



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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October 1, 2002

James T. Jensen
Savage Industries Inc.
6340 South 3000 East, Suite 600
Salt Lake City, Utah 84121

Re: Results of the Midterm Review, Savage Industries Inc./Savage Coal Terminal,
C/007/022- MT02, Outgoing File

Dear Mr. Jensen:

The Division has completed a review of the Savage Coal Terminal as required by R645-303-211. You should recall that the items under review were as follows:

1. An AVS check to ensure that Ownership and Control information is current and correct.
2. A review of the plan to ensure that the requirements of all permit conditions, division orders, notice of violation abatement plans, and permittee initiated plan changes are appropriately incorporated into the plan document.
3. A review of the applicable portions of the permit to ensure that the plan contains commitments for application of the best technology currently available (BTCA) to prevent additional contributions of suspended solids to stream flows outside of the permit area.
4. A review of the bond to ensure that it is in order and that the cost estimate is accurate and is escalated to the appropriate year dollars.

On April 19, 2002 the Division approved amendment # 02A-1, submitted by Savage Industries Inc. to remove topsoil and develop a 13-acre parcel for coal storage. Three additional requirements were incorporated into the Midterm Review. They were:

5. Climatological information
6. Violation history information.
7. Reclamation of high water table areas.

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James Jensen
October 1, 2002

The results of the review are contained in the enclosed review documents. As there are no deficiencies this concludes the Midterm Review for the Savage Coal Terminal. Your Midterm Review is approved effective October 1, 2002. A stamped incorporated copy of the requisite changes to your Mining and Reclamation Plan is enclosed for incorporation in your copy of the plan.

Thank you for your participation in this review process.

If you have any questions regarding the Midterm Review please don't hesitate to call me at (801) 538-5325, or Joe Helfrich at (801) 538-5290.

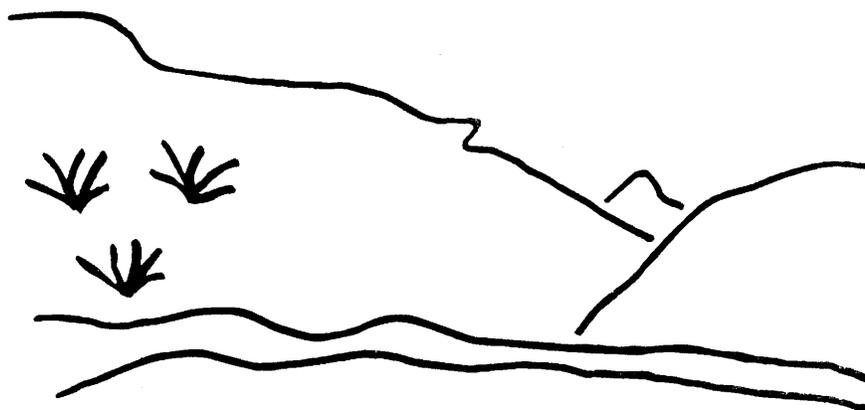
Sincerely,



Daron R. Haddock
Permit Supervisor

an
cc: Boyd Rhodes
Dan Guy
Price Field Office
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State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Savage Coal Terminal
Midterm Review
C/007/022-MT02-2
Technical Analysis
October 1, 2002

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TECHNICAL ANALYSIS

The Division regulates the Surface Mining Control and Reclamation Act of 1977(SMCRA). When mines submit a Permit Application Package or an amendment to their Mining and Reclamation Plan, the Division reviews the proposal for conformance to the R645-Coal Mining Rules. This Technical Analysis is such a review. Regardless of these analyses, the permittee must comply with the minimum regulatory requirements as established by SMCRA.

Readers of this document must be aware that the regulatory requirements are included by reference. A complete and current copy of these regulations and a copy of the Technical Analysis and Findings Review Guide can be found at <http://ogm.utah.gov/coal>

This Technical Analysis (TA) is written as part of the permit review process. It documents the Findings that the Division has made to date regarding the application for a permit and is the basis for permitting decisions with regard to the application. The TA is broken down into logical section headings which comprise the necessary components of an application. Each section is analyzed and specific findings are then provided which indicate whether or not the application is in compliance with the requirements.

Often the first technical review of an application finds that the application contains some deficiencies. The deficiencies are discussed in the body of the TA and are identified by a regulatory reference which describes the minimum requirements. In this Technical Analysis we have summarized the deficiencies at the beginning of the document to aid in responding to them. Once all of the deficiencies have been adequately addressed, the TA will be considered final for the permitting action.

It may be that not every topic or regulatory requirement is discussed in this version of the TA. Generally only those sections are analyzed that pertain to a particular permitting action. TA's may have been completed previously and the revised information has not altered the original findings. Those sections that are not discussed in this document are generally considered to be in compliance.

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October 1, 2002

TECHNICAL ANALYSIS

INTRODUCTION

INTRODUCTION

The midterm review for the Savage Coal Terminal facility was initiated by way of Division correspondence to James T. Jensen, (Vice President of Savage Industries Inc.), on March 26, 2002. The following items were chosen for review:

1. An AVS check to ensure that Ownership and Control information is current and correct.
2. A review of the plan to ensure that the requirements of all permit conditions, division orders, and notice of violation abatement plans, and permittee-initiated plan changes are appropriately incorporated into the plan document.
3. A review of the applicable portions of the permit to ensure that the plan contains commitments for application of the best technology currently available (BTCA) to prevent additional contributions of suspended solids to stream flows outside of the permit area.
4. A review of the bond to ensure that it is in order and that the cost estimate is accurate and is escalated to the appropriate year dollars.

On April 19, 2002 the Division approved amendment # 02A-1, submitted by Savage Industries Inc. to remove topsoil and develop a 13-acre parcel for coal storage. Three additional requirements were incorporated into the Midterm Review. They were:

5. Climatological information
6. Violation history information.
7. Reclamation of high water table areas.

The Division received a response to these items on May 13, 2002. On May 23, 2002 the Division provided Savage Industries Inc. with the technical analyses and findings for the Midterm review. There were two deficiencies described in the TA document, they were;

R645-301-244,-301-353,-301-354,-301-355,-301-356,-302-280,-302-281,-302-281,-302-282,-302-283,-302-284, Seed Mix of lowlands within the disturbed area are evaluated for the location and species composition of the current reference area, and a revised vegetation map, plate 9-1, and;

R645-301-724, Precipitation data from 1992 to present must be provided. The information can be acquired by contacting Don Jensen (State Climatologist at Utah State University), (435) 797-2190.

INTRODUCTION

The permittee submitted a response to the Midterm review on August 19, 2002. This TA will address the two referenced deficiencies associated with items 5 and 7.

ENVIRONMENTAL RESOURCE INFORMATION

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

CLIMATOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.18; R645-301-724.

Analysis:

Updated climatological information is provided for in Section 11 of the MRP. Table 11-1 has been revised to include the temperature, precipitation, snowfall and evapotranspiration data from 1992 - 2002. From the data provided in Table 11-1, the mean annual precipitation over a 24 year period is 9.3 inches.

Table 11-2 summarizes the mean wind speeds in Castle valley The mean annual soil temperature is 47 – 48 degrees Fahrenheit and the frost-free period ranges from 118 to 196 days.

Findings:

The current climatological and air quality information are adequate to meet the requirements of item five of the midterm review and this section of the Regulations.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

Savage Coal Terminal soils were surveyed in 1980 by James P. Walsh and Associates in July 1980 (MRP, Section 8, p8-1). The survey is referred to but not included with the plan. Upon request, the Permittee was not able to locate a copy of the original survey.

The following pedons were described by Mr. James Walsh at the loadout site: Billings Series; Chipeta Series; Disturbed Lands; Killpack Series; Killpack Series High Water Table Variant; Saltair Series (pp 8-3 to 8-11). All are gypsiferous soils formed from Mancos shale.

On page 8-38, the Permittee has indicated that “the disturbed soils can be upgraded as needed to provide a plant growth medium; therefore, no soil substitute is necessary for reclamation of the disturbed soil areas.”

Disturbed land is described on pages 8-6 and 8-16 and in Table 8-5. The original surface layer was removed and twelve inches of gravel fill was placed over the subsoil. Below twelve inches the earth is light grayish brown, massive, hard, very sticky and very plastic, calcareous, with numerous gypsum crystals and threads. Below twelve inches the pH is 7.6 and the EC is 47.9, the SAR is 18.8 and the Nitrogen content is 72%. This soil is toxic (sodic) and will be very difficult to use as germination medium

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

Section 3.5.5.2 indicates that seeding will be conducted during the summer to promote the establishment of warm season grasses during the wettest months of the year which are August, September and October.

Findings:

The information provided meets the requirements of the regulations.

RECLAMATION PLAN

RECLAMATION PLAN

REVEGETATION

Regulatory Reference: 30 CFR 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

Standards for Success

As shown on Plates 3-2 and 9-1 and discussed in Sections 3.4.4.2 (page 3-48) and 9.3.2.5, the reference area was set up in 1980 for the shadscale phase of the salt desert community to establish revegetation success standards for the entire mine site. Production of the reference area was estimated at 450-lbs/acre air dry and the site was rated in good condition in September 1983 by Mr. Don Andrew, Range Conservationist with the USDA SCS (MRP, Figure 9-1). The Permittee has provided the current condition of the Upland Shadscale and lowland Greasewood reference areas during the 2002 growing season. The upper site was classified as "high good" condition with a production estimate of 240 lbs. Per acre. The lower site was classified as "high fair" condition with a production rate of 560 lbs. Per acre.

The reference area soils are described as Chipeta silty clay slopes 3-20%. The reference area soils differ from much of the permit area including a small acreage of those to be disturbed in that their elevation places them above the water table and they are not subject to accumulations of salt from ponding water as are the Killpack soils that support the wetland salt grass vegetation.

The Division suspects that upon reclamation, sizeable areas of ponded water will exist at the entire site for the following reasons:

- During recent removal of refuse, the Permittee was obliged to remove equipment from areas along the eastern boundary of the permit due to the elevated water table.
- As noted in the MRP Section 9.5 "eventual soil saturation or inundation of the low western permit area is possible upon final reclamation."
- As noted in the MRP Section 9.2.1, page 9-2, "A sedge meadow was mapped during the original study (June 1980), adjacent to the current western permit boundary. Although no such type was actually mapped within the permit area, a low area does exist within the currently mapped Disturbed, Agricultural area, now drained by a French drain."

These wetlands will not likely meet the criteria for success established for higher ground, i.e. diversity. The Permittee has documented the condition of the wetland vegetation within the proposed disturbed area (Appendix 9-3). Reclamation for wetland areas within the permit can be patterned after previously existing wetland descriptions. i.e. the baseline data method described

RECLAMATION PLAN

in the Vegetation Information Guidelines. The wetland within the proposed disturbance is one of two last wet areas remaining in the permit area. Savage Industries has developed a wetland mix for lowlands within the disturbed area as noted in table 3-2b. Also provided is the seed mix for the upland areas found in table 3-2a, and a revised vegetation map plate 9-1. Plate 3-7, (Postmining Topography and Drainage), identifies the location of the two reference areas and the location of the areas to be seeded with the corresponding seed mixes.

The site will receive the final reclamation seed mix as described in Table 3-2 of the MRP: Crested wheat grass, Thickspike wheatgrass, Indian ricegrass, Fairway crested wheatgrass, Squirreltail grass, Russian wildrye, Globemallow, Sunflower, Palmer penstemon, Yellow sweetclover, Kochia, Winterfat, Shadscale, Matbush, Whitestem rubber rabbitbrush, and Four-wing saltbush. As stated on page 3-58 the final mix may undergo alteration depending upon the success of the interim seed mixture.

The 2002 range evaluation and the evaluation conducted in 1983 are provided to keep a historical record of the site.

The Permittee has proposed a second reference area for lowland vegetation (Section 3.4.4.2), because as noted in the MRP Section 9.5 "eventual soil saturation or inundation of the low western permit area is possible upon final reclamation." And, as noted in the MRP Section 9.2.1, page 9-2, "A sedge meadow was mapped during the original study (June 1980), adjacent to the current western permit boundary. Although no such type was actually mapped within the permit area, a low area does exist within the currently mapped Disturbed, Agricultural area, now drained by a French drain." During recent removal of refuse, the Permittee was obliged to remove equipment from areas along the eastern boundary of the permit due to the elevated water table.

The second reference area was established in the northwest quarter of the permit area by Mr. Patrick Collins and Mr. Joe Helfrich (see field visit report FV_07172002). This area was also evaluated for range condition by Mr. Kari Christman in August 2002 (Figure 9-1). According to Mr. Christman, the reference site is in an alkali flat; the site is in high fair condition. The potential production ranges from 950 – 1000 lbs/acre on a favorable year to 500 – 550 lbs/ac on an unfavorable year. This year the site produced about 560 lbs/ac. Data sheets for the evaluation were not included.

Savage Industries has developed a lowland mix (Table 3-2(b)) for the greasewood lowlands within the disturbed area, dated September 16, 2002. The area to be seeded with this mix is shown on Plate 3-7 Post Mining Topography and Drainage (Section 3.5.5.2). The Division has evaluated the species outlined in Table 3-2(b) for their qualities to:

- enhance the postmining land use, which is small mammal and bird habitat
- tolerate saline soil conditions
- tolerate the shallow water table.

RECLAMATION PLAN

The Shadscale upland seed mix as described in Table 3-2(a) of the MRP also has been revised and dated September 23, 2002.

As stated on page 3-58 the final mix may undergo alteration depending upon the success of the interim seed mixture.

Savage Industries has made plans for a wetland mix along the Price River Pipeline (page 3-58). This mix is found in Table 3-3. Reclamation of the pipeline will include willow plantings and streambank wheatgrass.

Findings:

The information provided is adequate to meet the requirements of item 7 of the midterm review and this section of the Regulations.

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