>
<th>Item</th>
<th>Contour Furrow</th>
<th>Land Imprint</th>
<th>Pitting</th>
<th>Deep Gouging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment/Components</td>
<td>plow or blade</td>
<td>imprinter or tiller</td>
<td>gouging pitters, hydraulic device</td>
<td>backhoe or trackhoe</td>
</tr>
<tr>
<td>Microbasin per acre</td>
<td>NA</td>
<td>10,000 to 25,000</td>
<td>appr. 5,000</td>
<td>1,000 to 2,000</td>
</tr>
<tr>
<td>Spacing</td>
<td>3 to 5 feet</td>
<td>10 to 12 inches</td>
<td>15 to 40 inches</td>
<td>1 to 6 feet</td>
</tr>
<tr>
<td>Width</td>
<td>18 to 30 inches</td>
<td>2 to 12 inches</td>
<td>8 to 18 inches</td>
<td>2 to 3 feet</td>
</tr>
<tr>
<td>Depth</td>
<td>8 inches</td>
<td>2 to 5 inches</td>
<td>4 to 10 inches</td>
<td>5 to 24 inches</td>
</tr>
<tr>
<td>Length</td>
<td>entire slope</td>
<td>10 to 12 inches</td>
<td>2 to 8 inches</td>
<td>2 to 6 feet</td>
</tr>
<tr>
<td>Limitations</td>
<td>slope &lt; 10%</td>
<td>may seed prior, compacts soil</td>
<td>slope &lt; 10%</td>
<td>when soil type dictates</td>
</tr>
</tbody>
</table>

\(^5\) Adapted from MRCA et al., 1985.
January 18, 1996

FIELD(1)

Re: Submittal of Annual Report for 1995, FIELD(3), FIELD(4), FIELD(5), Folder #2, FIELD(6) County, Utah

Dear Mr. FIELD(2):

Enclosed please find the forms and summaries of activities that should be included in the coal mining and reclamation monitoring report for 1995. Please submit these reports to the Division by April 2, 1996.

Please submit water monitoring files in a DOS based format. If you have any questions about the submittal of this data, please call Ken Wyatt.

If you have any other questions, please call Pamela Grubaugh-Littig, Daron Haddock or Joe Helfrich.

Sincerely,

Lowell P. Braxton
Associate Director, Mining

mbm
Enclosures
cc: P. Grubaugh-Littig
     D. Haddock
     J. Helfrich

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Brad Bourquin, P.E.
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Lakewood, Colorado  80232

James Jensen
Savage Industries, Inc.
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Salt Lake City, Utah  84107
COAL MINING AND RECLAMATION OPERATIONS FOR 1995

(Must be submitted to the Division by April 2, 1996)

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
3 Triad Center, Suite 350
355 West North Temple
Salt Lake City, Utah 84180-1203
(801) 538-5340

Permittee: ________________________________

Mine Name: ______________________________

Mailing Address: __________________________

Company Representative: ___________________

Resident Agent: ____________________________

Permit Number: ____________________________

MSHA ID Number: __________________________

Date of Initial Permanent Program Permit: __________________________

Date of Permit Renewal: ______________________

Quantity of Coal Mined (tonnage) 1995: __________________________

Attach Updated Mine Sequence Map(s) showing mine development through December 31, 1995.
(Same as Lease Royalty Payment Map and/or MSHA Progress Map)

All monitoring activities during the report period to be submitted with this report (including, but not limited to):

A. General

1. Discuss anomalies, missing data and monitoring changes made throughout the year.
2. Summarize any corrective actions and the results that may have occurred during the year.

B. Water Monitoring Data:
   Groundwater Summary

1. Mine Discharge
   a. Summarize the total annual discharge from mine water discharge points and
breakdown on a monthly basis for each site.

b. Discuss the past five years of data comparing changes in discharge. (Include in the discussion elements encountered during the year such as mining rate, location of faults or large in-mine flows during the year.)

c. Discuss trends, if existent, and exceedence in water quality parameters. A correlation with flow could provide additional information.

2. Springs
   a. Are there seasonal trends/or changes in water quality for each quarter? Stiff diagrams provide a good aid in this determination.
   b. Provide an analysis of changes in quantity of flow. Discuss any significant changes or trends. (An accumulation of long-term data, especially in graph form, is helpful for this discussion.)

3. Surface Water
   a. Include (discuss or tabulate) comparisons of upstream and downstream water quality and quantity for monitoring sites for each quarter. Include tributary quantity and quality information. Compare with mine water discharge, where applicable.
   b. Discuss any subsidence occurring over underlying tributaries and streams (perennial or ephemeral), and results from monitoring of subsided areas.

C. Summarized Water Monitoring Data
   1. List of monitoring points and their locations and respective frequencies of monitoring (monthly, quarterly, etc.) as approved in the PAP;
   2. UPDES permit number, UPDES discharge points, and their locations (based on UTM coordinates, if possible).
   3. Summary of findings based on water monitoring during 1995; and
   4. Submit water monitoring as DOS-based files. Be specific about the format, submit data in one of the following formats only, i.e: Quattro Pro, Lotus, or ASCII.

D. Precipitation or Other Climatological Data (please submit as DOS-based files: ASCII, Lotus, Quattro Pro, FoxPro, etc. -- Contact Ken Wyatt, if you have any questions).

E. Subsidence Monitoring Report:
   1. Brief description of monitoring system (monuments or aerial surveys, how monitoring is done, how frequently monitoring is done);
   2. List of all monitoring points (if any) and their locations and amount of displacement of each;
   3. Map showing either monitoring points (if any) or a representation of subsidence which has occurred; and
   4. Any owners and/or occupants of surface property and structures above the underground workings who were or will be mailed notification six months prior to mining (R645-301-525.300).
   5. Discussion of any proposed mining sequence changes and how that may affect the area of monitoring for the following year.

F. Vegetation Data (test plots) or Revegetation Success Monitoring (includes interim and final):
1. Test plot monitoring data or implementation;
2. Quantitative results from interim or final seeding efforts;
3. If quantitative monitoring was not required, then at minimum, a qualitative description of the interim or final vegetation; and
4. Describe any seeding done on site during the current year.

G. Annual Impoundment Certification, (R645-301-514.312) which includes the following information:

1. Any appearances of instability;
2. Structural weakness or other hazardous conditions;
3. Depth and elevation of any impounded waters;
4. Existing storage capacity;
5. Any existing or required monitoring procedures and instrumentation; and
6. Any other aspects of the structure affecting stability.

Suggested Form Enclosed

H. Annual Overburden, Spoil, Refuse, Roof, Floor, and Mid-Seam Data. For Consistency and completeness, please submit data for this reporting requirement in the following manner:

1. Location of sample site, sample interval, and sample matrix (if roof or floor, then include lithologic unit and if coal, then thickness of seam at sample site);
2. Sampling technique employed in the field (i.e., grab sample, composite, depth segregated or specific procedure outlined in the permit by chapter and page) and preparation prior to analysis (i.e., sieved sample, ground sample, air dried, oven dried, etc.);
3. Laboratory analysis report sheet which includes:
   i. Sample time and date;
   ii. Date and time of lab analysis; and
   iii. Analytical method(s) employed and references. Include the soil/spoil: water ratio.
4. Summary of findings based on monitoring.

I. A current copy of the annual report of officers submitted to the Department of Commerce and any changes in the ownership and control information required under R645-301-110.

J. Any Other Information Required to be Submitted as Specified in your Permit Application Package and Permit.
SUGGESTED FORMAT

ANNUAL MAINTENANCE INSPECTION CERTIFICATION

This certification shall be submitted to the Division as part of the "Annual Report".

1. I hereby certify, in accordance with R645-301-514.310 through R645-301-514.313 and others as applicable, that with respect to the following facility.

<table>
<thead>
<tr>
<th>Name of Permittee</th>
<th>Permit No.</th>
</tr>
</thead>
</table>

Mine Name

which is a: (check one)

___ temporary water impoundment
___ permanent water impoundment
___ processing waste impoundment

2. I, or persons under my supervision, have conducted adequate inspections of the maintenance of the structure; and

3. The maintenance has been performed in accordance with the Utah State Coal Program; and

4. The attached report is certified in accordance with the rules of professional conduct promulgated by the Utah Board of Examiners for Engineers; and

5. The attached report addresses the following points:

a. any appearances of instability, structural weaknesses or other hazardous conditions;

b. depth and elevation of impoundment water;

c. existing storage capacity;

d. existing or required monitoring procedures and instrumentation; and

e. any other aspects of the structure affecting stability.

6. Comments
CERTIFICATION REPORT

On ______________, 1995, an inspection of ____________________________
_______________________________. Area No. ___’s sedimentation pond _____
revealed the following:

A. The pond has been constructed and maintained in accordance with the
   approved plan.

B. The pond’s dam appeared sound with no signs of instability or hazardous
   conditions.

C. The water elevation was ____ feet. The water depth was ____ feet.

D. The existing storage capacity is ____ acre-feet which is greater than the __
   ____ acre-feet required by the approved plan.

E. Ponds are inspected weekly for structural problems and pH levels. Bi-
   monthly sampling of discharge is performed with analysis results submitted
   monthly. U.P.D.E.S. and DOGM requirements are followed during
   sampling, analysis, and reporting.

Based on this field inspection, pond ____ has been certified as required by R645-
301-514.310 through R645-301-514.313. A "Certification of Maintenance of Dams and
Embankments" is attached.

Affix seal of engineer
making this certification.
All data in the seal
must be legible.

___________________________
Seal

12/31/95
June 20, 1996

Marie Sibrell
Grants Specialist
Office of Surface Mining
Reclamation and Enforcement
1999 Broadway, Suite 3320
Denver, Colorado 80202-5733

Re: Response to June 5, 1996 Utah Regulatory Grant Request Letter

Dear Ms. Subrule:

I have the following response to your concerns outlined in your June 5, 1996 letter:

1. The table on page 18 lists 30 permits as active, with 25 active and 5 inactive inspectable units. This table should be corrected to denote 31 inspectable units, 25 active and 6 inactive. The six (6) inactive sites are: Des-Bee-Dove Mine and Emery Deep Mine (temporary cessation), Gordon Creek #3 and #6 Mines, Huntington #4 Mine, and Trail Canyon Mine (Phase II Bond Release), and Sunnyside Mines (in Bankruptcy). The Willow Creek Mine was permitted April 23, 1996.

2. The mine acreages for 1995 were 149,799 acres. The figures that were submitted in 1996 were 164,347 acres. The permitted acreages do change from year to year.

If you have any questions, please call me or Pamela Grubaugh-Littig.

Sincerely,

Lowell P. Braxton
Associate Director
November 5, 1996

Mark J. Rodak
Mining Engineer
MR International
3920 Market Street
Camp Hill, PA 17011

Re: Response to October 24, 1996 Letter

Dear Mr. Rodak:

In response to your letter and request for a mining permit application for coal agglomeration and its chemical and physical processing of coal, I am enclosing pertinent citations from the Utah Coal Regulatory Program.

If you have any questions, please call me.

Sincerely,

[Signature]

Pamela Grubaugh-Littig
Permit Supervisor

Enclosure
To: Lowell P. Braxton, Deputy Director

From: Pamela Grubaugh-Littig, Permit Supervisor

Re: Response to COVOL Letter of July 11, 1996

The letter to you from Steve Brown, COVOL, dated July 11, 1996, outlined the process for the proposed COVOL facility to be located near the Savage Coal Terminal. This process involves buying coal fines from different operations and processing them through a patented process. The purpose of this memo is to outline the regulatory requirement for this proposed facility.

Summary

According to the rules for “Coal Processing Plants Not Located Within the Permit Area”, R645-302-260, it appears that the proposed COVOL facility would require a mining and reclamation permit. However, the preamble to this rule, dated November 22, 1988 (attached) sheds insight into what types of coal processing facilities require mining and reclamation permits. The notion of “incident to a mine” is a major factor that must be considered and in light of this, the proposed COVOL facility would probably not require a permit.

It is also necessary to consider previous Division decisions relative to this issue. These decisions include: Permitting of the waste/refuse at the Sunnyside Cogeneration Facility and the extent of Division jurisdiction at this site; mining of slurry fines at the Hiawatha Mine that have surface mining AML fees required, and the ALJ decision requiring permitting of the Hunter Preparation Plant that is currently under appeal (attached).

It is also necessary to consider the disposition of waste at permitted sites. Under the regulatory program, waste from a permitted site can only be disposed at a permitted site. If material is waste at a mine site and the material has not changed from Site A (the mine) to Site B (the facility, such as briquetting plant), rules prohibit waste going to an unpermitted site. If the plant starts with fines/refuse, will “the physical or chemical processing or other processing”, (i.e. the processing that takes place at COVOL) need to be permitted? This could be validated by the waste
Response to July 11, 1996 Letter
Regulatory Requirement
Proposed COVOL Facility
Page 2

product at the COVOL facility.

In conversations with Steve Brown at COVOL, he told me that they are buying “expensive coal fines” from SUFCO, Hiawatha and Savage and no waste is generated. This should be validated, however. From experience, “no waste generated” is an optimum condition that is rarely achieved.

Regulatory Background

According to R645-302-260, Coal Processing Plants Not Located Within the Permit Area, “applies to any person who operates or intends to operate a coal processing plant outside the permit area of any coal mining and reclamation operation, other than such plants which are located at the site of ultimate coal use. Any person who operates such a processing plant will obtain a permit from the division in accordance with the requirements of R645-302-260.” (Attached)

Coal Preparation or Coal Processing means the chemical and physical processing and the cleaning, concentration or other processing or preparation of coal. A Coal Processing Plant means a facility where coal is subject to chemical or physical processing or the cleaning, concentration or other processing or preparation. Coal processing plants include facilities associated with coal processing activities, such as, but not limited to, the following: loading facilities; storage and stockpiles facilities; sheds, shops, and other building; water-treatment and water-storage facilities; settling basing and impoundments; and coal processing and other waste disposal areas.

The definition of “Coal Mining and Reclamation Operations” includes ....."activities conducted on the surface of lands in connection with a surface coal mine or, subject to the requirement of Section 40-10-198 of the Act, surface coal mining and reclamation operations and surface impacts incident to an underground coal mine...... the products of which enter commerce or the operation of which directly or indirectly affect interstate commerce. Such activities include all activities necessary and incidental to the reclamation of the operations....Such activities also include the loading of coal for integrate commerce...and provided further, that excavation for the purpose of obtaining coal includes extraction of coal from coal refuse piles.”

The final rule for 30CFR, Parts 785 and 827, Permanent Regulatory Program; Coal Preparation Plants Not Located Within the Permit Area of a Mine; FR November 22, 1988, provides insight into what types of activities are considered coal processing
Memo to Lowell Braxton
Response to July 11, 1996 Letter
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Page 3

not located within the permit area of a mine.

Some pertinent excerpts from this preamble

"OSMRE is amending the language in 30 CFR 785.21, the permitting requirements for off-site preparation plants, and 30 CFR 827.1, the performance standards for off-site preparation plants, to make clear that those sections apply only to off-site coal preparation that is "in connection with" a coal mine. No definition of the term "in connection with" is included in the final rule. Any attempt to further define this phrase in a regulation would unduly restrict the discretion that regulatory authorities must have in order to make valid decision about the applicability of the performance standards of SMCRA in individual cases."

OSMRE continues to believe that the ability of mine operators, or coal handlers directly servicing such operators, to have control of processing operation is essential in establishing that a processing plant is being operated in connection with a coal mine. This position was set forth in an explanation of the reach of the 1979 regulation (30 CFR 785.21) when OSMRE stated, "OSM is only requiring regulatory authorities to extend their permit requirements as far into the stream of commerce as those activities over which mine operators and the coal handlers who directly serve them, such as coal processors, have or could have control of operations." (44 FR15095).

In identifying the relationship necessary for coal preparation to be "in connection with" a coal mine, the principle stated in the May 5, 1983 preamble to the definition of "coal preparation of coal processing" should be referenced. In that preamble, OSMRE cited examples of facilities which could be considered to be "in connection with" a coal mine, including "facilities which receive a significant portion of their coal from a min; facilities which receive a significant portion of the output from a mine; facilities which have an economic relationship with a mine; or any other type of integration that exists between a facility and a mine." Further, OSM stated that a "facility need not be owned by a mine owner to be in connection with a mine."

Further, "OSMRE does not believe that the enumeration by Congress of examples in Section 701 (28)(B) was intended to reach such facilities not resulting from or incident to a mine. If Congress had intended to regulate these enumerated facilities without any consideration of whether they were resulting from or incident to coal mine activities, then all impoundments and dams nationwide would be subject to SMCRA regardless of whether or not they had anything to do with a coal mine. Congress did not intend that "shipping areas" regardless of their association with coal
 mines be regulated under SMCRA. It is unreasonable to assume that Congress intended to regulate all coal processing at all industrial facilities nationwide, absent any relationship to a mine.

**Recommendation**

This is a complex issue that requires further technical analysis and a legal opinion. It is requested that the legal staff check on whether or not there are precedent cases that indicate whether or not such sites should or should not be permitted.

However, due to the fact that the “proposed facility” is currently under construction, a letter should immediately be sent to Steve Brown, COVOL, notifying him that at this point in time, the Division is unable to commit to whether or not this site should be permitted.

**Enclosures**

cc: Mary Ann Wright
    Daron Haddock
    Joe Helfrich
Steve Brown, P.E.
Vice President Engineering/Construction
COVOL
3280 No. Frontage Road
Lehi, Utah 84043

Re: Response to July 11, 1996 Letter

Dear Mr. Brown:

This letter is in response to your letter of July 11, 1996 about whether or not the proposed activity by COVOL Technologies will require a permit under the Utah Coal Regulatory Program. It is the Division's understanding that coal fines, i.e. "coal" is being converted from the "fines" to a "briquette" with no waste being generated. If this is the case, then no coal mining and reclamation permit is required.

However, if coal waste (e.g. slurry or coarse refuse) is used as the source material to be processed and waste is generated, a mining and reclamation permit could be required. Additionally if any other facts change from those identified by Covol or discovered by the Division, a permit may be required. Mining of the coal waste at the host site would also need to be addressed through the coal regulatory process.

If you require further clarification or have any questions, please let me know.

Sincerely,

Mary Ann Wright
Associate Director of Mining
TO: File
FROM: Daron R. Haddock, Permit Supervisor
RE: Proposed Coal Fines Extrusion/Briquetting Facility, Covol Technologies, Inc., Carbon County, Utah

SYNOPSIS

On July 11, 1996 the Division received a proposal from Covol Technologies which discusses the installation of a coal fines extrusion/briquetting facility in Carbon County. Their plans are to use waste coal fines from coal mining and processing operations as raw materials in the production of coal pellets. Covol feels that this activity would not fall under the purview of the Utah Coal Regulatory Program and has asked for the Division's concurrence.

This memo is an analysis of the proposal and provides findings which will enable the Division to determine the permitting requirements for this type of facility.

ANALYSIS

Under the Utah Coal Regulatory Program it is necessary for anyone who engages in or carries out any coal mining and reclamation operations to first obtain a permit (R645-300-112.400). The question that must then be asked is, whether or not the Covol activity constitutes "coal mining and reclamation operations"?

This term is defined at R645-100-200 as follows:

"Coal Mining and Reclamation Operations" means (a) activities conducted on the surface of lands in connection with a surface coal mine or, subject to the requirements of Section 40-10-18 of the Act, surface coal mining and reclamation operations and surface impacts incident to an underground coal mine, the products of which enter commerce or the operations of which directly or indirectly affect interstate commerce. Such activities include all activities necessary and incidental to the reclamation of the operations, excavation for the purpose of obtaining coal, including such common methods as contour, strip, auger, mountaintop removal, box cut, open pit, and area mining; the use of explosives and blasting;
in-situ distillation; or retorting, leaching, or other chemical or physical processing; and the cleaning, concentrating, or other processing or preparation of coal. Such activities also include the loading of coal for interstate commerce at or near the mine site. Provided, these activities do not include the extraction of coal incidental to the extraction of other minerals, where coal does not exceed 16-2/3 percent of the tonnage of minerals removed for purposes of commercial use or sale, or coal exploration subject to Section 40-10-8 of the Act; and, provided further, that excavation for the purpose of obtaining coal includes extraction of coal from coal refuse piles; and (b) the areas upon which the activities described under part (a) of this definition occur or where such activities disturb the natural land surface. These areas will also include any adjacent land the use of which is incidental to any such activities, all lands affected by the construction of new roads or the improvement or use of existing roads to gain access to the site of those activities and for haulage and excavation, workings, impoundments, dams, ventilation shafts, entryways, refuse banks, dumps, stockpiles, overburden piles, spoil banks, culm banks, tailings, holes or depressions, repair areas, storage areas, processing areas, shipping areas, and other areas upon which are sited structures, facilities, or other property or material on the surface, resulting from or incident to those activities.

Covol describes their activity as follows:

The facility will utilize Covol's patented process to convert approximately 400,000 tons of coal fines per year into a synthetic fuel similar to run-of-mine coal. The facility will consist of a power screen to remove any oversize material from the coal fines and then the fines will be stored in a storage silo. The materials will then be mixed with water and Covol's patented binder and then either briquetted or extruded into pellets. The materials will then be thermally dried to meet finish product moisture requirements and harden the material for handling purposes. The material will then be mixed with the oversized material and stockpiled until it is either trucked or shipped by rail to the end user.

At first reading it would appear that Covol's proposed activity would fall under the chemical or physical processing of coal criteria found in the above definition and would require permitting. However, a closer look at the definition reveals that in order for the activity to be considered Coal Mining and Reclamation Operations it would have to be conducted "in connection with" a coal mine.

No definition of "in connection with" has been given since it is felt that each regulatory authority must have discretion in order to make valid decisions about the applicability of the performance standards of SMCRA in individual cases.

The preambles to Federal Rules 30 CFR parts 785 and 827 (November 22, 1988 Federal Register) provide important insight for how to determine if a processing plant is being operated in connection with a coal mine.

The following statements should be considered when determining whether a facility is operating "in connection with" a coal mine:

1) "OSM is only requiring regulatory authorities to extend their permit requirements as far into the stream of commerce as those activities over which
July 11, 1996

Mr. Lowell P. Braxton
Associate Director, Mining
Division of Oil, Gas and Mining, State of Utah
1594 West North Temple
Salt Lake City, UT 84114-5801

RE: Carbon County Coal Fines Agglomeration Facility

Dear Lowell,

Covol Technologies, Inc. (Covol) is proposing to install and operate a coal fines extrusion/briquetting facility in Carbon County. The plant will utilize Covol’s patented process to convert coal fines (1/4" minus) into a solid synthetic fuel similar to run-of-mine coal. The coal will be sold to industrial users for electrical generation and production of steam. This facility will utilize waste coal fines from coal mining and processing operations as raw material in the production of coal pellets. The plant will consist of one briquetting production line and one extrusion line. I have attached a more thorough description of the facility for your information.

Covol’s conversion process assists in the reduction of environmental problems associated with the long term landfilledling of coal fines. We are excited about the long term environmental and economic benefits in Carbon and Emery Counties. It is Covol’s understanding that since the plant is not directly associated with mining and does not generate any waste by-product from this operation it would not fall under the regulatory guidelines of the Division of Oil, Gas and Mining. Covol is requesting the Divisions’ concurrence.

Sincerely,

Steven Brown  P.E.
Vice President Engineering/Construction

Attachment

cc: A. Sorenson, Covol Technologies

3280 No. Frontage Road, Lehi, UT 84043 801-768-4481 FAX 801-768-4483
Covol Technologies, Inc.
Carbon County Coal Agglomeration Facility

Facility Description

The facility will utilize Covol’s patented process to convert approximately 400,000 tons of coal fines per year into a synthetic fuel similar to run-of-mine coal. The facility will consist of a power screen to remove any oversize material from the coal fines and then the fines will be stored in a storage silo. The materials will then be mixed with water and Covol’s patented binder and then either briquetted or extruded into pellets. The materials will then be thermally dried to meet finish product moisture requirements and harden the material for handling purposes. The material will then be mixed with the oversized material and stockpiled until it is either trucked or shipped by rail to the end user.

Raw Material Delivery

The coal fines will be delivered to the facility either by rail or truck from various sources of coal fines in Carbon and Emery Counties. The coal fines are generated through screening and processing of coal. Most of the feed stock will come from stockpiles of these materials developed over the life of a coal mine. Covol’s conversion process assists in the reduction of environmental problems associated with the long term landfiling of these fines. The maximum amount of unprocessed coal fines stockpiles on the site at any one time will be approximately 5,000 tons of fines.

Coal Fines Preparation

The coal fines will vary in size and moisture content from site to site. All of the fines will be screened to remove all 1/4” material. The moisture content for the briquetting of coal fines must be approximately ten percent. The moisture content for extrusion of coal fines must be approximately eighteen percent moisture. The moisture content of the coal fines when delivered to the site will vary between eight percent and twenty percent moisture. The drier material will be separated and stored in a separate storage silo for briquetting.

Briquetting Operation

Approximately five tons per hour of coal fines will be briquetted at the facility. The coal fines from the coal fines storage silo will be transferred to a surge bin which feeds a continuous mixing pug mill. The coal fines are mixed with Covol’s patented binder. Water may be added in the mixing process to assure uniformity. The material is then transferred to an evenflow feeder which controls the flow of materials to the briquetter. The briquetter uses hydraulic pressure to compress the coal fines into a shape similar to a Kingsford Charcoal briquette. The briquettes are then transferred to a drying oven to harden the product and reduce the moisture content to 8 to 10%.
Extrusion Operation

Approximately fifty tons per hour of coal fines will be extruded at the facility. The coal fines from the coal fines storage silo will be transferred to a surge bin feeding the eventflow feeder which controls the flow of materials to the pug sealer and extruder. The pug sealer then mixes the coal fines with water and Covol's binder and then puts the material under a vacuum to densify the material and to remove any air pockets. The material is then transferred to the extruder which continues the mixing and applies pressure to the material. The material is then molded by the extruder into one inch diameter extrusions. The extrusions normally break into lengths about one to one and one half inches long and are transferred to a drying oven to harden the product and reduce the moisture content to 8 to 10%.

Drying Ovens

The drying ovens are used to harden the briquettes and reduce the moisture content to the approximately eight to ten percent. The drying ovens will utilize propane until natural gas service can be delivered to the site. We expect this to take up to one year after startup. The drying oven for the briquetter is rated at 1 MMBTU per hour and is a double pass unit. Two drying ovens will be used in series for the extruding process line. The first oven is rated a 7 MMBTU per hour and is a single pass unit. The second oven is rated at 14 MMBTU per hour and is a double pass unit. Our experience with the 1 MMBTU per hour oven indicates that a baghouse is not needed for the exhaust air stream. No visible particulate or coal dust is removed from the oven by the exhaust air stream.

Product Loadout

After drying, the briquettes and extrusion will be combined and stockpiled by using a radial stacker. The maximum amount stockpiled at the site will be approximately 5,000 tons. The product will be loaded into trucks or into Savage Industries rail loading facility. The product will be loaded with rubber tired loaders.
August 22, 1996

TO:      File
FROM:    Daron R. Haddock, Permit Supervisor
RE:      Proposed Coal Fines Extrusion/Briquetting Facility, Covol Technologies, Inc., Carbon County, Utah

SYNOPSIS

On July 11, 1996 the Division received a proposal from Covol Technologies which discusses the installation of a coal fines extrusion/briquetting facility in Carbon County. Their plans are to use waste coal fines from coal mining and processing operations as raw materials in the production of coal pellets. Covol feels that this activity would not fall under the purview of the Utah Coal Regulatory Program and has asked for the Division's concurrence.

This memo is an analysis of the proposal and provides findings which will enable the Division to determine the permitting requirements for this type of facility.

ANALYSIS

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This term is defined at R645-100-200 as follows:

"Coal Mining and Reclamation Operations" means (a) activities conducted on the surface of lands in connection with a surface coal mine or, subject to the requirements of Section 40-16-13 of the Act, surface coal mining and reclamation operations and surface impacts incident to an underground coal mine, the products of which enter commerce or the operations of which directly or indirectly affect interstate commerce. Such activities include all activities necessary and incidental to the reclamation of the operations, excavation for the purpose of obtaining coal, including such common methods as contour, strip, auger, mountaintop removal, box cut, open pit, and area mining, the use of explosives and blasting;
Notice: Although the running heads at the top of each page say "Revised October 1, 1994", the information in this publication has been made current to November 1, 1996.
Division determines to contain information addressing each application requirement of the State Program and to contain all information necessary to initiate processing and public review.

"Affected Area" means any land or water surface area which is used to facilitate, or is physically altered by, coal mining and reclamation operations. The affected area includes the disturbed area; any area upon which coal mining and reclamation operations are conducted; any adjacent lands the use of which is incidental to coal mining and reclamation operations; all areas covered by new or existing roads used to gain access to, or for haulage coal to or from coal mining and reclamation operations, except as provided in this definition; any area covered by surface excavations, workings, impoundments, dams, ventilation shafts, entryways, refuse banks, dumps, stockpiles, overburden piles, spoil banks, culm banks, tailings, holes or depressions, repair areas, storage areas, shipping areas; any areas upon which are situated structures, facilities, or other property material on the surface resulting from, or incident to, coal mining and reclamation operations; and the area located above underground workings. The affected area shall include every road used for purposes of access to, or for haulage coal to or from, coal mining and reclamation operations, unless the road (a) was designated as a public road pursuant to the laws of the jurisdiction in which it is located; (b) is maintained with public funds, and constructed in a manner similar to other public roads of the same classification within the jurisdiction; and (c) there is substantial (more than incidental) public use.

Editorial Note: The definition of Affected area, insofar as it excludes roads which are included in the definition of Surface coal mining operations, was suspended at 51 FR 41960, Nov. 20, 1986. Accordingly, Utah suspends the definition of Affected Area insofar as it excludes roads which are included in the definition of "coal mining and reclamation operations."

"Agricultural Use" means the use of any tract of land for the production of animal or vegetable life. The uses include, but are not limited to, the pasturing, grazing, and watering of livestock, and the cropping, cultivation, and harvesting of plants.

"Alluvial Valley Floors" means the unconsolidated stream-laid deposits holding streams with water availability sufficient for subsurface or flood irrigation agricultural activities, but does not include upland areas which are generally overlain by a thin veneer of colluvial deposits composed chiefly of debris from sheet erosion, deposits formed by unconcentrated runoff or slope wash, together with talus, or other mass-movement accumulations, and windblown deposits.

"Applicant" means any person seeking a permit, permit change, and permit renewal, transfer, assignment, or sale of permit rights from the Division to conduct coal mining and reclamation operations or, where required, seeking approval for coal exploration.

"Application" means the documents and other information filed with the Division under the R645 Rules for the issuance of permits; permit changes; permit renewals; and transfer, assignment, or sale of permit rights for coal mining and reclamation operations or, where required, for coal exploration.

"Approximate Original Contour" means that surface configuration achieved by backfilling and grading of the mined areas so that the reclaimed area, including any terracing or access roads, closely resembles the general surface configuration of the land prior to mining and blends into and complements the drainage pattern of the surrounding terrain with all highwalls, spoil piles, and coal refuse piles having a design approved under the R645 Rules and prepared for abandonment. Permanent water impoundments may be permitted where the Division has determined that they comply with R645-301-413.100 through R645-301-413.334, R645-301-512.240, R645-301-514.300, R645-301-515.200, R645-301-533.100 through R645-301-533.600, R645-301-542.400, R645-301-733.220 through R645-301-733.224, R645-301-743, R645-302-270 through R645-302-271.400, R645-302-271.600, R645-302-271.800, and R645-302-271.900.

"Aquifer" means a zone, stratum, or group of strata that can store and transmit water in sufficient quantities for a specific use.

"Arid and Semiarid Area" means, in the context of ALLUVIAL VALLEY FLOORS, an area where use by native vegetation equals or exceeds that supplied by precipitation. All coalfields in Utah are in arid and semiarid areas.

"Auger Mining" means a method of mining coal at a cliff or highwall by drilling holes into an exposed coal seam from the highwall and transporting the coal along an auger bit to the surface.

"Best Technology Currently Available" means equipment, devices, systems, methods, or techniques which will (a) prevent, to the extent possible, additional contributions of suspended solids to stream flow or runoff outside the permit area, but in no event result in contributions of suspended solids in excess of requirements set by applicable state or federal laws; and (b) minimize, to the extent possible, disturbances and adverse impacts on fish, wildlife, and related environmental values, and achieve enhancement of those resources where practicable. The term includes equipment, devices, systems, methods, or techniques which are currently available anywhere as determined by the Director, even if they are not in routine use. The term includes, but is not limited to, construction practices, siting requirements, vegetation selection and planting requirements, animal stocking requirements, scheduling of activities, and design of sedimentation ponds in accordance with R645-301 and R645-302. Within the constraints of the State Program, the Division will have the discretion to determine the best technology currently available on a case-by-case basis, considering among other things the economic feasibility of the equipment, devices, systems, methods or techniques, as authorized by the Act and the R645 Rules.

"Blaster" means a person who is directly responsible for the use of explosives in connection with surface blasting operations incidental to UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES or SURFACE COAL MINING AND RECLAMATION ACTIVITIES, and who holds a valid certificate issued by the Division in accordance with the statutes and regulations administered by the Division governing training, examination, and certification of persons responsible for the use of explosives in connection with surface blasting operations incident to coal mining and reclamation operations.

"Board" means the Board of Oil, Gas and Mining for the state of Utah, or the Board's delegated representative.

"Cemetery" means any area of land where human bodies are interred.

"Coal" means combustible carbonaceous rock, classified as anthracite, bituminous, subbituminous, or lignite by ASTM Standard D388-77.

"Coal Exploration" means the field gathering of: (a) surface or subsurface geologic, physical, or chemical data by mapping, trenching, drilling, geophysical, or other techniques necessary to determine the quality and quantity of overburden and coal of an area; or (b) the gathering of environmental data to establish the conditions of an area before beginning coal mining and reclamation operations under the requirements of the R645 Rules.

"Coal Mine Waste" means coal processing waste and underground development waste.

"Coal Mining and Reclamation Operations" means (a) activities conducted on the surface of lands in connection with a surface coal mine or, subject to the requirements of Section 40-10-18 of the Act,
surface coal mining and reclamation operations and surface impacts incident to an underground coal mine, the products of which enter commerce or the operations of which directly or indirectly affect interstate commerce. Such activities include all activities necessary and incidental to the reclamation of the operations, excavation for the purpose of obtaining coal, including such common methods as contour, strip, auger, mountain-top removal, box cut, open pit, and area mining; the use of explosives and blasting; in-situ dilution; or retorting, leaching, or other chemical or physical processing; and the cleaning, concentrating, or other processing or preparation of coal. Such activities also include the loading of coal for interstate commerce at or near the mine site. Provided, these activities do not include the extraction of coal incidental to the extraction of other minerals, where coal does not exceed 16-2/3 percent of the tonnage of minerals removed for purposes of commercial use or sale, or coal exploration subject to Section 40-10-8 of the Act; and, provided further, that excavation for the purpose of obtaining coal includes extraction of coal from coal refuse piles; and (b) the areas upon which the activities described under part (a) of this definition occur or where such activities disturb the natural land surface. These areas will also include any adjacent land the use of which is incidental to any such activities, all lands affected by the construction of new roads or the improvement or use of existing roads to gain access to the site of those activities and for haulage and excavation, workings, improvements, dams, ventilation shafts, entryways, refuse banks, dumps, stockpiles, overburden piles, spoil banks, culm banks, tailings, holes or depressions, repair areas, storage areas, processing areas, shipping areas, and other areas upon which are sited structures, facilities, or other property or material on the surface, resulting from or incident to those activities.

"Coal Mining and Reclamation Operations Which Exist on the Date of Enactment" means all coal mining and reclamation operations which were being conducted on August 3, 1977.

"Coal Preparation or Coal Processing" means the chemical and physical processing and the cleaning, concentrating, or other processing or preparation of coal.

"Coal Processing Plant" means a facility where coal is subjected to chemical or physical processing or the cleaning, concentrating, or other processing or preparation. Coal processing plant includes facilities associated with coal processing activities, such as, but not limited to, the following: loading facilities; storage and stockpile facilities; sheds, shops, and other buildings; water-treatment and water-storage facilities; settling basins and impoundments; and coal processing and other waste disposal areas.

"Coal Processing Waste" means earth materials which are separated from the product coal during cleaning, concentrating, or the processing or preparation of coal.

"Collateral Bond" means an indemnity agreement in a sum certain executed by the permittee as principal which is supported by the deposit with the Division of: (a) a cash account, which will be the deposit of cash in one or more federally-insured or equivalently protected accounts, payable only to the Division upon demand, or the deposit of cash directly with the Division; (b) negotiable bonds of the United States, a State, or a municipality, endorsed to the order of, and placed in the possession of, the Division; (c) negotiable certificates of deposit, made payable or assigned to the Division and placed in its possession, or held by a federally insured bank; (d) an irrevocable letter of credit of any bank organized or authorized to transact business in the United States payable only to the Division upon presentation; (e) a perfected, first lien security interest in real property in favor of the Division; or (f) other investment grade rated securities having a rating of AAA or AA, or an equivalent rating issued by a nationally recognized securities rating service, endorsed to the order of, and placed in the possession of, the Division.

"Combustible Material" means organic material that is capable of burning, either by fire or through oxidation, accompanied by the evolution of heat and a significant temperature rise.

"Community or Institutional Building" means any structure, other than a public building or an occupied dwelling, which is used primarily for meetings, gatherings or functions of local civic organizations or other community groups; functions including, but not limited to educational, cultural, historic, religious, scientific, correctional, mental-health or physical-health care facility; or is used for public services, including, but not limited to, water supply, power generation, or sewage treatment.

"Compaction" means increasing the density of a material by reducing the voids between the particles, and is generally accomplished by controlled placement and mechanical effort such as from repeated application of wheel, track, or roller loads from heavy equipment.

"Complete and Accurate Application" means an application for permit approval or approval for coal exploration, where required, which the Division determines to contain all information required under the Act, the R645 Rules, and the State Program that is necessary to make a decision on permit issuance.

"Continuously Mined Areas" means land which was mined for coal by underground mining operations prior to August 3, 1977, the effective date of the Federal Act, and where mining continued after that date.

"Cooperative Agreement" means the agreement between the Governor of the State of Utah and the Secretary of the Department of the Interior as published at 30 CFR 944.30.

"Cropland" means land used for the production of adapted crops for harvest, alone or in a rotation with grasses and legumes, and includes row crops, small grain crops, hay crops, nursery crops, orchard crops, and other similar specialty crops.

"Cumulative Impact Area" means the area, including the permit area, within which impacts resulting from the proposed operation may interact with the impacts of all anticipated mining on surface and groundwater systems. Anticipated mining will include, at a minimum, the entire projected lives through bond releases of: (a) the proposed operation, (b) all existing operations, (c) any operation for which a permit application has been submitted to the Division, and (d) all operations required to meet diligent development requirements for leased federal coal for which there is actual mine development information available.

"Cumulative measurement period" means, for the purpose of R645-106, the period of time over which both cumulative production and cumulative revenue are measured.

(a) For purposes of determining the beginning of the cumulative measurement period, subject to Division approval, the operator must select and consistently use one of the following: (i) For mining areas where coal or other minerals were extracted prior to August 3, 1977, the date extraction of coal or other minerals commenced at that mining area or August 3, 1977, or (ii) For mining areas where extraction of coal or other minerals commenced on or after August 3, 1977, the date extraction of coal or other minerals commenced at that mining area, whichever is earlier.

(b) For annual reporting purposes pursuant to R645-106-900, the end of the period for which cumulative production and revenue is calculated is either
leaching, or other chemical or physical processing of coal. The term includes, but is not limited to, in-situ gasification, in-situ leaching, slurry mining, solution mining, borehole mining, and fluid-recovery mining.

"Intermittent Stream" means (a) a stream, or reach of a stream, that drains a watershed of at least one square mile, or (b) a stream, or reach of a stream, that is below the local water table for at least some part of the year and obtains its flow from both surface runoff and groundwater discharge.

"Irreparable Damage to the Environment" means any damage to the environment in violation of the Act, the State Program, or the R645 Rules that cannot be corrected by actions of the applicant.

"Knowingly" means for the purposes of R645-402, that an individual knew or had reason to know in authorizing, ordering, or carrying out an act or omission on the part of a corporate permittee that such act or omission constituted a violation, failure, or refusal.

"Land Use" means specific uses or management-related activities, rather than the vegetation or cover of the land. Land uses may be identified in combination when joint or seasonal uses occur and may include land used for support facilities that are an integral part of the use. Changes of land use from one of the following categories to another will be considered as a change to an alternative land use which is subject to approval by the Division.

CROPLAND - Land used for the production of adapted crops for harvest, alone or in rotation with grasses and legumes, that include row crops, small grain crops, hay crops, nursery crops, orchard crops, and other similar crops.

DEVELOPED WATER RESOURCES - Land used for storing water for beneficial uses such as stock ponds, irrigation, fire protection, flood control, and water supply.

FISH AND WILDLIFE HABITAT - Land dedicated wholly or partially to the production, protection, or management of species of fish or wildlife.

FORESTRY - Land used or managed for the long-term production of wood, wood fiber, or wood-derived products.

GRAZING LAND - Land used for grasslands and forest lands where the indigenous vegetation is actively managed for grazing, browsing, or occasional hay production.

INDUSTRIAL/COMMERCIAL - Land used for (a) extraction or transformation of materials for fabrication of products, wholesaling of products, or long-term storage of products; this includes all heavy and light manufacturing facilities, or (b) retail or trade of goods or services, including hotels, motels, stores, restaurants, and other commercial establishments.

PASTURE LAND OR LAND OCCASIONALLY CUT FOR HAY - Land used primarily for the long-term production of adapted, domesticated forage plants to be grazed by livestock or occasionally cut and cured for livestock feed.

RECREATION - Land used for public or private leisure-time activities, including developed recreation facilities such as parks, camps, and amusement areas, as well as areas for less intensive uses such as hiking, canoeing, and other undeveloped recreational uses.

RESIDENTIAL - Land used for single and multiple-family housing, mobile home parks, or other residential lodgings.

UNDEVELOPED LAND OR NO CURRENT USE OR LAND MANAGEMENT - Land that is undeveloped or if previously developed, land that has been allowed to return naturally to an undeveloped state or has been allowed to return to forest through natural succession.

"Liabilities" means obligations to transfer assets or provide services to other entities in the future as a result of past transactions.

"Materiologically Damage the Quantity or Quality of Water" means, with respect to ALLUVIAL VALLEY FLOORS, to degrade or reduce, by coal mining and reclamation operations, the water quantity or quality supplied to the alluvial valley floor to the extent that resulting changes would significantly decrease the capability of the alluvial valley floor to support agricultural activities.

"Mining" means, for the purposes of R645-400-351, (a) extracting coal from the earth or coal waste piles and transporting it within or from the permit area; and (b) the processing, cleaning, concentrating, preparing or loading of coal where such operations occur at a place other than a mine site.

"Mining area" means, for the purpose of R645-106, an individual excavation site or pit from which coal, other minerals and overburden are removed.

"Moist Bulk Density" means the weight of soil (oven dry)per unit volume. Volume is measured when the soil is at field moisture capacity (1/3 bar moisture tension). Weight is determined after drying the soil at 105 degrees Celsius.

"MSHA" means the Mine Safety and Health Administration, U.S. Department of Labor.

"Muck" means vegetation residues or other suitable materials that aid in soil stabilization and soil moisture conservation, thus providing micromclimatic conditions suitable for germination and growth.

"Natural Hazard Lands" means, for the purposes of R645-103-300, geographic areas in which natural conditions exist which pose or, as a result of coal mining and reclamation operations, may pose a threat to the health, safety, or welfare of people, property or the environment, including areas subject to landslides, cave-ins, large or encroaching sand dunes, severe wind or soil erosion, frequent flooding, avalanches, and areas of unstable geology.

"Net Worth" means total assets minus total liabilities and is equivalent to owners’ equity.

"Noxious Plants" means species that have been included on the official Utah list of noxious plants.

"Occupied Dwelling" means any building that is currently being used on a regular or temporary basis for human habitation.

"Office" means Office of Surface Mining Reclamation and Enforcement, U.S. Department of the Interior.

"Operator" means any person engaged in coal mining who removes, or intends to remove, more than 250 tons of coal from the earth or from coal refuse piles by mining within 12 consecutive calendar months in any one location.

"Other minerals" means, for the purpose of R645-106, any commercially valuable substance mined for its mineral value, excluding coal, topsoil, waste and fill material.

"Other Treatment Facilities" means, for the purposes of R645-301-356.300, R645-301-356.400, R645-301-513.200, R645-301-742.200.
260. Coal Processing Plants Not Located Within the Permit Area of a Mine.

261. R645-302-260 applies to any person who operates or intends to operate a coal processing plant outside the permit area of any coal mining and reclamation operation, other than such plants which are located at the site of ultimate coal use. Any person who operates such a processing plant will obtain a permit from the Division in accordance with the requirements of R645-302-260.

262. Any application for a permit that includes operations covered by R645-302-260 will contain an operation and reclamation plan which specifies plans, including descriptions, maps, and cross sections, of the construction, operation, maintenance, and removal of the processing plant and support facilities operated incident thereto or resulting therefrom. The plan will demonstrate that those operations will be conducted in compliance with R645-302-264.

263. No permit will be issued for any operation covered by R645-302-260, unless the Division finds in writing that, in addition to meeting all other applicable requirements of R645-200, R645-300, R645-301, R645-302-100 through R645-302-290, R645-302-310, R645-302-320, and R645-303, the operations will be conducted in compliance with the requirements of R645-302-264.

264. Performance Standards. Construction, operation, maintenance, modification, reclamation, and removal activities at coal processing plants will comply with the requirements listed below.

264.100. Signs and markers for the coal processing plant, coal processing waste disposal area, and water-treatment facilities will comply with R645-301-521.200.

264.200. Surface drainage will be controlled according to the following:

264.210. Any stream channel diversion will comply with R645-301-742.300;

264.220. Drainage from any disturbed area related to the coal processing plant will comply with R645-301-356.300, R645-301-356.400, R645-301-513.300, R645-301-532, R645-301-742.100 through R645-301-742.240, R645-301-744, and R645-301-763.200 and all discharges from these areas will meet the requirements of R645-301-731.100 through R645-301-731.522, R645-301-731.800, and R645-301-751 and any other applicable Utah or federal law; and

264.230. Permanent impoundments associated with coal processing plants will meet the requirements of R645-301-512.240, R645-301-514.300, R645-301-515.200, R645-301-533.100 through R645-301-533.600, R645-301-542.400, R645-301-733.220 through R645-301-733.224, and R645-301-743. Dams constructed of or impounding coal processing waste will comply with R645-301-536.400 and R645-301-746.300.


264.400. Fish, wildlife, and related environmental values will be protected in accordance with R645-301-333, R645-301-342, and R645-301-358.


264.600. Cessation of operations will be in accordance with R645-301-515.300 and R645-301-541.100 through R645-301-541.300.

264.700. Erosion and air pollution attendant to erosion will be controlled in accordance with R645-301-244.100 and R645-301-244.300.

264.800. Adverse effects upon, or resulting from, nearby underground coal mining activities will be minimized by appropriate measures including, but not limited to, compliance with R645-301-513.700 and R645-301-523.200.


270. Variances from Approximate Original Contour Restoration Requirements.

271. The Division may issue approval or, if applicable, a permit for nonmountaintop removal mining in steep slope areas which includes a variance from the requirements of R645-301-537.200, R645-301-552 through R645-301-553.230, R645-301-553.260 through R645-301-553.420, R645-301-553.600 through R645-301-553.900, and R645-302-234 to restore the disturbed areas to their approximate original contour. The permit may contain such a variance only if the Division finds, in writing, that the applicant has demonstrated, on the basis of a complete application, that the following requirements are satisfied:

271.100. The alternative postmining land use requirements of R645-301-413.300 are met;

271.200. All applicable requirements of the State Program, other than the requirements to restore disturbed areas to their appropriate original contour are met;

271.300. After consultation with the appropriate land use agencies, if any, the potential use is shown to constitute an equal or better economic or public use;

271.400. Federal, Utah and local government agencies with an interest in the proposed land use have had an adequate
October 24, 1996

Ms. Pam Grumbaugh-Littig  
Utah Department of Natural Resources  
Division of Oil, Gas and Mining  
1594 West North Temple  
Suite 1210  
Salt Lake City, Utah 84114-5801

Re: Coal Agglomeration

Dear Ms. Grubaugh-Littig:

As a follow up to our telephone conversation of October 21, 1996 regarding the need for a mining permit pursuant to your regulations for coal agglomeration and its chemical and physical processing of coal, please accept this letter as a request for the necessary permit applications to be forwarded to our office at your earliest request.

Should any projects materialize in the State of Utah, we will contact your office for a pre-application review of the site.

If you have any questions, please contact our office.

Sincerely,

Mark J. Rodak  
Mining Engineer

MJR:bas
Mr. Ken Wyatt
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Dear Mr. Wyatt:

We are in receipt of your final invoice (dated October 16, 1996) requesting advance payment of the remaining funds from the Challenge-Cost Share Agreement #10-CCS-95-011. Regrettably, our agreement does not provide for advance payment to be made. Therefore, we request that the Division resubmit an invoice reflecting costs incurred to date.

Further, this letter will stand as authorization to extend the target completion date of the data entry task through March 31, 1997.

We also request that you remain in close communication with Liane Mattson to develop an agreeable means for accessing the database as it becomes available.

Sincerely,

/s/ Aaron L. Howe

for

E. VAUGHN STOKES
Acting Forest Supervisor

cc:
Mary Ann Wright, DOGM