

## Sunnyside Cogeneration Associates

P.O. Box 10, East Carbon, Utah 84520 • (435) 888-4476 • Fax (435) 888-2538

September 2, 2005

Utah Division of Oil Gas and Mining  
 Attn. Pamela Grubaugh-Littig  
 1594 West North Temple, Suite 1210  
 PO Box 145801  
 Salt Lake City UT 84114-5801

*J. Blaney*  
 C/007/0035

RE: SCA Sunnyside Refuse & Slurry, C/007/035  
 Chapter Nine Text Revision - Fertilizer removal  
 Chapter One Text Revision - Current updates

Dear Pam:

We have prepared this submittal to reflect a couple of changes in the SCA Sunnyside Permit. These changes are based on discussions we have had with Wayne, Karl and Jerriann concerning ways to keep our permit up to date and in line with current Division practice.

Chapter One is being updated to reflect current titles and positions for corporate individuals. These changes are intended to keep the permit consistent with changes made previously for the SCA Star Point Waste Fuel permit.

In reviewing bond estimates with Wayne and Jerriann, it was recommended that we process an amendment to remove the requirement to add fertilizer at the time of reclamation. We understand that this is the current practice of the Division.

Since this amendment is necessary for Wayne to continue making progress on the updated bond estimate, we appreciate your efforts to expedite this amendment processing.

Should you have any questions, please contact Rusty Netz or myself at (435) 888-4476.

Thank You,

Michael J. Blaney  
 Agent For  
 Sunnyside Cogeneration Associates

Enclosure

c.c. Rusty Netz  
 Plant File

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DIV. OF OIL, GAS & MINING

# APPLICATION FOR COAL PERMIT PROCESSING

Permit Change  New Permit  Renewal  Exploration  Bond Release  Transfer

**Permittee:** Sunnyside Cogeneration Associates

**Mine:** Sunnyside Refuse and Slurry

**Permit Number:** C/007/035

**Title:** Fertilizer removal

**Description,** Include reason for application and timing required to implement:

Remove the requirement to apply fertilizer during reclamation, updates to Chapter 1 to maintain current

**Instructions:** If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- Yes  No 1. Change in the size of the Permit Area? Acres: \_\_\_\_\_ Disturbed Area: \_\_\_\_\_  increase  decrease.
- Yes  No 2. Is the application submitted as a result of a Division Order? DO# \_\_\_\_\_
- Yes  No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
- Yes  No 4. Does the application include operations in hydrologic basins other than as currently approved?
- Yes  No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes  No 6. Does the application require or include public notice publication?
- Yes  No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
- Yes  No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
- Yes  No 9. Is the application submitted as a result of a Violation? NOV # \_\_\_\_\_
- Yes  No 10. Is the application submitted as a result of other laws or regulations or policies?

*Explain:* \_\_\_\_\_

- Yes  No 11. Does the application affect the surface landowner or change the post mining land use?
- Yes  No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
- Yes  No 13. Does the application require or include collection and reporting of any baseline information?
- Yes  No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
- Yes  No 15. Does the application require or include soil removal, storage or placement?
- Yes  No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
- Yes  No 17. Does the application require or include construction, modification, or removal of surface facilities?
- Yes  No 18. Does the application require or include water monitoring, sediment or drainage control measures?
- Yes  No 19. Does the application require or include certified designs, maps or calculation?
- Yes  No 20. Does the application require or include subsidence control or monitoring?
- Yes  No 21. Have reclamation costs for bonding been provided?
- Yes  No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
- Yes  No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

**Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you.** (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Michael Blakey  
Print Name

M. Blakey  
Sign Name, Position, Date

Subscribed and sworn to before me this 2 day of September 2005

Terril Allred  
Notary Public  
My commission Expires: 08-19, 2006  
Attest: State of UTAH } ss:  
County of CARBON



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Assigned Tracking Number:

Received by Oil, Gas & Mining

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**CHAPTER ONE  
100 GENERAL CONTENTS**

**112 IDENTIFICATION OF INTERESTS**

**112.100 Statement as to Type of Entity**

The Applicant, Sunnyside Cogeneration Associates ("SCA"), is a Utah joint venture between Sunnyside Holdings I, Inc. and Sunnyside II, L.P. Information regarding these entities and other parent or controlling corporations is described in the sections that follow.

**112.210 Information Regarding the Applicant**

Additional information regarding the applicant may be obtained by contacting:

<u>Plant Manager</u> Sunnyside Cogeneration Associates Attn: <u>Michael J. Blakey</u> P.O. Box 10 East Carbon, Utah 84520 EIN: 84-1027564 Phone: (435) 888-4476	<u>Plant Engineer</u> Attn: Rusty Netz One Power Plant Road, Sunnyside, UT 84539 P.O. Box 159 Sunnyside UT 84539 Phone: (435) 888-4476 Fax: (435) 888-2538	<div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> Local</div> <div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> .</div> <div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> Environmental Coordinator</div> <div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> Plant Manager</div>
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<u>Utah Counsel</u> Fred W. Finlinson, Esq. Brian W. Burnett, Esq. Callister Nebeker & McCullough 10 East South Temple Salt Lake City, UT 84133 Phone: (801) 530-7300	<u>Environmental Manager</u> Attn: <u>Ramiro Garcia</u> COSI 95 Enterprise, Suite 300, Aliso Viejo, CA 92656 Phone: (949) 425-4755, fax: (949) 852-1720	<u>General Manager</u> Kendall Reed ACI RR2 Box 56, Highway 3016 Clarion, PA 16214 Phone: (814) 226-8001 Fax: (814) 226-7909	<div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> Safety/</div> <div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> Neil Nelson</div> <div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> 775 Sunrise Ave. S-200</div> <div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> Roseville, CA 95661</div> <div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> 916</div> <div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> 783-8616</div> <div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> 916</div> <div style="border: 1px solid black; padding: 2px;"><b>Deleted:</b> 783-3831</div>
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**112.220 Information Regarding the Resident Agent:**

Sunnyside Cogeneration Associates  
Attn: Michael J. Blakey, Plant Manager  
P.O. Box 159, Sunnyside UT 84539 (mailing address)  
# One Power Plant Road, Sunnyside, UT 84539 (street address)  
Phone: (435) 888-4476  
EIN: 84-1027564

**112.230 Information Regarding Abandoned Mine Land Reclamation Fee:**

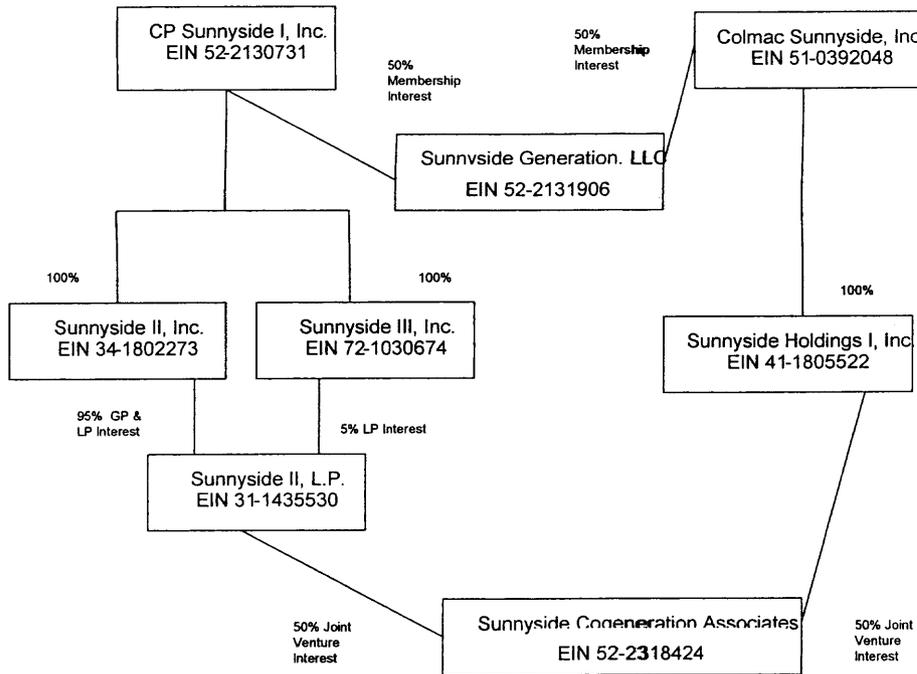
On July 27, 1994 the Office of Surface Mining found that the waste material located within the SCA Permit Area has no value and is not subject to reclamation fees. Correspondence relating to this matter is included in Appendix 1-1. OSM-1 to be filed.

**112.300-330 Information Regarding "Owners" and "Controllers":**

The Applicant, SCA, is a Utah joint venture. SCA holds the contracts, property, and permits for the project in its name. Because the joint venture is essentially a partnership between Sunnyside Holdings I, Inc. and Sunnyside II, L.P., SCA has no corporate information of its own. Therefore, the information required under regulation 112.300-330 is provided for the joint venture partners, Sunnyside Holdings I, Inc. and Sunnyside II, L.P., and their parent or controlling corporations.

The information relevant to Sunnyside II, L.P. traces to the parentage of CP Sunnyside I, Inc. and the information relevant to Sunnyside Holdings I, Inc. traces to the parentage of Colmac Sunnyside, Inc., as follows:

**Sunnyside Organization Chart**



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**CP Sunnyside I, Inc:**

**Directors:**

John T. Long  
Stephen B Gross

~~Deleted:~~ Joe C. Turnage  
~~Deleted:~~ James N. Willey

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**Officers:**

John T Long Senior Vice President CGG,  
and President CPG

~~Deleted:~~ Joe C. Turnage

~~Deleted:~~ Chairman of the Board

Stephen B Gross Vice President  
Robert V. Escalante Vice President

~~Deleted:~~

~~Deleted:~~ James N. Willey

Steven L. Miller Secretary

~~Deleted:~~ Dan R. Skowronski

Daniel L. Haught Treasurer

~~Deleted:~~ Bruce R. Douglas

The address for the officers and directors is 111 Market Place, Suite 200, Baltimore, Maryland 21202. All Directors and Officers were elected Spring 2003.

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CP Sunnyside Inc. is the Managing Member of Sunnyside Generation, LLC.

**Sunnyside II, Inc. & Sunnyside III, Inc.:**

**Directors:**

John T. Long  
Stephen B Gross

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 James N. Willey

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**Officers:**

John T Long Senior Vice President CGG,  
 and President CPG

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Stephen B Gross Vice President  
Robert V. Escalante Vice President

**Deleted:** Chairman of the Board,  
 and President

Steven L. Miller Secretary

**Deleted:** James N. Willey

**Deleted:** Dan R. Skowronski

Daniel L. Haught Treasurer

**Deleted:** Bruce R. Douglas

The address for the officers and directors is 111 Market Place, Suite 200, Baltimore, Maryland 21202. All Directors and Officers were elected Spring 2003.

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**Colmac Sunnyside, Inc.:**

Directors: Willis S. McLeese  
Greg Lawyer  
Gilbert B. Warren

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Officers: Willis S. McLeese Chairman, CEO  
Greg Lawyer President  
Robert S. McLeese Secretary and CFO  
Gilbert B. Warren Assistant Secretary

Deleted: Chief Financial Officer

The address for the officers and directors is 103 Springer Building, 3411 Silverside Road, Wilmington, DE 19810. The Directors' and Officers' start date was October 15, 1999.

**Sunnyside Holdings I, Inc.**

Directors: Willis S. McLeese  
Greg Lawyer

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Officers: Willis S. McLeese Chairman, CEO  
Greg Lawyer President and COO  
Robert S. McLeese Secretary and CFO

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The address for the officers and directors is 103 Springer Building, 3411 Silverside Road, Wilmington, DE 19810. The Directors' and Officers' start date was August 27, 1999.

**2.340-420 Further Information Regarding Owners and Controllers**

Neither Sunnyside II, L.P., nor Sunnyside Holdings I, Inc., nor their owners or controllers, has owned or controlled a coal mining and reclamation operation in the United States within five years preceding the date of this application, nor do they have any interest in any pending coal mine operation permit applications except for the following:

C/007/042 Star Point Waste Fuel, Wattis Utah.

SCA Sunnyside  
Permit # C/007/035

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**Savage Industries, Inc.**

Savage Industries, Inc., and unaffiliated third party, is contracted by SCA to remove waste coal from the refuse pile. The waste coal is utilized in SCA's adjacent electric generating plant. Information regarding Savage Industries follows:

Directors/Officers:

Neal Savage	Director & Chairman of the Board
Allen B. Alexander	Director & President
H. Benson Lewis	Director & Executive Vice President, Chief Financial Officer & Assistant Secretary
David Carlisle	Executive Vice President, Business Development
James T. Jensen	Executive Vice President, General Counsel & Secretary
L. Dean Rees	Vice President & Treasurer
Howard F. Goodman	Vice President & Controller
John K. Savage	Regional Vice President
Eric B. Adamson	Vice President
C. Fred Bush	Vice President
Raymond Alt	Vice President

**112.500 Surface and Mineral Property**

There are no legal or equitable owner of the surface or mineral property to be mined other than the Applicant. Additionally, there are no leasehold interest nor any purchasers of record under a real estate contract for the property to be mined except for the following:

Sunnyside Project L.L.C., Utah limited liability company, has a leasehold interest in SCA's permit property.

**112.600 Contiguous Property**

The name and address of each owner of record of all property (surface and subsurface) contiguous to any part of the proposed permit area:

U.S. Department of the Interior  
Bureau of Land Management  
Utah State Offices  
324 South State Street  
Salt Lake City, UT 84101

Penta Creeks, L.L.C.  
140 South Newton Street  
Albert Lea, MN 56007

Magnificant 7, L.L.C.  
140 South Newton Street  
Albert Lea, MN 56007

Historical Properties, Inc.  
207 Montgomery  
Suite 215  
Montgomery, AL 36104

East Carbon City  
East Main St.  
East Carbon, UT 84520

Sunnyside Land, L.L.C.  
c/o Penrod Keith, Esq.  
LeBOEUF LAMB GREENE & MacRAE  
1000 Kearns Building  
136 South Main St.  
Salt Lake City, UT 84101  
(Attorneys for the Chapter 7 Trustee)

Covol Technologies, INC.  
11778 South Election Rd.  
Suite 210  
Draper, Utah 84020

Sunnyside Properties, L.L.C.  
One Power Plant Road  
PO Box 139  
Sunnyside, UT 84539

**112.700 MSHA Numbers**

The MSHA numbers for all mine-associated structures that require MSHA approval:

Coarse Refuse Pile	1211-UT-09-02093-01
East Slurry Cell	1211-UT-09-02093-02
Excess Spoil Disposal Area #1	1211-UT-09-02093-04
Excess Spoil Disposal Area #2	1211-UT-09-02093-05

**112.800 Applicants Interest in Contiguous Lands**

Applicant holds a lease contiguous to the SCA Permit Area; specifically, SCA holds a lease on the 72.5 acres (directly north of the SCA Permit Area) upon which the cogeneration power plant is located. The area covered by SCA's leasehold interest is shown as "Lease Area" on Plate 1-1. In addition, SCA leases land from the City of East Carbon to the west of the Permit Area.

SCA Sunnyside  
Permit # C/007/035

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## 113 VIOLATION INFORMATION

### 113.100-250 Suspensions and Revocations

Neither the Applicant, nor any of its subsidiaries, affiliates, or persons controlled by or under common control with the Applicant 1) has had a federal or state mining permit suspended or revoked in the last five years, or 2) has forfeited a mining bond or similar security deposited in lieu of bond. Figure 1-4 includes documentation of recent OSM recommendations from the Applicant Violator System (AVS).

### 113.300 Violations and Unabated Cessation Orders

Sunnyside Cogeneration Associates received one notice of violation from the Utah Division of Oil, Gas and Mining (DOG M) within the three year period prior to the application for Permit Renewal. Information regarding these violations is described below:

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There have not been any unabated cessation orders or unabated air and water quality violation notices received by any coal mining and reclamation operation owned or controlled by either the Applicant or by any person who owns or controls the Applicant.

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### 113.310 Violation Information

Star Point Waste Fuel – C/007/042, NOV# N04-49-3-1, Requirements of the violation have been satisfied.

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## 114 RIGHT-OF-ENTRY INFORMATION

### 114.100 Description of Legal Documents

Sunnyside Fuel Corporation (a predecessor-in-interest to SCA) obtained fee title to the SCA Permit Area (and thus the legal right to enter and begin activities) pursuant to a Deed, Assignment, and Bill of Sale between Kaiser Fuel Corporation (a predecessor-in-interest to the existing permittee Sunnyside Coal Company) as Grantor, and Sunnyside Fuel Corporation, as Grantee, dated December 28, 1987, recorded December 29, 1987 at Book 277 of Record, Pages 679-690 at Carbon County, Utah. Sunnyside Fuel Corporation transferred its rights under the Deed, Assignment and Bill of Sale to the Applicant on or about April 1, 1991. Applicant's right-of-entry is not the subject of any pending litigation. The legal description of the lands affected (*i.e.*, the SCA Permit Area) is set forth above at R645-303-322.

### 114.200-230 Private Mineral Estate

These sections do not apply because the private mineral estate has not been severed from the private surface estate.

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SCA Sunnyside  
Permit # C/007/035

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## 115 STATUS OF UNSUITABILITY CLAIMS

### 115.100 Unsuitable Areas

The SCA Permit Area is not within an area designated unsuitable for coal mining and reclamation operations or is within an area under study for designation in an administrative proceeding under R645-103-300, R645-103-400, or 30 CFR Part 769.

### 115.200 Exemptions

This section is not applicable because Applicant does not claim the exemption described in R645-103-333.

### 115.300 Public Roads

This section does not apply because Applicant does not propose to conduct coal mining and reclamation operations within three hundred feet of an occupied dwelling or within 100 feet of a public road.

## 116 PERMIT TERM

### 116.100 Start and Termination Dates

A waste disposal facility, which will comprise a portion of a coal mine waste fired electric power plant, is located adjacent to the SCA Permit Area and has been operational since 1993. Figure 1-6 includes documentation of recent permit term approvals. The refuse pile located in the SCA Permit Area is being reclaimed over an approximate 30-year period by burning it in the adjacent facility.

### 116.200-220 Term in Excess of Five Years

These sections do not apply because Applicant does not require an initial permit term in excess of five years in order to obtain necessary financing for equipment and the opening of the operation.

## 117 INSURANCE

### 117.100 Liability Insurance

A copy of the certificate of liability insurance is attached at Figure 1-1 hereto.

### 117.200 Proof of Publication

A newspaper advertisement, Figure 1-2, has been published in the "Sun Advocate", "The Salt Lake Tribune" and "The Deseret News" for four (4) weeks following the determination of completeness. Proof of publication of the newspaper advertisements is given in Figure 1-3.

### 117.300 Shared Facilities

This Section does not apply because there are no plans of a facility or structure that is to be shared by two or more separately permitted coal mining and reclamation operations.

## 118 APPLICATION FEE

The required filing fee of \$5.00 was submitted with the original Permit Application.

## 123 VERIFICATION

The required verification statement is included in Figure 1-5.

## 130 REPORTING OF TECHNICAL DATA

SCA, in the preparation of this permit document, has compiled and relied on data and maps from previous permit applications and previously approved permits for the Sunnyside Coal Company's (SCC) mines. Information regarding preparers can be found in the SCC Permit document. Any additional studies, which SCA has performed, include preparers name, methods, and other information.

## 140 MAPS AND PLANS

Maps submitted herewith are presented in a consolidated format, to the extent possible, and include the types of information that are set forth on U.S. Geological Survey of the 1:24,000 scale series. The maps of adjacent areas will clearly show the lands and waters within those areas and are at the scale determined by DOGM. The maps and cross-sections associated with this Permit are listed in the General Table of Contents.

## 150 COMPLETENESS

This Permit Application contains the information required by R645-301; R645-302 is not applicable.

depth, thus the materials will be unevenly distributed and result in a rough uneven surface. The small ruts and ridges will serve as catchment for water during the revegetation process. The average borrow material depths are outlined in Section 9.8.1.

On slopes greater than 2:1 the end-dumped topsoil materials will be pushed onto the slopes with a dozer and a backhoe will be used to systematically gouge depressions from four (4) to eight (8) inches deep on 30% of the slope surface or as needed to roughen smoothed surfaces. The footprints of the workers installing the erosion netting or other additional erosion control measures may also provide numerous small depressions.

Prior to seeding, the topsoil and other regraded surfaces will be disced lightly, or be scarified along the contour if a crust has developed since final grading or other soil preparation activities. Otherwise, no special soil preparation will be necessary.

### 9.8.5 Amendments

It is possible that the applied borrow material may require fertilizer amendments at the time of reclamation. However, it is not the current practice of the Division to apply fertilizer during reclamation. Soil testing at the time of reclamation may be conducted according to DOGM Topsoil Guidelines to determine if fertilizer is needed. SCA will work with DOGM to ensure that the redistributed soils are analyzed according to DOGM Guidelines and that the tests are performed by an approved laboratory. If needed, soil amendments will generally be applied during the fall concurrent with reseeding operations to maximize plant response.

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## 9.9 REVEGETATION

The objective of the post-mining revegetation program is to restore the surface-disturbed area to a land use capability similar to that which existed prior to mining. The initial reclamation objectives will be to stabilize the soils and to restore the disturbed area to approximate original topographic conditions. Ultimately, the disturbed areas will be returned to their pre-mining use with watersheds in their approximate pre-mining character. In general, the long-term appearance and usefulness of the reclaimed permit area will be similar to that encountered prior to mining and also to that found in the adjacent areas that remain undisturbed by mining and related activities.

### 9.9.1 General Revegetation Procedures

All areas that are currently disturbed are shown on Plate 3-1, as well as those areas that will be disturbed as a result of the Mining Plan or the Reclamation Plan activities will be reclaimed according to the procedures discussed in this section. Areas of contemporaneous reclamation which will occur during the operations phase are outlined in Plate 10-3. A Final Reclamation Plan is presented in Plate 10-1 through 10-7. The general procedures outlined below will be used for all reclaimed sites. Additional details on these procedures can be found throughout this chapter and in chapter 10.

- Sub-grade shall be cleaned of waste material, scarified and pulverized before covering with topsoil or borrow material.
- Topsoil or borrow material will be spread unevenly over all areas to approximate depths as described in the final reclamation plan.
- The final grade will be blended into the existing grade with a natural finish.

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- The finished grades will be left in a roughened state. On slopes less steep than 2:1, all efforts will be made during grading to conduct the last pass in the direction of the contour rather than perpendicular to the contour. The purpose of this effort will be to leave small berms to break up the slope.
- If it is determined to be needed, fertilizer will be spread just prior to seeding. The fertilizer may be spread by any method that will give an even distribution.
- Areas with slopes greater than 2:1 shall be scarified to a depth of 6-inches prior to seeding.
- Final reclamation seeding must be accomplished between October 1st and November 30. All efforts will be made to plan and schedule reclamation work such that it can be completed in a time frame that allows seeding to be accomplished during this approved seeding window. If seeding is not finished during this time frame then all remaining seeding and any related reclamation work will be suspended until the following year. Areas which cannot be seeded during the seeding window will be stabilized to reduce erosion. Some acceptable methods of stabilization include: seeding with an annual grain, mulching, or netting until the seeding window has opened. However, seeding with an annual grain will not take place later in the year than September 15 for areas which are to be seeded with a permanent seed mixture that fall due to the potential competition the annual grain may have. Interim seeding may be conducted at SCA's discretion during other times during the year (such as early spring) that currently appear to show promise of success.
- For areas to be hydro-seeded the water and 15% of the wood fiber mulch and 50% of the tackifier will be mixed in the hydroseeder. The slurry will then be mixed with water at a rate of 13,000 gallons per acre and the seed will be added to the slurry. The seed/slurry mixture will be applied to form an even cover within 30 minutes of the seed being added to the slurry. Application will begin at the top of the slope and work downward. The remaining mulch and tackifier will be applied immediately following initial seeding.
- For slopes greater than 2:1, seed may be broadcast evenly over the prepared slopes by means of a hand-held seeder. Broadcasting will not be done during windy conditions or when the soil is saturated.
- All areas which are seeded will be raked or chained to provide adequate seed to soil contact.
- On slopes steeper than 2H:1V, additional erosion control measures (such as excelsior type mats) will be implemented to cover the seed bed surface and protect the barren soil surface from wind and water erosion, to increase revegetation success to meet the post-mining land use. If methods of erosion control which are more economically viable than matting are generally accepted by revegetation specialists as effective for slopes similar to what is being reclaimed, SCA will present the option to DOGM for review prior to beginning revegetation work.
- Shrub plantings will be used on a few sites to augment the shrub portion of the existing plant community and to blend in man-made features with the natural terrain. The shrub stock will be pinyon pine and juniper tublings. The tublings will be grouped and not evenly placed at a density of 200 shrubs per acre. The planting site will be saturated with water as the initial irrigation. The planting site and rooting area will be hand-cleared of all vegetative growth to reduce competition from established vegetation. SCA commits to creating six (6) areas consisting of approximately 1000 shrub plantings each as shown on Plate 10-7. These shrub plantings will occur at the time that final reclamation work is performed in each

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designated area. The shrub plantings are being created for the purpose of establishing areas of cover for wildlife habitat.

- Rock piles will be placed at random across the regraded site. The rock piles will be constructed from boulders obtained during borrow material excavation and will generally consist of boulders larger than one foot in diameter (ie. those easily removed during excavation). Approximately four piles will be constructed per acre until available rock materials obtained from the borrow areas are exhausted. The piles will vary in size but could average approximately 6'-10' in diameter and 3'-8' high. The rock piles are being created for the purpose of providing habitat for snakes, small mammals (marmots, ground squirrels, chipmunks and other ground dwelling rodents), etc.

### 9.9.2 Interim Revegetation

During the operations phase several areas will receive interim revegetation stabilization including the following:

- New berms or other new disturbances associated with the construction of sedimentation ponds or related structures including embankment tops, slopes, ditches, etc. At this time there are no new sedimentation ponds proposed.
- New topsoil piles associated with new disturbances.
- Any other areas associated within the SCA Permit Area which are judged to require interim stabilization.

These areas will be disturbed again during final reclamation activities and therefore will not receive topsoil. Because backfilling and construction of hydrologic controls will occur just prior to seeding, many of the seed beds will require no additional preparation. Furthermore, subsequent surface manipulation of these areas would demolish constructed structures.

Compacted areas will be prepared for seeding by ripping, scarifying, or discing the materials in place. All areas will then be seeded, fertilized, and mulched utilizing standard broadcast or hydroseeder methods.

For most areas requiring interim stabilization during the Mining Period, 16-16-8 fertilizer will be applied at a rate of 150 pounds per acre, if it is determined to be needed. Topsoil stockpiles will not be fertilized. The interim seed mix proposed for use in all areas is shown in Figure 9-1, Interim Reclamation Seed Mixture. This mix contains a combination of native and introduced species and is proposed because the species establish rapidly and effectively control erosion. Mulch will consist of a wood fiber or weed-free straw applied at a rate of one ton (1) per acre.

In addition to the benefits received from interim revegetation in terms of soil stabilization and erosion control, SCA also expects to reduce annual weedy species on topsoil piles and borrow areas through establishment of an interim perennial vegetative cover. This reduction in weedy species, and therefore a reduction in available weed seed in the area, could greatly increase the chance of permanent vegetation success. SCA will pay close attention to weed population and determine if additional weed controls are needed in accordance with section 9.11.2.

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depth, thus the materials will be unevenly distributed and result in a rough uneven surface. The small ruts and ridges will serve as catchment for water during the revegetation process. The average borrow material depths are outlined in Section 9.8.1.

On slopes greater than 2:1 the end-dumped topsoil materials will be pushed onto the slopes with a dozer and a backhoe will be used to systematically gouge depressions from four (4) to eight (8) inches deep on 30% of the slope surface or as needed to roughen smoothed surfaces. The footprints of the workers installing the erosion netting or other additional erosion control measures may also provide numerous small depressions.

Prior to seeding, the topsoil and other regraded surfaces will be disced lightly, or be scarified along the contour if a crust has developed since final grading or other soil preparation activities. Otherwise, no special soil preparation will be necessary.

### 9.8.5 Amendments

It is possible that the applied borrow material may require fertilizer amendments at the time of reclamation. However, it is not the current practice of the Division to apply fertilizer during reclamation. Soil testing at the time of reclamation may be conducted according to DOGM Topsoil Guidelines to determine if fertilizer is needed. SCA will work with DOGM to ensure that the redistributed soils are analyzed according to DOGM Guidelines and that the tests are performed by an approved laboratory. If needed, soil amendments will generally be applied during the fall concurrent with reseeding operations to maximize plant response.

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## 9.9 REVEGETATION

The objective of the post-mining revegetation program is to restore the surface-disturbed area to a land use capability similar to that which existed prior to mining. The initial reclamation objectives will be to stabilize the soils and to restore the disturbed area to approximate original topographic conditions. Ultimately, the disturbed areas will be returned to their pre-mining use with watersheds in their approximate pre-mining character. In general, the long-term appearance and usefulness of the reclaimed permit area will be similar to that encountered prior to mining and also to that found in the adjacent areas that remain undisturbed by mining and related activities.

### 9.9.1 General Revegetation Procedures

All areas that are currently disturbed are shown on Plate 3-1, as well as those areas that will be disturbed as a result of the Mining Plan or the Reclamation Plan activities will be reclaimed according to the procedures discussed in this section. Areas of contemporaneous reclamation which will occur during the operations phase are outlined in Plate 10-3. A Final Reclamation Plan is presented in Plate 10-1 through 10-7. The general procedures outlined below will be used for all reclaimed sites. Additional details on these procedures can be found throughout this chapter and in chapter 10.

- Sub-grade shall be cleaned of waste material, scarified and pulverized before covering with topsoil or borrow material.
- Topsoil or borrow material will be spread unevenly over all areas to approximate depths as described in the final reclamation plan.
- The final grade will be blended into the existing grade with a natural finish.

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- The finished grades will be left in a roughened state. On slopes less steep than 2:1, all efforts will be made during grading to conduct the last pass in the direction of the contour rather than perpendicular to the contour. The purpose of this effort will be to leave small berms to break up the slope.
- If it is determined to be needed, fertilizer will be spread just prior to seeding. The fertilizer may be spread by any method that will give an even distribution.
- Areas with slopes greater than 2:1 shall be scarified to a depth of 6-inches prior to seeding.
- Final reclamation seeding must be accomplished between October 1st and November 30. All efforts will be made to plan and schedule reclamation work such that it can be completed in a time frame that allows seeding to be accomplished during this approved seeding window. If seeding is not finished during this time frame then all remaining seeding and any related reclamation work will be suspended until the following year. Areas which cannot be seeded during the seeding window will be stabilized to reduce erosion. Some acceptable methods of stabilization include: seeding with an annual grain, mulching, or netting until the seeding window has opened. However, seeding with an annual grain will not take place later in the year than September 15 for areas which are to be seeded with a permanent seed mixture that fall due to the potential competition the annual grain may have. Interim seeding may be conducted at SCA's discretion during other times during the year (such as early spring) that currently appear to show promise of success.
- For areas to be hydro-seeded the water and 15% of the wood fiber mulch and 50% of the tackifier will be mixed in the hydroseeder. The slurry will then be mixed with water at a rate of 13,000 gallons per acre and the seed will be added to the slurry. The seed/slurry mixture will be applied to form an even cover within 30 minutes of the seed being added to the slurry. Application will begin at the top of the slope and work downward. The remaining mulch and tackifier will be applied immediately following initial seeding.
- For slopes greater than 2:1, seed may be broadcast evenly over the prepared slopes by means of a hand-held seeder. Broadcasting will not be done during windy conditions or when the soil is saturated.
- All areas which are seeded will be raked or chained to provide adequate seed to soil contact.
- On slopes steeper than 2H:1V, additional erosion control measures (such as excelsior type mats) will be implemented to cover the seed bed surface and protect the barren soil surface from wind and water erosion, to increase revegetation success to meet the post-mining land use. If methods of erosion control which are more economically viable than matting are generally accepted by revegetation specialists as effective for slopes similar to what is being reclaimed, SCA will present the option to DOGM for review prior to beginning revegetation work.
- Shrub plantings will be used on a few sites to augment the shrub portion of the existing plant community and to blend in man-made features with the natural terrain. The shrub stock will be pinyon pine and juniper tublings. The tublings will be grouped and not evenly placed at a density of 200 shrubs per acre. The planting site will be saturated with water as the initial irrigation. The planting site and rooting area will be hand-cleared of all vegetative growth to reduce competition from established vegetation. SCA commits to creating six (6) areas consisting of approximately 1000 shrub plantings each as shown on Plate 10-7. These shrub plantings will occur at the time that final reclamation work is performed in each

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designated area. The shrub plantings are being created for the purpose of establishing areas of cover for wildlife habitat.

- Rock piles will be placed at random across the regraded site. The rock piles will be constructed from boulders obtained during borrow material excavation and will generally consist of boulders larger than one foot in diameter (ie. those easily removed during excavation). Approximately four piles will be constructed per acre until available rock materials obtained from the borrow areas are exhausted. The piles will vary in size but could average approximately 6'-10' in diameter and 3'-8' high. The rock piles are being created for the purpose of providing habitat for snakes, small mammals (marmots, ground squirrels, chipmunks and other ground dwelling rodents), etc.

### 9.9.2 Interim Revegetation

During the operations phase several areas will receive interim revegetation stabilization including the following:

- New berms or other new disturbances associated with the construction of sedimentation ponds or related structures including embankment tops, slopes, ditches, etc. At this time there are no new sedimentation ponds proposed.
- New topsoil piles associated with new disturbances.
- Any other areas associated within the SCA Permit Area which are judged to require interim stabilization.

These areas will be disturbed again during final reclamation activities and therefore will not receive topsoil. Because backfilling and construction of hydrologic controls will occur just prior to seeding, many of the seed beds will require no additional preparation. Furthermore, subsequent surface manipulation of these areas would demolish constructed structures.

Compacted areas will be prepared for seeding by ripping, scarifying, or discing the materials in place. All areas will then be seeded, fertilized, and mulched utilizing standard broadcast or hydroseeder methods.

For most areas requiring interim stabilization during the Mining Period, 16-16-8 fertilizer will be applied at a rate of 150 pounds per acre, if it is determined to be needed. Topsoil stockpiles will not be fertilized. The interim seed mix proposed for use in all areas is shown in Figure 9-1, Interim Reclamation Seed Mixture. This mix contains a combination of native and introduced species and is proposed because the species establish rapidly and effectively control erosion. Mulch will consist of a wood fiber or weed-free straw applied at a rate of one ton (1) per acre.

In addition to the benefits received from interim revegetation in terms of soil stabilization and erosion control, SCA also expects to reduce annual weedy species on topsoil piles and borrow areas through establishment of an interim perennial vegetative cover. This reduction in weedy species, and therefore a reduction in available weed seed in the area, could greatly increase the chance of permanent vegetation success. SCA will pay close attention to weed population and determine if additional weed controls are needed in accordance with section 9.11.2.

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