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DIVISION OF OIL, GAS AND MINING

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March 4, 1993

TO: Daron Haddock, Permit Supervisor  
FROM:  Priscilla Burton, Senior Soils Reclamation Specialist  
RE: Remaining Deficiencies with Mid-Term Permit Submittal, Belina Complex, Valley Camp of Utah, Inc., ACT/007/001, Folder #2, Carbon County, Utah.

**SUMMARY:**

This review of Valley Camp's response (2/11/93) the Division's Mid-Term review (8/5/92) concentrates on reclamation information as per your directive. In this recent submittal, the Permittee indicates that the site will be graded, soils in the top four feet will be sampled and acid/toxic materials will be buried. The regraded soils will become vegetation supporting material (referred to throughout the text as VSM).

The Permittee has indicated that vegetation has re-established in some areas of disturbed soils within the operational boundaries. These areas are designated "proven soil to be harvested" and illustrated on Plate R645-301-231.300, Sheets 1 through 4. The Permittee indicates that soil will be salvaged from areas of "proven soil" to a depth equivalent to three inches below the root zone. This material will be applied as topsoil to a depth of 6 inches over the regraded site. Should the supply of "proven soil" run out, graded soils will be tested for plant growth and acid/toxic characteristics (page 200-24 of 28).

**TECHNICAL DEFICIENCIES:**

**R645-301-121.200 Be clear and concise;**

Proposal:

The initials VSM used in Chapter 2 of the plan should be spelled out in their first use. Previous identification of these initials was deleted with this submittal.

Deficiency:

1. The initials VSM should be spelled out in their first use on page 200-21 of 28 of the Mining and Reclamation Plan.

**R645-301-122. If used in the permit application, referenced materials will either be provided to the Division**

Proposal:

The analysis of soil samples is referred to in the first paragraph of page 200-21 of 28. No reference as to the location of these samples on a map or the location of the analyses in an Appendix is made. Previous soil sampling locations correlating with the narrative should be identified on Plates R645-301-231.300, Sheets 1 through 4. The location of the laboratory analyses results should be identified within one of the appendices to the plan.

Deficiency:

1. Information on previous soil sampling locations referred to in the narrative should be located on Plates R645-301-231.300, Sheets 1 through 4. Laboratory analyses from sampling at these locations should be included in an appendix to Chapter 2 and the whereabouts of these analysis should be cited on page 200-21 of 28 first paragraph under 231.100.

**R645-301-224. Substitute Topsoil**

Proposal:

1. Proven Soil Quality

Volumes of available cover material can not be calculated since the depth of the rooting zone is not known in the areas of "proven soil."

Page 200-23 of 28 of the submittal indicates that a survey will be conducted in 1993 of the disturbed area soils (at the request of the Division).

2. Proven Soil Area Designation

Areas of "proven soil" are illustrated on Plate R645-301-231.300 Sheets 1 through 4.

At the Belina mine site the areas designated may be adequate (volumes unknown, but areas are large). At the ValCam Loadout, a very limited area of "proven soil" has been identified.

Analysis:

1. Proven Soil Quality

As discussed with Mr. Steve Tanner in a meeting at the Division offices on 11/17/92, the survey of "proven soil" should be undertaken in the field season of 1993. The Division should require a methodical testing of the areas designated on Plate R645-301-231.300 as "proven soil to be harvested." The testing should include soil pits for each area to record the average root quantity and size and to record this information with depth at each location. This information is crucial to the soil removal depth and volume calculations, since the plan states that soils in these areas will be removed to 3" below the rooting depth (page 200-23 of 28). Secondly, this testing should include a profile description according to the Soil Survey Manual for each zone within the profile including: rock fragment description and estimated field rock fragment percentages; pH and electrical conductivity measurements; Munsell color notation; field texture; plasticity and stickiness; mottling; concentrations and reaction. This description must be conducted by a professional certified by the American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS) as a Certified Professional Soil Classifier or by an employee of the Soil Conservation Service who is qualified to conduct soil surveys. Information resulting from this survey shall become part of the plan provided under Section R645-301-233, Substitute Topsoil.

The estimated volumes of available substitute soil should be calculated from the survey information and provided in section R645-301-233 Topsoil Substitutes and Supplements of the Mining and Reclamation Plan.

2. Proven Soil Designation

Additional areas of potential suitable growth medium should be identified for the ValCam Loadout (Plate 645-301-231.300 Sheet #1 of 4. After conversations on site with Mr. Tanner, I was under the impression that the pond embankments of Pond 001A and the outslopes of the pad in the vicinity of building S-5, Section V1-V1, on Plate R745-301-550 had also shown potential due to evident revegetation and were proposed as "proven soil." Embankments of ponds 002A and 003A might also provide suitable material. Areas of "proven soil to be harvested" on Plate R645-301-231.300 Sheet 1 of 4 should be enlarged to provide adequate substitute topsoil cover for the loadout facility.

The location of the 975 yd<sup>3</sup> of VSM stockpile referred to on page 200-21 of 28 should

be shown on one of the four sheets of Plate R645-301-231.300.

Deficiencies:

1. Areas of "proven soil to be harvested" on Plate R645-301-231.300 Sheet 1 of 4 should be enlarged to provide adequate substitute topsoil cover for the loadout facility.
2. Methodical testing of the areas designated on Plate R645-301-231.300 as "proven soil to be harvested", should be conducted in the field season of 1993. The testing should include soil pits for each area to record the average root quantity and size, recorded with depth at each location. Secondly, this testing should include a profile description according to the Soil Survey Manual for each zone within the profile including: rock fragment description and estimated field rock fragment percentages; pH and electrical conductivity measurements; Munsell color notation; field texture; plasticity and stickiness; mottling; concentrations and reaction. This description must be conducted by a professional certified by the American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS) as a certified professional soil classifier or by an employee of the Soil Conservation Service who is qualified to conduct soil surveys. Information resulting from this survey shall become part of the plan provided under Section R645-301-233, Substitute Topsoil.
3. The estimated volumes of available substitute soil should be calculated from the survey information and provided in section R645-301-233 Topsoil Substitutes and Supplements of the Mining and Reclamation Plan.
4. The location of the 975 yd<sup>3</sup> of VSM stockpile referred to on page 200-21 of 28 should be shown on Sheet 1 of Plate R645-301-231.300.

**R645-301-240. Reclamation Plan.**

Proposal:

After recontouring, a testing program of the soils will follow. This testing program is described on page 200-23 of 28.

Inadvertently left off the list of parameters was testing for acid/base accounting, but this is inferred in the statement which follows the list of characteristics to be analyzed.

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Analysis:

To ensure an understanding between the Permittee and the Division, let it be known that the Division must receive acid/base accounting analyses to evaluate the presence of acid forming materials.

**CONCLUSIONS:**

This submittal revised the reclamation plan narrative to more accurately reflect Valley Camp's intentions for the sites.

Soil survey information for the disturbed soils and designated "proven soils" at the site is limited. Results of some soil tests already performed were mentioned in the text but were not referenced. A survey of the proven soils is recommended for the field season of 1993. This survey is alluded to in the submittal on page 200-23 of 28, paragraph 4. Essential information to be gathered from the survey is requested in Items #2 & 3 of R645-301-224.

RESPTDR.393