



## State of Utah

DEPARTMENT OF NATURAL RESOURCES  
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May 11, 1990

Mr. Walter Wright  
Scofield Route  
Helper, Utah 84526

Dear Mr. Wright:

Re: Technical Deficiency Review, Valley Camp of Utah, Inc. Belina  
Complex, ACT/007/001, Folder #2, Carbon County, Utah

The Division has completed a technical deficiency review of your Mining and Reclamation Plan (MRP) for the Belina Mine. Attached are the Division's technical comments that need to be addressed to complete the repermitting for your mine. Your timely response is needed to allow the Division's staff to complete the technical analysis for the permit.

Please don't hesitate to call should you have any Questions.

Sincerely,

A handwritten signature in cursive script that reads "Daron Haddock".

Daron Haddock  
Permit Supervisorcc: B-Team  
BT70/1

## Technical Deficiency Review

Valley Camp of Utah  
Belina Mine  
ACT/007/001

May 7, 1990

### R614-301-100. GENERAL CONTENTS.

#### -112.500 thru -112.600 Identification of Interests.

Discrepancies exist between the surface and coal ownership maps and the address listing of surface and coal owners. The surface ownership map shows L & L Agri Business, Larry and Iva Baer, Clegg, and the State of Utah as surface owners of the permitted land or land contiguous to the permit area, but these owners are omitted from the address list. The coal ownership map shows Stagstead Inc., McKinnon, and State of Utah as coal owners, but these owners are omitted from the address list. Other entities are owners of surface or coal which may also be affected by the mining operation.

A complete listing of coal and surface owners and their addresses must be submitted.

-113.300. A complete list of violations was supplied for the Valley Camp of Utah mine, however, violations at affiliated mining or reclamation operations are not listed. A complete listing of violation notices at any subsidiary or affiliated coal mining or reclamation operation should also be submitted.

-117.100. Although the submittal states that the operator has liability insurance and lists the policies, no certificate of insurance is included. A certificate of liability insurance must be submitted.

-118. No filing fee was submitted with the application package. A \$5.00 filing fee is required.

## R614-301-200. SOILS.

## -223. Soil Resource Information.

The Soil Conservation Service's Carbon Area Soil Survey is now published and publicly available. The survey encompasses the entire Valcam Loadout Facility (VLF) permit area and portions of the Belina Mine Complex and haul road. Therefore soil descriptions located in the Permit Application Package (PAP) must be correlated to the National Cooperative Soil Survey for the Carbon area.

Additionally, the operator eludes to the fact that the soil survey for the Valley camp PAP was based on baseline data and surveys done for the Skyline Mine PAP. This must be clearly stated within the PAP.

## -233.100. Topsoil Substitutes and Supplements.

The applicant proposed to utilize sediment pond waste (001A Sediment Pond) as a substitute topsoil for redistribution in the Fan Portal No. 1 Area. The applicant must describe for inclusion in the PAP the vegetative/soils analyses which will be conducted after reapplication to prove the suitability of the proposed substitute topsoil.

- The applicant depicts the removal of down cast material from the Belina Haul Road during final reclamation and the subsequent redistribution upon the road bed final grade (Belina Haul Road Reclamation Plan, by Morrison-Knudsen). To date there is no analyses of these materials to substantiate their use as a plant growth medium for reclamation. Additionally the volume of suitable material is nebulous. Therefore, the operator must submit, for inclusion into the PAP, adequate analyses, trials, test and mass balances which verifies or refutes the suitability and quantity of the said materials as a plant growth medium for final reclamation and quantity.

→ The applicant must appropriately revise text (i.e. R614-301-231.100, p. 20, etc.) so that it is clear that the material which constitutes the surface portion (approximately the upper 2 feet) of the land fill material located at the Belina Mine and Haul Road and the Valcam Loadout has not been approved by the Division as a suitable topsoil material. Presently, field-site trials are proceeding to determine the suitability of the material.

✓ The applicant refers to the landfill material (proposed substitute topsoil) as "salvaged topsoil" and/or "stockpiled material used for reclamation". These statements are misleading and must be revised so that it is clear to the reader that the said material was not separately salvaged and/or stockpiled and that the reclamation is in fact interim reclamation.

Mass  
balance

In the event that the applicant proposes to use sediment pond waste material as a plant growth medium the applicant must commit to analyzing material to determine its suitability as a plant growth medium prior to redistribution.

On page 21 (R614-301-200 Soils) the applicant refers to laboratory analyses of the proposed substitute topsoil but fails to reference where these said analyses maybe located within the PAP. Please revise text so that analyses may be easily located.

Please fix the typing errors (i.e. print overlap) in the first paragraph, section R614-301-231.200.

#### **-242. Soils Redistribution.**

During the Whiskey Creek Channel Reclamation, the operations may disturb previously disturbed soil which have been revegetated (interim) or undisturbed soil. The applicant must commit to fulfilling the requirements of R614-301-200. Soils to insure that the soil medium is properly identified (i.e. suitability, volume estimates, etc.), separately removed, adequately protected and redistributed. } 223

The applicant must commit to separately removing and temporarily stockpiling all proposed substitute topsoil material after facility removal and prior to backfilling and grading operations. This commitment must be reflected in the reclamation and bonding schedules (R614-301-542-100).

The applicant must provide a topsoil mass balance table, with appropriate cross-sections and surveys, which includes, at minimum, the following: volume of suitable disturbed landfill (proposed topsoil material); volume of stored topsoil; disturbed acreage at each site; "topsoil" (proposed substitute topsoil) excavation depth prior to backfilling and grading operation; topsoil redistribution depth; and volume of topsoil required and available for each area of disturbance.

The applicant refers to hydromulching all disturbed areas (p. 74 R614-301-300 Biology). On page 75 of the same section the applicant describes varying mulching techniques in relation to the slope gradient. The applicant must clarify this discrepancy. }

**R614-301-300. BIOLOGY.**

**-322. Fish and Wildlife Information.**

(Refer to Avifauna and Raptor Plan on page 66, and 67) The first paragraph infers that studies will be completed in the future. It is the Division's understanding that these studies were completed. The operator needs to change the tense of this paragraph and cite the completed study.

**-333. Operation Plan: Fish and Wildlife.**

The last paragraph of this section references a report by the U.S. Fish and Wildlife Service regarding the need for raptor protection on powerlines. This report (contained in the previous submittal) has been removed from the March 23, 1990 submittal. This report is considered baseline data and must be included in the MRP (or appendix).

**-341. Reclamation Plan.**

The operator has not provided a specific time schedule for each major task for the revegetation operations

(Refer to page 75 of the MRP) The fourth paragraph refers to fertilizing after seeding and mulching. Fertilization should be incorporated into the soils (see page 71) and therefore should be applied before seeding and mulching.

Page 71 refers to making a determination of in-place (parent material) soils as to their desirability as a plant growth medium. This needs to be revised to correctly reference the current testplot program established by Mt. Nebo Scientific to determine suitability of these materials.

The operator needs to discuss the long-term stabilization or use of material removed from the sediment pond at the Valcam site.

**R614-301-400. LAND USE AND AIR QUALITY.**

**-410. LAND USE.**

The land use section identifies a premining and postmining land use of rangeland. This conflicts with the revegetation section that identifies the land use as wildlife habitat and rangeland. The land use chapter needs to be corrected to correctly identify the wildlife habitat value of the land use.

The operator had stated that he would show the boundaries of the county zoning areas. While this was not done, the areas have been discussed in text. Also, the MRP must contain a description of allowable activities (uses) under each zoning classification. This is considered baseline data and must be provided prior to permit approval.

**R614-301-500. ENGINEERING.****-512. Certification.****-512.100. Cross Sections and Maps.**

This Section is not considered to be complete. The operator has indicated in the text of the Mining and Reclamation Plan that all maps and cross sections specified under R614-301-512.100 through 512.150 are certified by a qualified, registered professional engineer or land surveyor. However, many of the maps, drawings, and designs currently submitted by the operator are not certified in accordance with the requirements of this section.

**-512.200. Plans and Engineering Designs.**

This section of the Mining and Reclamation Plan is not considered to be complete. The operator has not provided certification statements for engineering designs and calculations found within the text of the Mining and Reclamation Plan. Certification statements should precede each set of calculations or designs in each section and subsection of the appendices for engineering and hydrologic calculations.

**-513. Compliance With MSHA Regulations and MSHA Approvals.****-513.100. Coal Processing Waste Dams and Embankments.**

This section is considered to be complete. The operator has indicated that there are no coal processing waste dams or embankments constructed within the permit area.

**-513.200. Impoundments and Sedimentation Ponds Meeting the Size or Other Qualifying Criteria of MSHA, 30 CFR 77.216(a).**

This section is considered complete. The operator has indicated that no impoundments or sedimentation ponds within the permit area meet the size or criteria of MSHA 30 CFR 77.216.

**-513.300. Underground Development Waste, Coal Processing Waste and Excess Spoil Disposed of in Underground Mine Workings.**

This section is not considered complete. The operator has indicated that the disposal of underground development waste, coal processing waste, or excess spoil disposed of in the underground mine will be in accordance with a plan approved by MSHA and the Division.

The operator needs to more clearly state that all underground development waste, coal processing waste, or excess spoil disposed of in the underground mine is in accordance MSHA regulations and the Division (see R614-301-528.321).

**-513.400. Refuse Piles Meeting the Requirements of MSHA, 30 CFR 77.214 and 30 CFR 77.215.**

The operator has indicated that there are no refuse piles located within the permit area. This section is considered to be complete as the requirements of this section are not applicable.

**-513.500. Each shaft, drift, adit, tunnel, exploratory hole, entryway or other opening to the surface from the underground will be capped, sealed, backfilled or otherwise properly managed consistent with MSHA, 30 CFR 75.1771.**

The operator has committed to case and seal all openings in accordance with MSHA regulations. Refer to R614-301-551 for further comments.

**-513.600 Discharges into an Underground Mine.**

The operator needs to indicate whether or not there are currently or any planned discharges into underground mine openings. Refer to R614-301-731.511.4.

**-513.700 The Nature, Timing and Sequence of the SURFACE COAL MINING AND RECLAMATION ACTIVITIES that Propose to Mine Closer than 500 Feet to an Active Underground Mine.**

The operator in compliance with the requirements of this section. There are no SURFACE COAL MINING AND RECLAMATION ACTIVITIES that propose to mine closer than 500 feet to the active underground mine.

**-513.800 Coal Mine Waste Fires.**

This section is not considered complete. Although the operator has indicated that there are no coal mine waste disposal areas, the operator should state that any fires in coal, waste or other materials will be extinguished in accordance with a plan approved by MSHA and the Division (see R614-301-528.323.1).

**-514. Inspections.**

**-514.100. Excess Spoil.**

The requirements of this section are considered to be complete. Monitoring of all excess spoil fill will be by a professional engineer or specialist and will periodically inspect the fill during construction. Regular inspections will also be conducted during critical construction periods. The qualified registered professional engineer will provide a certified report to the Division promptly after each inspection that the fill has been constructed and maintained as designed and in accordance with the approved plan and the R614-301 and R614-302 Rules.

**-514.200. Refuse Piles.**

This section is considered adequate. Although there currently are no refuse piles proposed within the permit area, the operator has committed to the requirements of this section in the event that such facilities are utilized in the future.

**-514.300. Impoundments.**

The operator has incorrectly responded to the requirements of this section. In accordance with the requirements of this section, the operator must commit that a professional engineer or specialist experienced in the construction of impoundments will inspect the impoundment regularly during construction, upon completion of construction, and at least yearly until removal of the structure or release of the performance bond. Impoundments, not subject to MSHA, 30 CFR 77.216, will be examined at least quarterly by a qualified person designated by the operator for appearance of structural weakness and other hazardous conditions.

**-515.100. Reporting and Emergency Procedures.**

The requirements of this section are considered complete. The operator has committed to notify the Division at any time a slide occurs which may have a potential adverse effect on public, property, health, safety, or the environment, by the fastest available means and comply with any remedial measures required by the Division.

**-515.200. Impoundment Hazards.**

This sections considered to be complete. The operator has stated that if any examination or inspection discloses that a potential hazard exists, the operator will promptly inform the Division of the finding and of the emergency procedures formulated for public protection and remedial action. If adequate procedures cannot be formulated or implemented, the Division will be notified immediately.

**-515.300. Temporary Cessation of Operations.**

This section is considered to be adequate. The operator has stated that during temporary abandonment, provisions of the approved permit will be carried out. All surface access openings to underground operations, and surface facilities in areas in which there are no current operations, but operations are to be resumed under an approved permit will be secured. Before temporary cessation of coal mining and reclamation operations for a period of 30 days or more, or as soon as it is known that a temporary cessation will extend beyond 30 days, the operator will submit to the Division a notice of intention to cease or abandon operations.

This notice will include a statement of the exact number of surface acres and the horizontal and vertical extent of subsurface strata which have been in the permit area prior to cessation or abandonment, the extent and kind of reclamation of surface area which will have been accomplished, and identification of the backfilling, regrading, revegetation, environmental monitoring, underground opening closures and water treatment activities that will continue during the temporary cessation.

**-516. Prevention of Slides in SURFACE COAL MINING AND RECLAMATION ACTIVITIES.**

This section is not applicable to the requirements of this operator.

**-520. OPERATION PLAN.**

**-521. General.**

**-521.100. Cross Sections and Maps.**

The operator needs to provide an index and a reference to all of the maps provided in the mining and reclamation plan. Currently the organization of the drawings, although numbered similarly to the rules do not reference and locate specific requirements of the regulations to the drawings. This reference should be provided as part of a table of contents for the mining and reclamation plan. In those specific sections of the mining and reclamation plan where drawings are required, the operator should reference the drawings within the text of the plan.

**Previously Mined Areas.**

The operator has provided a drawing titled Pleasant Valley Mining District Map R614-301-521.111 to show the location and extent of known workings of active, inactive, or abandoned underground mines, including mine openings to the surface within the proposed permit and adjacent areas. This is considered adequate.

The operator has noted that there are no existing or previously surface-mined areas within the proposed permit area.

**-521.120. Existing Surface and Subsurface Facilities and Features.**

The operator should reference which specific map or maps should be used in locating all buildings in and within 1000 feet of the proposed permit area, with identification of the current use of the buildings. The location of surface and subsurface man-made features within, passing through, or passing over the proposed permit area, including, but not limited to, major electric transmission lines, pipelines, and agricultural drainage tile fields; each public road located in or within 100 feet of the proposed permit area; the location and size of existing areas of spoil, waste, coal development waste, and noncoal waste disposal, dams, embankments, other impoundments, and water treatment and air pollution control facilities within the proposed permit area; and, the location of each sedimentation pond, permanent water impoundment, coal processing waste bank and coal processing waste dam and embankment.

**-521.130. Landowners and Right of Entry and Public Interest Maps.**

Surface and Coal Ownership maps are found in the drawings and are labeled R614-310-112.500 and .600. These drawings are considered adequate for technical review.

**-521.140. Mine Maps and Permit Area Maps.**

This section is not considered complete nor adequate.

For the purposes of delineating boundaries required on the maps and plans, the following definitions be used in the text of the plan and on the maps:

1. "Permit Area" means the area of land, indicated on the approved map submitted by the operator with his or her application which includes the area of land upon which the operator proposes to conduct coal mining and reclamation operations under the permit, including all disturbed areas.
2. "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 hauling coal to or from coal mining and reclamation operations; 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 sited 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.
3. "Disturbed Area" means an area where vegetation, topsoil, or overburden is removed or upon which topsoil, spoil, coal processing waste, underground development waste, or noncoal waste is placed by coal mining and reclamation operations. Those areas are classified as disturbed until reclamation is complete and the performance bond or other assurance of performance required by R614-301-800 is released. For the purposes of R614-301-356.300, R614-301-356.400, R614-301-513.200, R614-301-742.200 through R614-301-742.240, and R614-301-763, disturbed area will not include those areas (a) in which the only coal mining and reclamation operations include diversion ditches, siltation structures, or roads that are designed, constructed and maintained in accordance with R614-301 and R614-302; and (b) for which the upstream area is not otherwise disturbed by the operator.

No operational facility maps are referenced or found within the plan that clearly define the disturbed area boundaries. Drawings showing the reclamation contours do include the disturbed area boundaries. The operator should note that there are primarily four different types of areas found within the disturbed area boundary. These are:

1. Disturbed Areas Reporting to Sediment Ponds.
2. Disturbed Areas Utilizing Alternate Sediment Control Treatments (straw bales, silt fences, vegetative filters).
3. Disturbed Areas Exempt from Sediment Control (diversion ditches, siltation structures, or roads).
4. Currently Undisturbed Areas which will become Disturbed Areas as a result of future mining and/or reclamation activity.

Because sediment control methodology primarily controls the different types of disturbed areas within the disturbed area boundaries, it is recommended that the operator define and locate these disturbed areas within the disturbed area boundaries on the Sediment Control Facilities Maps, R614-301-731.720(a through d).

Maps showing the size, sequence and timing of the mining of subareas for which it is anticipated that additional permits will be sought are contained within the plan and are shown as drawing E1-0002 and D2-0060 for the Belina No. 1 and Belina No. 2 mines respectively. These drawings should be renumbered and included in the map index for clarity in accordance with the organization of the rest of the permit. Additionally, D2-0060 was not found to be certified.

No maps have been provided showing the underground workings and the location and extent of areas in which planned-subsidence mining methods will be used and which includes all areas where the measures will be taken to prevent, control, or minimize subsidence and subsidence-related damage (refer to R614-301-525).

Land Surface Configuration Maps are found within the plan and sufficiently show surface contours to adequately represent the existing land surface configuration of the proposed permit area. However these drawings do not clearly show the location of the disturbed area boundaries as required. The disturbed area boundary should be shown on all drawings for clarity and reference as to where the operator can conduct surface mining activities and ensure that all facilities and operations are within the disturbed area boundaries. Currently, only the reclamation drawings show the disturbed area boundaries. These boundaries need to be provided on all drawings where the scale is sufficiently large to detail the disturbed area boundaries (1"=50', 1"=100' scale drawings).

The operator has provided a map showing where the area has been previously mined. However, this map needs to be prepared and certified according to R614-301-512.

Maps and Cross Sections of the Proposed Features for the Proposed Permit Area do not clearly show the area of land to be affected within the proposed permit area, according to the sequence of mining and reclamation. Refer to the previous definition for "Affected Area".

No map has been provided to show each area of land for which a performance bond or other equivalent guarantee will be posted under R614-301-800. By definition, the area for which bond may be posted can include the entire permit area, or as a minimum, the disturbed areas within the permit area. If the operator chooses to utilize the permit area as the bond map, it should be noted that this will increase the area in which liability is incurred under the performance bond. The map selected for the bonding map should clearly indicate the total acres and the acreage for sub-areas in which the performance bond is provided. Refer to comments under R614-301-800. Bonding.

Coal storage, cleaning and loading area have not been certified according to R614-301-512.

Topsoil, spoil, coal preparation waste, underground development waste, and noncoal waste storage area maps need to be certified according to R614-301-512;

Each source of waste and each waste disposal facility relating to coal processing or pollution control needs to be delineated on the drawings and reference in the text of the plan.

Explosive storage and handling facility need to be located and indicated on the operation plan facilities maps.

Transportation Facilities Maps show appropriate cross sections, and specifications for each road width, road gradient, road surface, road cut, fill embankment, culvert, bridge, drainage ditch, and drainage structure. This information provided in the plan is considered to be adequate for the operation plan. However these drawings still need certification.

#### **-521.200. Signs and Markers Specifications.**

The operator has indicated that signs and markers are posted and maintained in accordance with local laws and the regulations. This section is considered to be adequate.

#### **-522. Coal Recovery.**

The map indicated by the operator as drawing R614-301-523 could not be found in the plan. The operator needs to re-reference or renumber this section in the text of the plan or include the drawing as referenced.

No information within the discussion under coal recovery could be found regarding a description of the measures to be used to maximize the use and conservation of the coal resource. The description needs to assure that coal mining and reclamation operations are conducted so as to maximize the utilization and conservation of the coal, while utilizing the best technology currently available to maintain environmental integrity, so that re-affecting the land in the future through coal mining and reclamation operations is minimized.

In particular, the operator needs to reference the adjacent potential mineable areas to the permit area and indicate that access to those reserves is maintained or feasible in conjunction with the mining operations conducted by Valley Camp. This discussion should show why the operation and reclamation plan will preclude re-affecting the permit area in the future.

### 523. Mining Method(s).

The operator has discussed the current technology and methodology for the mining of coal within this section. Basically the mining method is conventional room and pillar with mining occurring on two seams. The upper seam is the Upper O'Conner seam and is accessed through the Belina No. 1. Mine. The Lower O'Conner seam is accessed through the Belina No. 2 Mine. The operator has indicated that according to the current plan, approximately 2 feet of top coal is left for roof control and 10 feet of coal is taken on the advance. On retreat an additional 10 feet of coal is sumped utilizing remote control equipment. Pillars are not pulled due to problems with roof control, but are left as 40 foot by 40 foot square pillars with a height of 18 to 20 feet. These pillars yield and eventually fail as retreat mining occurs.

No discussion as to the mineable areas or the minimum mining thickness is found within the text in this section. The operator needs to include this information and state the minimum mineable thickness due to economic and equipment constraints.

The operator has referenced a Ground Control Study for Double Lift Mining Panels is found in Appendix R614-301-523(Confidential), but could not be found in the operator's most recent submittal and should be included in the plan in order to determine this section complete. This study was found in a draft copy of the operator's mining and reclamation plan received by the Division on December 18, 1989. The operator needs to compile and include a separate appendix for all confidential information and reference those data to that confidential section of the mining and reclamation plan.

The Ground Control Study for Double Lift Mining Panels details the principles involved and the modeling of multiple, thick seam mining at Valley Camp. The study is focused on roof control and factors of safety during the mining of the floor. This study does not relate to the surface effect of subsidence and is only pertinent to mining activity and coal recovery. This study does however relate to the study and the concern by the operator to maximize coal recovery and maintain safe mining conditions during operations.

The operator has referenced that Valley Camp is currently operating under an approved Roof Control Plan by MSHA and other plans as required by MSHA to conduct underground mining operations.

The operator has indicated that the anticipated annual production from the mining operations is 450,000 tons per year. The sequence and timing of underground coal extraction is shown on drawings E1-0002 and D2-0060. These maps show the sequence and the location of mining activities on an annual basis. The drawings indicate that based on the reserves shown, that the life of the mine will extend into the year 2017. However no discussion of the life of mine, projected reserves, or potential reserves in areas adjacent to the existing permit area was found in the text of the plan. The operator need to include a summary of the total coal reserves, mineable reserves and recoverable reserves within the permit area.

**-523.100. SURFACE COAL MINING AND RECLAMATION ACTIVITIES Proposed to be Conducted Within the Permit Area Within 500 Feet of an Underground Mine.**

The operator has previously indicated that there are no surface coal mining activities within the permit area. However, subject to the requirements of this section, the operator should state whether or not any surface coal mining and reclamation activities are conducted within 500 feet to any point of either an active or abandoned underground mine in accordance with R614-301-523.200.

**-523.200. SURFACE COAL MINING AND RECLAMATION ACTIVITIES Conducted Closer than 500 Feet to any Point of Either an Active or Abandoned Underground Mine.**

The operator needs to indicate in the event that activities are closer than 500 feet that they are in accordance with the exceptions to this section of the rules. Although mine workings are shown on drawing R614-301-521.111, it is not possible to determine whether or not mining activities have or will occur closer than 500 feet.

The location and size of lease boundary pillars and standoff pillars from existing mine workings. All mine workings within 1000 feet of active workings should be shown on the MSHA mine maps. Any lease perimeter boundaries required by MSHA or federal lease permits should also be indicated on these drawings.

In the event that mining activities do occur within 500 feet of adjacent workings, the operator will need to state the reasons for such activity in accordance with the requirements of this section. These exceptions include; that the operations result in improved resource recovery, abatement of water pollution, or elimination of hazards to the health and safety of the public; and, that the nature, timing, and sequence of the activities that propose to mine closer than 500 feet to an active underground mine are jointly approved by the Division and MSHA.

**-524. Blasting and Explosives.**

The operator has indicated that Valley Camp will not routinely utilize surface blasting in their underground coal mining activities. The operator has however committed to provide the Division and MSHA a blasting plan when required and in accordance with the requirements of this section.

In the event that blasting activities occur on site, the operator has stated that all blasting activities will be conducted by a certified blaster in accordance with the requirements of this section. Blast designs will be prepared and certified by a certified blaster.

Although not currently anticipated by the operator, preblast surveys, blasting and warning signs, access control, etc. and will comply with all appropriate Utah and federal laws and regulations in the use of explosives.

**-525. Subsidence.**

Refer to comments made by Dave Darby on subsidence.

**-526. Mine Facilities.****-526.100. Mine Structures and Facilities: Existing Structures.**

The operator has provided a description of each existing structure proposed to be used in connection with or to facilitate the coal mining and reclamation operation. The facilities are located on the drawings as indicated in the text of the plan.

The operator needs to indicate the approximate dates on which construction of the existing structure was begun and completed. The operator should also indicate that all of these facilities are in compliance with the requirements of R614-301, and that they have been modified or reconstructed for use in connection with or to facilitate coal mining and reclamation operations. The operator should also state that the designs and modifications to these structures have been incorporated into the general design information and within the text of this mining and reclamation plan and that the risk of harm to the environment or to public health or safety was not significant during the period of modification or reconstruction.

The operator needs to note that there are facilities within 100 feet of a public road as noted on the drawings for the Valcam Loadout and that these facilities were subject to public comment during the initial permit approval process.

The operator needs to indicate that no public road was or will be relocated in conjunction with mining and reclamation activities.

**-526.200. Utility Installation and Support Facilities.**

The operator has stated that all coal mining and reclamation operations will be conducted in a manner which minimizes damage, destruction, or disruption of services provided by oil, gas, and water wells; oil, gas, and coal-slurry pipelines, railroads; electric and telephone lines; and water and sewage lines which pass over, under, or through the permit area. This commitment meets the requirements of this section of the regulations.

The operator has also stated that support facilities will be operated in accordance with a permit issued for the mine or coal preparation plant to which it is incident or from which its operation results. And, that the support facilities will be located, maintained, and used in a manner that prevents or controls erosion and siltation, water pollution, and damage to public or private property, and, to the extent possible using the best technology currently available - minimizes damage to fish, wildlife, and related environmental values; and minimizes additional contributions of suspended solids to streamflow or runoff outside the permit area. These commitments meet the requirement of this section of the regulations.

**-526.300. Water Pollution Control Facilities.**

The operator has indicated that there are five sediment ponds used in conjunction with water pollution control on the site. Because the requirements for the design and operator of these and other water pollution control facilities are described elsewhere in the plan in detail, the operator is considered to be in compliance with the requirements of this section.

**-526.400. Air Pollution Control Facilities.**

Although this section of the regulations is cited for surface coal mining and reclamation activities, the operator should state that an air quality permit is in effect and provide the date of approval for the permit to show compliance with other federal, state and local regulations. The acquisition of the air quality permit can be referenced here to the compliance section of the regulations if needed.

**-527. Transportation Facilities.****-527.100. Classification of Roads.**

Each road needs to be classified as either a primary road or an ancillary road. A primary road is any road which is used for transporting coal or spoil, frequently used for access or other purposes for a period in excess of six months, or, to be retained for an approved postmining land use. Essentially, all roads that are currently in use by the operator should be classified as primary roads. Roads contained within the permit area and used in conjunction with mining and reclamation operations are life-of-mine

and no temporary roads exist within the operator's current operation. Roads which are not used in conjunction with mining and reclamation activities should also be identified. The operator's map R614-301-100 shows the location of these roads and their identification could be made by reference to this drawing.

Those roads which are specifically constructed, used, and maintained for mining and reclamation activities need to be identified within the disturbed area boundaries, and discussed in the operation and reclamation plan.

#### **-527.200. Transportation Facilities.**

This regulation requires that a detailed description of each road, conveyor, and rail system to be constructed, used, or maintained within the proposed permit area.

Specifications for each road width, road gradient, road surface, road cut, fill embankment, culvert, bridge, drainage ditch, and drainage structure are primarily found on the plans and drawings presented in the mining and reclamation plan.

The operator needs to include a description of the measures to be taken to obtain Division approval for alteration or relocation of a natural drainageway. This discussion will need to include a statement that the design and the construction of roads within the permit area were made in a manner to protect the environment and minimize the impact on fish and wildlife by constructing such facilities as fish ladders on Eccles Creek, non-erodible ditch and culvert designs, and designing culverts and drainage crossings with capacities commensurate to immediate upstream and downstream conditions of the natural drainages.

The operator needs to provide a general description as to how roads will be maintained to meet the design standards throughout their use. The operator also needs to provide a commitment that any road damaged by a catastrophic event, such as a flood or earthquake, will be repaired as soon as practical after the damage has occurred.

A report of appropriate geotechnical analysis, where approval of the Division is required for alternative specifications, or for steep cut slopes is found as an appendix to the mining and reclamation plan but is not referenced in this section. This geotechnical information of the Belina Haul Road should be referenced here for geotechnical analysis, but it is apparent that specific reclamation treatments for the haul road will be different from those presented in the consultant's report. The operator needs to consolidate and present in this section, the specific reclamation work that will be accomplished for the Belina Haul Road and other roads within the permit area and not just reference the MK Report to eliminate conflicting reclamation activities and treatments.

**-528. Handling and Disposal of Coal, Overburden, Excess Spoil, and Coal Mine Waste.**

**-528.100. Coal Removal, Handling, Storage, Cleaning, and Transportation Areas and Structures.**

The operator did not provide or reference a description of the coal handling facilities in this section of the permit. More detail should be provided here to describe the mode of storing, handling and transporting the coal from the mine portal facilities to the loadout facilities. The operator needs to identify and locate sources (or potential sources) of waste materials that may be produced during coal removal, handling, storage, and transportation areas. Such potential wastes would include materials from cleaning pads, roads, ditches sediment ponds, conveyor spills, roof falls, mine rehabilitation and cleanup, etc.

**-528.200. Overburden.**

The operator needs to discuss the handling of overburden materials in accordance with the requirements of this section. Material which could be considered as overburden would be the materials removed during portal face-up operations. In consideration of the requirements of this section, the operator needs to reference other sections of the plan where a determination was made on the acid- or toxic-forming properties of these materials. A discussion of how the materials were removed and their current location should be provided in the plan. Primarily, it is assumed that this material is stored in the portal benches, pads, roads and other facilities that were constructed at the site. The operator will need to readdress this material in the reclamation plan section of the permit.

**-528.300. Spoil, Coal Processing Waste, Mine Development Waste, and Noncoal Waste Removal, Handling, Storage, Transportation, and Disposal Areas and Structures.**

**Excess Spoil.**

The operator needs to address excess spoil. It is apparent from the review and discussions elsewhere in the plan and on the drawings that there will most likely not be excess spoil as a result of mining operations. Excess spoil will not need to be placed in designated disposal areas within the permit area. However, the operator needs to provide mass balance calculations in detail sufficient to determine that there is not excess spoil material within the permit area. Additionally, it is recommended that the operator commit to temporarily storing and disposing of all waste materials in accordance with the requirements of the regulations, and other federal, state and local regulations.

### Coal Mine Waste.

The operator needs to discuss the temporary and permanent locations for the disposal of coal mine waste. The operator needs to state that all coal mine waste will be placed in new or existing disposal areas within a permit area which are approved by the Division for this purpose.

### Return of Coal Processing Waste to Abandoned Underground Workings.

The plan needs to state that there are no coal processing facilities within the permit area and that no coal processing waste materials will be returned to underground mine workings.

### Refuse Piles.

The operator needs to indicate that no large quantities of refuse materials will be generated within the permit area. The only sources of refuse or coal waste materials will be associated with the loadout and transportation facilities. Also that normally, these waste materials will be blended or incorporated into the coal product being shipped to market. However, the operator needs to locate within the permit area, places for the temporary storage of such refuse materials when encountered.

The operator must develop and present a plan for the permanent disposal of these materials in conjunction with reclamation operations when no additional coal will be produced. It is apparent that coal waste and refuse materials will be incorporated into the backfilling and grading operations during reclamation. The operator needs to state in the plan that during backfilling and grading operations, all coal waste and refuse encountered during reclamation will be placed in fill areas and will be covered with a minimum of 4 feet of suitable cover material. These materials are to be placed and compacted in lifts not to exceed two feet in thickness. Any potentially combustible material shall be safely placed away from exposed coal seams and outside of mine openings in accordance with MSHA requirements. The operator need to determine and state that no refuse or coal waste material will be placed in a location during temporary or permanent disposal in a manner that will degrade or diminish the surface or ground water quality.

Due to the limited amount of refuse and coal waste material, it is not anticipated that the volume of such material will greatly affect the final contours of the planned backfilling and grading activities. However the operator should indicate this in the mining and reclamation plan and provide a estimate of the amount of similar waste materials that will have to be permanently disposed of and incorporate that estimated amount into the reclamation calculations.

The operator needs to locate on the operational drawings, areas for the temporary storage of refuse and coal waste material. Also, on the reclamation drawings, the operator needs to locate fill areas along existing cuts or highwalls, the permanent locations for disposal of this material.

#### Burning and Burned Waste Utilization.

The operator needs to state that coal mine waste fires will be extinguished or controlled in accordance with a plan approved by MSHA. The operator need to provide a commitment that only those persons authorized by the operator, and who have an understanding of the procedures to be used, will be involved in the extinguishing operations.

#### Noncoal Mine Waste.

The operator needs to address noncoal mine wastes including, but not limited to, grease, lubricants, paints, flammable liquids, garbage, abandoned mining machinery, lumber and other combustible materials generated during mining activities and state that these materials will be placed and stored in a controlled manner in a designated portion of the permit area. The location of the noncoal waste storage facilities should be located and identified on the operational facilities drawings. Final disposal of noncoal mine wastes will be in a designated disposal site in the permit area or a State-approved solid waste disposal area. The operator should indicate that there are no disposal sites in the permit area for noncoal mine waste. The operator should state that wastes will be routinely compacted and covered to prevent combustion and wind-borne waste and regularly transported to the county approved landfill.

The operator should also state that at no time will any noncoal mine waste be deposited in a refuse pile or impounding structure, nor will any excavation for a noncoal mine waste disposal site be located within eight feet of any coal outcrop or coal storage area.

The operator needs to provide a commitment that, notwithstanding any other provision to the R614 Rules, any noncoal mine waste defined as "hazardous" under 3001 of the Resource Conservation and Recovery Act (RCRA) (Pub. L. 94-580, as amended) and 40 CFR Part 261 will be handled in accordance with the requirements of Subtitle C of RCRA and any implementing regulations.

#### Underground Development Waste.

The operator must include a description of the proposed disposal methods for placing underground development waste and excess spoil generated at surface areas affected by surface operations and facilities. The permit application needs to include a description of measures to be employed to ensure that all debris, acid-forming and toxic-forming materials, and materials constituting a fire hazard are disposed of in accordance with the regulations and include a description of the contingency plans which have been developed to preclude sustained combustion of such materials.

**-528.400. Dams, Embankments and Other Impoundments.**

**-529. Management of Mine Openings.**

**-529.100. Exposed Underground Openings.**

The operator needs to incorporate into this section a management plan in the event that mine openings are uncovered or exposed by coal mining and reclamation activities within the permit area. In accordance with the requirements of this section, the operator needs to provide the management plan and a commitment to permanently close any exposed underground mine workings unless they are approved by the Division for water monitoring or otherwise managed in a manner approved by the Division. It would also be beneficial to mention in this section that any old or abandoned underground mine workings which are intercepted during underground mining operations will be sealed or as otherwise managed in accordance with MSHA requirements at the time such activity is encountered.

**-529.200. Temporary Sealing of Mine Openings.**

The operator has indicated that any mine opening which is temporarily inactive will be properly guarded to prevent access into the openings and be posted to identify the hazardous nature of the opening. The operator has stated that the devices will be periodically inspected and maintained in good operating condition by Valley Camp.

The operator needs to identify each underground opening used to return underground development waste, coal processing waste or water to underground workings will be temporarily sealed until actual use. This identification should note the type of materials which are returned to underground workings, such as mine development waste, sediment pond waste, etc., and a commitment to temporarily seal these openings until they are actually used.

**-530. OPERATIONAL DESIGN CRITERIA AND PLANS.**

**-531. General.**

The operator has referenced the hydrology section of the mining and reclamation plan to include the as-built designs for sediment ponds within the permit area. The operator has further indicated that none of the impoundments are above any new or old mine workings.

Refer to comments made in the hydrology section regarding the specific design comments on the impounding structures.

**-532. Sediment Control.**

The operator references the hydrology section of the mining and reclamation plan regarding this section of the regulations.

**-532.100. Disturbed Area.**

The operator needs to include here or in a referenced section of the mining and reclamation plan, a commitment to disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading, and prompt revegetation. Evidence of this commitment should be reflected in the sequence and timing of reclamation operations by scheduling contemporaneous and permanent revegetation/reclamation practices as soon as disturbed areas and facilities are no longer required to conduct mining operations.

**-532.200. Backfill Stabilization.**

The operator needs to include here or reference other sections of the mining and reclamation plan, plans for stabilizing the backfilled material to promote a reduction of the rate and volume of runoff in accordance with the requirements of the rules sited in this section. This discussion needs to include plans for regrading existing slopes to achieve stability, permanent features to enhance reclamation, regrading to achieve approximate original contour, highwall elimination, minimizing erosion and water pollution, spoil handling, and preparation of final graded surfaces for replacement of topsoil. Details of those plans and designs used should also be reference to those appropriate sections of the regulations as they apply to stabilizing backfilled material.

**-533. Impoundments.**

The operator has referenced the Hydrology Section of the mining and reclamation plan to address the requirements of this section of the regulations.

**-533.100. Stability.**

Pond stability is addressed in the mining and reclamation plan under section R614-301-742.220 SEDIMENT PONDS. On page 58 of that section the operator discusses the general conditions and assumptions used to determine stability of ponds 001A, 002A, and 003A but no information is provided here or in the plan regarding the stability of pond 004A. A geotechnical analysis includes testing and analysis accomplished by Garco, Rollins, Brown and Gunnel, and Chen-Northern, Inc. for ponds 001A-003A.

In accordance with the requirements of this section, the stability of temporary and permanent impoundments must be designed so that impoundments will have a minimum static safety factor of 1.5 for the normal pool with steady seepage saturation conditions, and a seismic safety factor of at least 1.2.

Analysis for Ponds 001A through Pond 003A indicated that the above factors of safety could be maintained if the inslope and the outslopes of the ponds were maintained at no greater than 1.5H:1V. The reports site that the steepest upstream slope was found to be 1.5H:1V, and the steepest downstream slope was 1.7H:1V. Based on the results presented in the text of the plan and in the appendices, Ponds 001A, 002A, and 003A are considered stable.

The operator needs to present sufficient stability information and analysis for Pond 004A. No information regarding the steepest upstream and downstream slopes is presented in the plan. No soils information regarding the materials used for construction of the embankment is found in the plan. Stability analysis of Pond 004A must be addressed in sufficient detail in order to determine this section of the regulations complete.

Pond 005A is not considered to be a surface water sediment pond but is used exclusively for the treatment of sediments associated with mine water treatment and discharge. Although design details were submitted with the operator's original mining and reclamation plan, they have not been included in the appendix. The operator should indicate that the structure was designed for treatment of mine water at a rate of 250 gallons per minute and should compare that to the mine watermake in the past permit term to indicate that the structure is sufficiently sized.

#### **-533.200. Foundations.**

Information provided in the above reports indicate that stability analysis was performed based on the assumption that foundation materials were similar to that material used for the embankment and that under steady-state conditions, the foundation materials were assumed to be saturated.

Information regarding the foundation preparation was not available to the consultants in the stability analysis. Specific information on foundation preparation and construction has not been preserved due to the age and the date of the construction of the first three ponds. However, based on the age and the indication that no problems relating to short circuiting or settlement of the embankments were found, it can be considered that the construction and foundation preparation of these three ponds meet the performance requirements of the regulations. Additionally, the operator has committed to examine the ponds quarterly for stability and will report any conditions owing to indications of instability in the reports filed with the Division.

Again, similar information needs to be presented in the plan regarding the stability and the condition of the foundation for Pond 004A.

#### **-533.300. Slope Protection.**

Analysis of ponds 001A through 003A was made during rapid drawdown conditions. These analyses indicated that the ponds would be stable during rapid drawdown conditions.

The operator needs to include similar design information in the analysis of Pond 004A.

**-533.400. Embankment Protection.**

The operator has not indicated in this section of the plan, what measures have been used to protect the faces of embankments and surrounding areas. The operator need to indicate that these areas have been (will be) vegetated except that faces where water is impounded may be riprapped or otherwise stabilized in accordance with accepted design practices.

**-533.500. Highwall Location.**

The operator needs to note that no highwalls will be left submerged and therefore the requirement of this section is considered not applicable to the mining and reclamation plan.

**-533.600. MSHA Impoundments.**

The operator has incorrectly stated that all four sediment ponds were constructed prior to the implementation of 30 CFR 77 and that they are not subject to it. The operator needs to remove incorrect statements and summarize the dates when the ponds were initially constructed. Regardless of the dates of construction, the performance standards of these regulations and the 30 CFR 77 regulations apply.

It is evident however, that the size of the four sediments ponds is less than those requirements found under 30 CFR 77.216. The operator needs to clearly state this in the mining and reclamation plan.

**-533.700. Non-MSHA Impoundments.**

The operator has provided a detailed design plan for structures that do not meet the size or other criteria of MSHA, 30 CFR 77.216(a) with the exception of stability and foundation information for Pond 004A as noted above.

**-534. Roads.****-534.100. Location, Design, Construction, Maintenance and Reclamation.**

The operator needs to provide more information within the text of the mining and reclamation plan regarding the location, design, construction, use, maintenance, and reclamation or roads.

The description of roads can be detailed in this section of the regulations or referenced to part 527, but with regard to this section, the operator must include certain general and design information. The operator should summarize what provisions are made regarding action taken to prevent or control damage to public or private property. This information would include the posting of appropriate warning and control signs as needed at the permit boundaries and where required along the roads.

The operator needs to state the type(s) of materials used for road surfacing and indicate the use of nonacid- or nontoxic-forming substances in road surfacing.

With regard to road stability. The operator needs to identify the results of the MK Report on stability of the Belina Haul Road and provide sufficient information in the plan to indicate that a variance from the requirements of this section is warranted. The review and information submitted by Valley Camp previously regarding this would be considered adequate if that information is incorporated into the plan. The operator should also reference the drawing showing the approximate location of the VMI's as referred to in the plan. The operator should also state that the monitoring information is maintained at the mine office for review, but is not routinely submitted to the Division.

Variance will require applicability to regulation R614-301-270 Variances from Approximate Original Contour Restoration Requirements. The operator may wish to include all variance requirements in a single section as reference above or may wish to identify these variances as they logically appear in their appropriate sections of the plan. The operator should note that primary consideration for providing a variance for the Belina Haul Road will be in suitability for the road area in consideration of the post mining land use and the suitability of the road reclamation with the surrounding area. In other words, the operator would be advised to note the stability and the conditions of the slopes in the surrounding area and adjacent to the road to be reclaimed. The conclusion of the discussion provided by the operator regarding stability should provide information that the road will be reclaimed to a condition of stability commensurate with the surrounding slopes and that the likelihood of failure of the reclaimed slopes of the haul road would be no greater than those adjacent slopes.

**-534.200. Safety and Environmental Protection.**

The operator needs to include in this section, a general discussion of the use of the roads. This discussion should indicate compliance to ensure environmental protection and safety appropriate for their planned duration and use, including consideration of the type and size of equipment used, the design and reconstruction of roads will incorporate appropriate limits for grade, width, and surface materials. Each road within the disturbed area boundaries should be identified on the drawings and discussed in the plan.

**-534.300. Primary Roads.**

In describing primary roads, the operator should as a minimum, provide the following information:

- Location (Including Map Reference)
- Surfacing Materials
- Types of Vehicles Using the Road
- Road Use
- Maximum Grade
- General Maintenance Requirements
- Culvert and Ditch Designs (Drainage)
- Whether or not the road is to remain or be reconstructed as part of the post mining land use.

**-535. Spoil.****-535.100. Disposal of Excess Spoil.**

The operator needs to indicate that there will be no excess spoil within the permit area and consequently no designated disposal areas exist within the permit area. Waste materials, including mine development waste, coal waste, and refuse are discussed in R614-301-528. Consequently the rules specified under R614-301-535 are not applicable to this mining and reclamation plan.

**-536. Coal Mine Waste.**

The operator has inadequately addressed the requirements of this section. Coal mine waste materials as previously stated in this review will be involved in the reclamation of the site. The operator needs to identify the location in which these materials will be placed in conjunction with reclamation activities. In general, the operator should note that these waste materials are incorporated into the backfilling and grading of the mine and loadout facilities. More specifically, the operator needs to locate and describe the disposal of coal mine waste materials as required below.

**-536.100. Disposal Facilities.**

The operator needs to state that the disposal facility will be designed using current prudent engineering practices and will meet design criteria established by the Division. The operator should state and show the location of planned disposal of coal waste within the disturbed areas. It is suggested that the areas in which large fills are required to meet AOC requirements would be primary sites for disposal. However the operator needs to show that these areas will be designed to attain a minimum long-term static safety factor of 1.5. Additionally the foundation and abutments must be stable under all conditions of construction. This would require that the site selected have no weakness zones or groundwater which may infiltrate the fill and cause stability or water contamination problems.

Owing to the limited amount of coal waste material that will be disposed of in this manner, the operator should reference the general backfilling and grading plan within the reclamation section of the plan to detail foundation and stability analysis at the disposal sites. By presenting an estimated amount of the coal mine waste material that may be disposed of within the fills along the cuts and highwalls, the operator can include the costs of disposing of this material along with the general backfilling and grading calculations and cost estimates.

**-536.200. Coal mine waste placement.**

The proximity of coal mine waste material to adjacent mine workings should also be a consideration to the coal operator. The operator should indicate compliance with appropriate MSHA regulations regarding placing potentially combustible materials adjacent to mine workings and exposed coal seams. This discussion should include a commitment in the design to comply with those regulations, indicate the amount of incombustible material that will be used to isolate the coal seam from the coal waste material, the minimum lifts and the type of equipment that will be used to compact and cover the material, and the minimum amount of cover material that will be placed over the coal mine waste during reclamation.

Specifically, the operator needs to include in the plan and the designs, commitments to ensure mass stability and prevent mass movement during and after construction, not create a public hazard, and, prevent combustion.

**-536.300. Coal Mine Waste Disposed of in Excess Spoil Fills.**

The operator needs to indicate that there are no excess spoil fills within the permit area and consequently, no coal mine waste will be disposed on in excess spoil fills.

**-536.400. New and Existing Impounding Structures Constructed of Coal Mine Waste or Intended to Impound Coal Mine Waste.**

The operator needs to indicate here that no new or existing impounding structures are constructed of coal mine waste and that coal mine waste will not be used for construction of impounding structures.

**-536.500. Disposal of Coal Mine Waste in Special Areas.**

The operator needs to indicate that no coal mine waste materials from activities located outside a permit area will be disposed of in the permit area.

### Underground Disposal.

The operator needs to address the requirements for disposal of coal mine waste in underground workings. The operator has noted elsewhere in the plan that mine development waste will be used to backfill the mine openings in conjunction with permanent closure of the mine openings and that coal mine waste will be returned to underground workings. The operator needs to indicate that coal mine waste will be disposed of in underground mine workings, but only in accordance with a plan approved by the Division and MSHA. This plan should include the designs for backfilling and regrading the mine portal facilities, and, any plans by the operator to backstow coal mine waste into the mine openings at the time of reclamation. The operator should also note that during normal mining operations that coal mine waste may be returned to the underground workings. This waste material will include the sediment pond waste material to be pumped from the mine facilities sediment pond into the mine workings. The plans for the disposal of sediment pond waste in this manner should be addressed here and also be approved by MSHA.

### **-536.600. Underground Development Waste.**

The operator needs to note that underground development waste includes the materials excavated during the face-up operations for the portal facilities. These materials were used in conjunction with the construction of the pad and road facilities at the Belina Mine site. The operator needs to address the measures that were taken in the design of these facilities to ensure that the pad and road areas were stable throughout the operational phase of the operations. In reclamation, the operator needs to indicate how this mine development waste will be used in backfilling and grading to meet AOC requirements. The operator must also indicate what designs or methods were used to ensure that the mine development waste material will be placed in a stable manner and in accordance with the other regulations as sited under the requirements of this section.

### **-536.700. Coal Processing Waste.**

The operator needs to indicate that there is no coal processing waste produced in conjunction with the mining and reclamation operations at Valley Camp and consequently, there are no plans for the return of coal processing waste to abandoned underground workings.

### **-536.800. Coal Processing Waste Banks, Dams and Embankments.**

The operator needs to determine and state in the plan that there are no banks, dams or impoundments located within the permit area that are constructed of coal processing waste and that the requirements of this section are therefore considered to be not applicable to the mining and reclamation plan.

**-536.900. Refuse Piles.**

The operator needs to state that there are no permanent refuse piles constructed or used within the permit area and consequently the requirements of this section are not applicable to the mining and reclamation plan.

**-537. Regraded Slopes.**

The operator has indicated that this section is not applicable. This response is not considered adequate. The operator must make a determination that no previously disturbed areas (fills) will be left, will remain ungraded, or will be stabilized by regrading in accordance with the requirements of this section.

**-537.100. Geotechnical Analysis.**

In the event that the operator intends on utilizing alternative specifications or for steep cut slopes under this section, the requirements as listed within this section apply.

**-537.200. Regrading of Settled and Revegetated Fills to Achieve Approximate Original Contour.**

For the purposes of this section, the operator needs to be more specific in the identification of areas where the regrading of settled and revegetated fills at the conclusion of coal mining and reclamation operations will not be required. It is apparent in the reclamation design of the operator that there will be such fill areas. These areas include, the fill out slopes along roads, some embankment out slopes, areas which may be contemporaneously reclaimed and may eventually meet standards for bond release, and other miscellaneous fills and embankments that will not require additional regrading at the conclusion of mining operations.

In the event that no regrading is planned on these areas the operator must determine whether or not the settled and revegetated fills will be composed of spoil or nonacid- or nontoxic-forming underground development waste.

The operator must commit that spoil or underground development waste will not be located so as to be detrimental to the environment, to the health and safety of the public, or to the approved postmining land use.

The operator must demonstrate that the stability of the spoil or underground development waste will be consistent with backfilling and grading requirements for material on the solid bench (1.3 static safety factor) or excess spoil requirements for material not placed on a solid bench (1.5 static safety factor).

The operator must determine that the surface of the spoil or underground development waste will be vegetated and surface runoff will be controlled in accordance with the regulations.

If it is determined by the Division that disturbance of the existing spoil or underground development waste would increase environmental harm or adversely affect the health and safety of the public, the Division may allow the existing spoil or underground development waste pile to remain in place.

**-540. RECLAMATION PLAN.**

**-541. General.**

**-541.100. Cessation of Operations.**

This section is considered adequate. The operator indicated that upon cessation of mining activities, Valley Camp will close or backfill or otherwise permanently reclaim all affected areas, in accordance with the R614 Rules and the permit approved by the Division.

**-541.300. Removal of Equipment, Structures and Facilities.**

This section is considered adequate. The operator has stated that all surface equipment, structures, or other facilities not required for continued underground mining activities and monitoring, unless approved by the Division as suitable for the postmining land use or environmental monitoring will be removed and the affected lands reclaimed.

**-541.400. Compliance Requirements.**

The operator has provided a plan for the reclamation of the lands within the proposed permit area, which shows how the applicant will comply with R614-301, and the environmental protection performance standards of the State Program. Comments regarding deficiencies found in that plan are listed in their appropriate sections.

**-542. Narratives, Maps and Plans.**

**-542.100. Reclamation Timetable.**

The information presented in the plan as a detailed timetable for the completion of each major step in the reclamation plan is not considered adequate.

In presenting the reclamation timetable, a detailed series of reclamation activities should be presented to show the logical sequence in which reclamation is to occur. Constraints due to weather and seasonal conditions should also be incorporated into the timetable. Phased reclamation activities should also be segregated and detailed for the purposes of reclamation scheduling and to logically break out reclamation activities for the various stages of bond release.

An example of a format to describe the reclamation timetable is provided below. This example intends to reflect reclamation activities but will need to be revised and further developed by Valley Camp to reflect reclamation activities in accordance with Valley Camp's proposal:

**Reclamation Timetable.****Valcam Loadout Area: Contemporaneous reclamation.**

Contemporaneous reclamation to be accomplished in the current permit term includes permanent closure, backfilling and grading, and revegetation of the Utah No. 2 Mine located at the Valcam Loadout Facility. Notice of closure of these mine facilities was provided to the Division in September, 1989 and backfilling of 6 of the 7 portals has been completed. Portal 7 has been sealed but the opening will not be backfilled until completion of mining operations at the loadout facility because the conveyor tailpiece section is located is scheduled to be backfilled during the summer of 1990. is detailed in part Upon completion of mining activities, Valley Camp will notify the Division of cessation of operations and their intent to conduct reclamation of the facilities.

**-542.200. Backfilling and Grading.**

A plan for backfilling, soil stabilization, compacting and grading, with contour maps or cross sections that show the anticipated final surface configuration of the proposed permit area, in accordance with R614-301-537.200, R614-301-552 through R614-301-553.230, R614-301-553.260 through R614-301-553.900, and R614-302-234;

**-542.300. Final Surface Configuration.**

The operator has provided drawings showing the anticipated final surface configuration to be achieved for the affected areas and a commitment to certify these drawings in accordance with the regulations.

These maps need to locate and identify all structures and facilities to remain on the proposed permit area as permanent features, after the completion of coal mining and reclamation operations. These facilities need to include all roads, culverts, diversions, impoundments, buildings, utilities, fences and other similar structures that are to be left, reconstructed or constructed as part of the post mining land use as proposed under section R614-301-410 of the regulations.

A description of these facilities and a discussion of their use in conjunction with the proposed post mining land use should be presented in the land use section of the permit. The ability to utilize these structures and facilities for multiple land use alternatives should be presented in the land use section of the mining and reclamation plan.

The operator has indicated that prior to abandoning the Mine Permit Area or seeking bond release, that an aerial survey will be done and used to generate final configuration contour maps to evidence all temporary facilities have been removed and reclaimed and all permanent structures are stable.

**-542.400. Requirements for Bond and Permit Release.**

a permit area or seeking bond release, a description ensuring all temporary structures are removed and reclaimed, and all permanent sedimentation ponds, impoundments and treatment facilities that meet the requirements of the R614 Rules for permanent structures, have been maintained properly and meet the requirements of the approved reclamation plan for permanent structures and impoundments. The operator will renovate such structures if necessary to meet the requirements of the R614 Rules and to conform to the approved reclamation plan;

**-542.500. Reclamation of Sediment Ponds, Impoundments, Dams, and Embankments.**

A timetable, and plans to remove each proposed sedimentation pond, water impoundment, and coal processing waste bank, dam, or embankment, if appropriate;

**-542.600. Reclamation of Roads.**

The operator needs to clearly indicate on the reclamation drawings, those roads to be retained for use under an approved postmining land use.

In discussing those roads to be reclaimed, the operator needs to include the following discussion in the text of the plan. The operator need to state that immediately after a road is no longer needed for mining and reclamation operations, that reclamation activity will consist of closing the road to traffic, removing all bridges and culverts, and replacing topsoil and revegetating disturbed surfaces.

Although there is some discussion regarding the reclamation of roads in the backfilling and grading section of the plan (R614-301-553), no specific information could be found within the text of the plan or in the design calculations for the design for the reconstruction of the stream channel upon removal of culvert C-21-42 at the entrance gate in Eccles Canyon. The operator needs to provide the design for the reconstruction of the stream channel based on a 100 year - 6 hour event. The specifications and designs could be provided in the hydrology section of the plan and referenced in this section of the plan.

**-542.700. Final Abandonment of Mine Openings and Disposal Areas.**

Mine Openings.

The operator needs to provide a description, including appropriate cross sections and maps, of the measures to be used to seal or manage mine openings, and to plug, case or manage other openings within the proposed permit area, in accordance with the regulations as well as MSHA requirements.

The discussion in the text of the plan should commit to sealing the mine openings with a concrete block stopping meeting the specified requirements of MSHA. That the stopping will be installed a minimum of 25 feet into the mine opening. That the portal will be then backfilled with suitable noncombustible materials from the stopping to the portal opening.

The portal closure plan must also provide for and discuss the hydrologic sealing requirements of mine openings to prevent the flow of surface water into the mine openings and to prevent or otherwise treat the discharge of mine water from those openings. The design of the structure to allow the discharge of mine water should be included to allow discharge from the lowest portal opening. The design should allow for the maximum anticipated discharge of water from the mine opening, should not be constructed so as to allow water to impound behind portal closures, and should be suitably constructed as a permanent part of the reclamation treatments. In other words, the use of pipe or other drainage structures which may deteriorate or become plugged over time should not be considered. The Division recommends that the design of the drainage structure be similar to a french drain or gravel underdrain. Rock used in these drains should be of uniform size and of durable rock to maintain the integrity of the structure. Suitable filter material should also be used to surround the drain to prevent infiltration of fines which would reduce the capacity of the underdrain. The underdrain should be carried from the portal to the outslope of the fill material used in reducing the highwall to eliminate the saturation of that fill material. In other words the water must be safely conveyed to a point of discharge where it will not affect the stability of the fill material.

#### Disposal of Excess Spoil.

The operator has appropriately addressed this section of the regulations. Spoil materials developed in mining and reclamation activities will be incorporated in the fills along the cuts and highwalls to meet AOC requirements. No permanent excess spoil structures will be required in addition to the disposal of these materials along the cuts and highwalls of the facilities.

#### Disposal of Coal Mine Waste.

The operator has indicated that there are no permanent waste disposal structures for coal mine waste. This is considered adequate. Coal mine waste will be disposed of in a similar manner as stated above under the disposal of excess spoil.

#### Disposal of Noncoal Mine Wastes.

Similarly to the disposal of non-coal waste materials generated during the mining operations, the operator has indicated that non-coal waste materials will be disposed of in a similar manner during reclamation operations. The operator has indicated that noncoal waste materials will be disposed of by transporting the materials in approved waste disposal sites.

However, the operator needs to identify other noncoal waste materials that will be developed during reclamation activities which he may wish to dispose of on site. These types of materials include concrete, pavement, foundations or other materials which may be incorporated into the fill areas during backfilling and grading operations. Other materials such as steel, concrete or demolition materials that the operator intends on stowing in the mine workings should also be identified in the plan for such disposal. Disposal of these materials in underground workings is also subject to approval by MSHA and would require their approval.

The operator also needs to indicate that any noncoal waste material which is considered to be toxic or hazardous materials will be disposed of in accordance with federal, state and local regulations.

The operator has not proposed any permanent noncoal waste disposal sites within the permit area and therefore the requirements for the design of such a facility within the permit area is not required as part of this plan.

#### **-542.800. Reclamation Cost Estimate.**

The operator has not provided a Reclamation Cost Estimate in accordance with the requirements of this section.

The reclamation plan for the proposed coal mining and reclamation operations needs to include a detailed estimate of reclamation costs as described in R614-301-830.100 through R614-301-830.300.

The amount of the bond required for each bonded area will be determined by the Division and will depend upon the requirements of the approved permit and reclamation plan. Until such time as the reclamation plan is determined complete and technically adequate, this determination cannot be made.

In order for the Division to determine the bond amount, a detailed cost estimate must be submitted by the operator which reflects the probable difficulty of reclamation, giving consideration to such factors as topography, geology, hydrology and revegetation potential. Determination of the bond amount will be based on, but not limited to, the detailed estimated cost, with supporting calculations for the estimates, submitted by the permit applicant.

Detailed information regarding reclamation cost has yet to be submitted by the operator pending approval of the reclamation design. However the operator should note that as a minimum, the following information needs to be presented in the detailed cost estimate presented to the Division:

1. Bonding Maps showing the location and the extent of reclamation activities and bonding liability. Areas and subareas for different reclamation treatments should be clearly identified on the drawings and referenced in the calculations to show sufficient detail in the cost estimate.

2. Bonding calculations shall include mass balance calculations for general backfilling and grading and for topsoil distribution. Plans and cross sections should be sufficient to show landslope requirements to meet AOC conditions and to show that no disposal facility will be required to handle excess spoil. Backfilling and grading design and cost calculations should take into account equipment selection, productivity, and site conditions as well as compaction requirements, ripping, scarifying and other earthwork related activities.
3. Demolition and Removal should include the quantities and types of materials (steel, wood, concrete, mixture) for each structure or facility to be removed and the location (on-site or to an approved landfill) in which the material is to be disposed. Demolition and removal should also include the costs for removal of asphalt, concrete, guardrails, fences, utilities and other facilities to be removed in conjunction with reclamation operations.
4. Channel restoration and reclamation should incorporate the excavational requirements for channel construction and quantify the materials used in channel construction including filter bed/blanket materials and riprap. Differing channel sections should be identified and located on the reclamation drawings to determine quantity requirements.
5. Reclamation costs need to include the construction or installation costs of treatments to be installed during reclamation. These costs may include the installation of interim sediment control (straw bales and silt fences) modifications to sediment ponds, new diversions or collection ditches, catch basins, rock check dams, etc. Other installation costs may include the construction or reconstruction of roads, fences or other facilities to be left or constructed as part of the post mining land use.
6. The operator needs to differentiate between reclamation activities that will occur during Phase I and Phase II Reclamation. Phase II reclamation costs will primarily deal with the costs associated with the removal of sediment ponds, diversions and other sediment control facilities when no longer needed to achieve vegetation and water effluent standards. Additionally, the costs of reclaiming water monitoring wells should be included in Phase II Reclamation costs.
7. Maintenance and monitoring costs should be included in the cost estimate to reflect the cost to access, maintain and monitor the site throughout the bond liability period. Monitoring costs should be included to reflect the costs of water and vegetation monitoring. Maintenance costs should include those costs to periodically inspect the site and provide for infrequent repairs to surface drainage and sediment control facilities, weed control, and supplemental planting and seeding if required.

Once the amount of bond required for reclamation has been determined. The operator shall be required to submit bond in the form and amount as required by the Division. The operator shall be required to submit bond in the form of a Reclamation Agreement as required by the Division. Receipt of this Reclamation Agreement and the revised bond amount are required prior to approval of the permit renewal or as stipulated in the permit renewal.

**-550. RECLAMATION DESIGN CRITERIA AND PLANS.**

Each permit application will include site specific plans that incorporate the following design criteria for reclamation activities.

**-551. Casing and Sealing of Underground Openings.**

The operator has provided a commitment to address this section of the regulations by stating that permanent closure measures are designed to prevent access to the mine workings by people, livestock, wildlife, machinery and to keep acid or other toxic drainage from entering ground or surface waters.

The operator need to note here or be reference to R614-301-542, that these closures will be constructed in accordance with the requirements of the Division and consistent with MSHA, 30 CFR 75.1771.

**-552. Permanent Features.**

**-552.100. Small Depressions.**

The operator has indicated that small depressions will be constructed as needed to retain moisture, minimize erosion, create and enhance wildlife habitat, or assist revegetation.

No small depressions are found in looking at the reclamation contour maps and no small depressions are discussed within the text of the plan. Although the operator has indicated that there will be small depressions, some discussion of the nature and type of these depressions should be discussed within the text of the mining and reclamation plan.

**-552.200. Permanent Impoundments.**

The operator has adequately responded to the requirements of this section by indicating that no permanent impoundments will be left within the mine permit area.

**-553. Backfilling and Grading.****-553.100. Disturbed Areas.**

The operator has included a discussion of the disturbed areas and how they will be backfilled and graded to achieve the approximate original contour. In those areas where highwalls will remain as part of the post mining land use, the operator needs to reference section R614-301-553.650 (retention of highwalls) and discuss such retention in detail in that section of the plan.

The operator has indicated that the backfilling and grading operations will be graded to achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long-term static safety factor of 1.3 and to prevent slides, minimize erosion and water pollution both on and off the site, and support the approved postmining land use.

This section is considered to be adequate.

**-553.200. Spoil and Waste.**

The operator has indicated that spoil and waste materials will be compacted where advisable to ensure stability or to prevent leaching or toxic materials. The operator has also stated that the actual locations will be determined at the time of reclamation. More detailed information of the disposal of spoil and waste material is presented or will be presented by the operator elsewhere in the plan.

**Refuse Piles.**

The operator should state that no permanent disposal structures for refuse will be constructed within the permit area and that the requirements of this section of the regulations are not considered applicable to the plan.

**-553.300. Exposed Coal Seams, Acid- and Toxic- Forming Materials, and Combustible Materials.**

The operator has indicated that exposed coal seams, acid- and toxic-forming materials, and combustible materials exposed, used, or produced during mining will be adequately covered with nontoxic and noncombustible materials, or treated, to control the impact on surface and ground water in accordance with the regulations, to prevent sustained combustion, and to minimize adverse effects on plant growth and the approved postmining land use.

Although the above commitment by the operator meets the general requirements of this specific section of the regulations, design information and detailed information regarding the covering of the above materials needs to be addressed in the mining and reclamation plan. This information can be addressed under this section of the regulations or references to those sections where specific design information has been provided in the plan.

**-553.300. Backfilling and Grading: Covering Coal and Acid and Toxic-forming Materials - hs**

The operator refers to disposing of waste (i.e. coal, excess spoil, asphalt, exposed coal seams, underground development waste, acid and/or toxic-forming materials etc.) in a controlled manner to prevent combustion, ensure stability and prevent environmental degradation after reclamation. The applicant must specify the procedures and techniques employed to dispose of said material (i.e. commit to cover with four feet of suitable material or other approved method which have been adequately demonstrated). Additionally, disposal locations, must be tentatively identified or procedures employed to identify the most suitable location for disposal must be specified.

**-553.400. Cut-and-Fill Terraces.**

The operator has marked this section as "N/A". The operator should readdress the requirements of this section of the regulations by stating that Valley Camp does not intend on utilizing cut-and-fill terraces in conjunction with reclamation of the site.

**-553.500. Previously Mined Areas.**

The operator has indicated that there are no remining operations within the permit area.

This statement is not considered to be correct. Valley camp has conducted mining and reclamation activities which affect previously mined areas. By definition, "previously mined areas" are those areas previously mined in which there were no coal mining and reclamation operations subject to the standards of the Federal Act.

In those previously mined areas, the operator needs to locate and identify preexisting highwalls and their compliance with the requirements of this section of the regulations regarding regrading of settled and revegetated fills to achieve approximate original contour, grading and topsoil replacement, disposal of underground development waste, and backfilling and grading requirements under steep slope mining conditions.

The requirement of the elimination of highwalls will not apply to remining operations where the volume of all reasonably available spoil is demonstrated in writing to the Division to be insufficient to completely backfill the reaffected or enlarged highwall. The highwall needs to be eliminated to the maximum extent technically practical in accordance with the following criteria:

1. All spoil generated by the remining operation and any other reasonably available spoil shall be used to backfill the area. Reasonably available spoil in the immediate vicinity of the remining operation shall be included within the permit area.

2. The backfill will need to be graded to a slope which is compatible with the approved postmining land use and which provides adequate drainage and long-term stability.
3. Any highwall remnant must be shown to be stable and not pose a hazard to the public health and safety or to the environment. The operator needs to demonstrate, to the satisfaction of the Division, that the highwall remnant is stable.
4. Spoil placed on the outslope during previous mining operations will not be disturbed if such disturbances will cause instability of the remaining spoil or otherwise increase the hazard to the public health and safety or to the environment.

**-553.600. Approximate Original Contour.**

The operator has requested variance approval for postmining slopes as shown on the drawings listed in the plan which include the Belina Haul Road and the Belina Mine site.

Insufficient information has been presented by the operator to determine that a variance from AOC requirements is justified. The operator needs to describe and ensure to the Division that these requests are in accordance with R614-302-270 and that the incomplete elimination of highwalls in previously mined areas in accordance with R614-301-553.500.

In providing justification for retention of highwalls, the operator must determine that the "retained" highwall is not significantly greater in height or length than the dimensions of existing cliffs and the surrounding area; the residual highwall is similar in structural composition to the preexisting cliffs in the surrounding area and is compatible with the visual attributes of the area; and, the residual highwall is compatible with the geomorphic processes of the area.

**-553.900. Settled and Revegetated Fills.**

For the purposes of this section, the operator needs to be more specific in the identification of areas where the regrading of settled and revegetated fills at the conclusion of coal mining and reclamation operations will not be required if the conditions of R614-301-537.200 are met. It is apparent in the reclamation design of the operator that there will be such fill areas. These areas include, the fill outslopes along roads, some embankment outslopes, areas which may be contemporaneously reclaimed and may eventually meet standards for bond release, and other miscellaneous fills and embankments that will not require additional regrading.

**R614-301-600. GEOLOGY.****-623.200. Detailed Geologic Information.**

The applicant has provided submitted Map R614-301-722.100b, Ground Water Contour Map, scale (1":2000'); Map R614-301-621a, General Geologic Map, scale (1":2000'); Map R614-301-724.100a, Surface and Ground Water Rights, scale (1":2000'); Map R614-301-622.100a, Drill Hole and Gas Well Locations, scale (1":2000'); Map R614-301-622.200b-e, Coal, Interburden and Overburden Isopach Maps, scale (1":2000'); Map R614-301-521.111, Pleasant Valley Mining District, scale (1":2000'); Map R614-301-728.100a, Subsidence Base Map, scale (1":500'); Map E1-0002, Belina #1 Mine Progress Map, scale (1":500'); Map D2-0060, Belina #2 Mine Progress Map, scale (1":500'); and cross-sections R614-301-622.200a-m, Geologic/Hydrologic and Stratigraphic Cross-sections.

These maps as presented do not give the detail to assess the interaction of subsidence from mine development and hydrologic occurrences. The information on the above mentioned maps should be enlarged to overlay critical information for detail and analysis.

**620 & 624.220. Geology Description - hs**

The operator must commit to regularly sample roof, floor and mid-seam material for acid- and/or toxic forming potential. The applicant's commitment must include sampling frequency and location, specific parameters and methodology of analysis. In addition the plan must commit to conduct monitoring on an annual basis or more, if the general location of the mining operations change and this change results in a modification to the quality of the roof, floor and mid-seam.

Additionally, verbage regarding previously collected data found in Volume I, Section R614-301-623.100 must be consistent and accurate. The data found in Table R614-301-623.100a must be clearly identified as to its source (coal, roof and floor material, soil, etc.), sample site location and laboratory methodologies utilized. Statements regarding the presence or absence of acid and toxic-forming materials must be substantiated and verified.

**-632. Subsidence Control.**

The applicant will be required to establish an updated subsidence control plan. The baseline information for the new subsidence control plan shall be collected by September 30, 1990. All baseline data, information and maps shall be submitted to the Division by December 31, 1990. The plan should explain past subsidence monitoring practices and define the methods and procedures to establish a new subsidence monitoring plan. The applicant should supply baseline data or information from the Forest Service subsidence control plan.

**R614-301-700. HYDROLOGY.**

**-711. General Requirements.**

A bibliography of the literature cited for this section should be included.

A table of contents for the permit including a list of maps, a list of tables, and a list of figures should be included to facilitate review. The Appendix should have a table of contents and the operator is requested to label the map pockets for each map.

In general, references as N/A in narrative sections should be revised to specify the proposal or reference another appropriate section of the permit. For example, under refuse pile regulations, the application should state that no refuse piles are proposed for this permit term.

**-712. Certification.**

See review comments under R614-301-512.

**-713. Inspection.**

See review comments under R614-301-514.300.

**-721 Environmental Description: General Requirements.**

The application should include the 1979 Vaughn Hansen Baseline Hydrology report as an Appendix to the MRP.

**-722 Cross Sections and Maps.**

**-722.200.** The operator should propose in the response to conduct a complete seep and spring inventory during the 1990 season. Map 100a (or similar) should be updated to include the results of this and previous inventories. Currently, this map depicts springs on the USGS topographic base and the operator's monitoring stations.

Irrigation diversions and stock ponds should be depicted on an appropriate plate.

**-722.300.** Map 722-100a should correct the discrepancy on the locations of VC-4 and VC-5 (see monitoring data sheets in Appendix). Also, data collected from stations that have been dropped from the current monitoring plan should be included in the application (data and narrative). These stations should be depicted on this map or a map of similar scale.

**-724. Baseline Information.**

**-724.100.** The narrative in this section states that all mine waters pass through pond 005a prior to discharge to Whiskey Creek. In 1986, approval was granted to Valley Camp to construct a 6" bypass line to bypass waters from abandoned sections directly. This narrative should be revised to include the operation of this system.

**-724.100. - dd**

The applicant should summarize ground water parameters for wells, in-mine and spring monitoring sites on graphs to indicate the seasonal variation or changes over the total monitoring period.

As committed to in Condition 3 of the permit approval Valley Camp was required to submit an annual summary of the in-mine water monitoring program, along with a map indicating locations of in-mine water sources. The applicant should identify in-mine ground water sources and locations such as fractures, channel sands and roof or floor seepage.

**-724.200.** This section discusses direct impacts to Whiskey Creek. Narrative should be added to discuss the impacts to Eccles Creek via discharge of road drainage.

The surface water description should delineate and classify the streams in the area (e.g. perennial, intermittent, ephemeral, State Health Classification, etc.).

The operator should include a discussion of the water quality data relative to operation changes as appropriate (e.g. site construction, pond construction, road paving, production changes, seam changes).

Data sheets for the water monitoring program contained in the Appendix should be reviewed for completeness. For example, VC-001 data from 1983, data from 1975 through 1980, data in 1984 (nearly all stations), and data from stations not currently in monitoring schedule (previously monitored sites).

The data summary tables (i.e. R614-301-731.211a) should be identified as to the period of record. The tables should be reviewed for completeness relative to the number of samples and parameter values (i.e. flow parameter indicates samples without values).

The cation-anion diagrams presented on Map 100a should be discussed (summarized). This discussion should include a description of the data set used for development and a conclusion of the analysis.

The operator should update the water rights information to be current with this permit renewal date. The narrative in section 728.100 should be updated to include a discussion on uses other than stockwater.

Page 19 references section 728 for a discussion of the reclamation. This section does not fully discuss the reclamation plan. The reclamation plan should be specifically cited in this discussion.

**-724.500.** Supplemental information. If, following response to staff member Henry Sauer comments, it is determined that acid-forming or toxic-forming material is present that may result in the contamination of ground-water or surface-water supplies, then this section must be addressed.

**-725.100. Hydrology - dd**

Ground water data should be summarized (on graphs) from the time of initial baseline monitoring to present. This summary will be necessary to evaluate cumulative impacts to the ground water system. Impacts to the ground water system have not been completely addressed in Section 700. More information on subsidence is expected with the submittal of other Permit Application sections.

The applicant should characterize well data information. A table should identify well elevation, depth, formation, zone of perforation, type of casing, use and production.

The applicant should characterize the aquifer below the mine and establish methods of identifying potential or actual contamination from operating mining operations.

**-728. Probable Hydrologic Consequences (PHC) Determination.**

**-728.100.** The permit application does not contain a determination of the PHC of the proposed coal mining and reclamation operation upon the quality and quantity of surface and ground water under seasonal flow conditions for the proposed permit and adjacent areas.

This section discusses the number of springs with the use identified as stockwatering. Other uses should be identified in this section.

Page 24, paragraph 1, discusses springs in the area and impacts to flows in Boardinghouse canyon. This discussion is unclear. The area of reconnaissance should be defined. Are all 13 springs in the Boardinghouse Creek drainage? Would this type of discussion be appropriate for other drainages in the area?

The discussion on beginning on page 26, last paragraph, could be supported with data collected to date from the mine discharge. Discharge summaries should be provided for the TSS, TDS, Oil and Grease samples for the NPDES discharge points.

The spring depletion curves submitted to the Division should be included in the PHC with a narrative analysis. The entire set of curves need not be submitted, but those that provide supportive information in the PHC statement should be discussed.

- 728.310. The PHC discussion presented discusses potential impacts from subsidence, mine dewatering, and affects on water rights. The PHC should include a discussion on probable impacts to the surface water system for operational and reclamation activities (e.g. TSS and SS impacts, TDS impacts (road salting), road drainage impacts, oiled stoker coal, etc.)
- 728.320. The PHC determination does not include a finding on whether acid-forming or toxic-forming materials are present that could result in contamination of surface- or ground-water supplies.
- 728.330. The application should discuss what impact the proposed coal mining and reclamation operation will have on:
- 728.331. Sediment yield from the disturbed area,
- 728.332. Acidity, total suspended and dissolved solids and other important water quality parameters of local impact, and
- 728.333. Flooding or streamflow alteration.
- 731.100. **Operation Plan: Hydrologic Balance Protection.**

Sections R614-301-731-111 and 121 needs to be revised to correct the statement that all disturbed areas report to a sedimentation pond for treatment.

Specifics should be given for the discussion in paragraph two of this section. A spill prevention control plan could be referenced as available.

- 731.200. **Water Monitoring. - dd**

The operator will be required to conduct a complete spring and seep survey to compare changes from current mining conditions to baseline conditions, as well as establish sites of new discharge.

**-731.200. Water Monitoring.**

-731.211. The permit application should discuss the basis of the ground-water monitoring plan relative to the specifics of this regulation.

(Table R614-301-731-221a) should add dissolved iron for ground water samples.

Section R614-301-731.211, p. 34, pp. 5 discusses an in-mine monitoring program. Where is the data from this program and the results of the program to date?

**-731.220. Surface Water Monitoring.**

-731.221. The monitoring plan presented does not identify the intent of the monitoring relative to the PHC determination and analysis of the baseline information, suitability of the water for current and postmining land uses, and relation to effluent limitations. The stations should be identified as to the specific impact(s) intended to be monitored. How were the sites selected for inclusion in the program? The sites should be based upon analysis of data.

This section should also include narrative on the monitoring points relative to the NPDES permit and discussion of effluent limitations (Federal and State). NPDES stations should be located on Map R614-301-722.100a. The discussion should include NPDES sampling frequency, permit numbers, and reporting to DOGM in this section. The statement in paragraph two of section 731.221 needs more specifics relative to the State Department of Health "standard limitations" and "designated uses". This could be provided in a Table format for Division review.

As per Division monitoring guidelines, a comprehensive baseline parameter analysis (Division guideline list) for each monitoring station must be submitted for permit renewal.

The plan should discuss proposed monitoring station additions as necessary for the next permit term. These stations should be based on projected mining sequences.

-731.222. The current submittal states the comprehensive parameter list was developed from DOGM guidelines minus those parameters shown to be less than standard limitations developed by the State Department of Health for designated uses (section R614-301-731.221). This statement needs clarification as to the specific "standard limitations" values and the definition of designated uses. It appears as if the comprehensive list

has been abbreviated significantly from the original MRP list (Figure 3-12) and the current DOGM guideline. For example, metals, phenols, BOD values, coliforms, etc. have been discontinued. As per regulation R614-301-731.224, the modification of the monitoring plan must be based upon a demonstration from the operator using monitoring data previously obtained.

The analytical schedule (Table R614-301-731.221a) should contain a cation-anion balance for quality assurance.

The application should contain a discussion of the reporting format for monitoring data to include date and time of collection, date of analysis, analysis method, detection limits, etc.

Oil and Grease samples should be collected for each sample date at stations downstream from probable impact sites (VC-4 and VC-1).

Table R614-301-731.221a should be revised to include collection of dissolved oxygen, SS ~~###~~le solids, and total suspended solids for each sample collection in April, May, June, and July. The iron, manganese, and total hardness parameters should be sampled at high flow. Table R614-301-731.211a should be revised to reflect this intent. A review of the flow records indicates that the high flow rarely occurs in the month of July.

The application does not describe how the monitoring data will be used to determine the impacts of the operation as required by subsection 731.222. The discussion should include the frequency that the analysis of the data will be done. The impacts should be referenced to those identified in the PHC. For example, the statement that trends will be identified through plotting should be specific (e.g. plot of mean values, quarterly means, individual samples, stratification of samples by impact source/environment, etc.). This would be an appropriate section to reiterate the use of spring depletion curves required under the original permit approval.

DOGM files indicate that the operator previously committed to monitoring springs in perched zones at least one year prior to mining in that area. The monitoring plan should be reviewed at this permit renewal to determine if additional monitoring stations are needed based upon the projected mining for the next permit term. For example, documentation indicates that VC-13 was dropped from the monitoring plan during the last permit term because it was outside the projected 5 yr. mine plan. Is it appropriate to include this site for this renewal? Adjustments to the monitoring plan should be referenced to projected mine sequence maps.

- 731.222.2. The monitoring discussion in section R614-301-731.221 should be revised to include the point-source monitoring as per the NPDES permit. This discussion should include locations, frequency, parameters, methodology (e.g. flume at pond 005a), and reporting.

Section R614-301-731.223 should be revised to state that the surface water monitoring data will be submitted to the Division on a quarterly basis.

- 731.225. This section should identify any equipment, structures and other devices currently used in conjunction with monitoring the quality and quantity of surface water on-site and off-site.

- 731.300. Acid- and Toxic- forming Materials.

The operator must commit to addressing 731.310 through 731.320 if acid- and toxic-forming materials are identified at the operation.

- 731.400. **Transfer of Wells.**

The operator should state in this section that no well transfers are proposed for this application.

The operator should specify that the wells will be closed during final abandonment in accordance with the current "State of Utah, Administrative Rules for Water Well Drillers, Division of Water Rights". This language should be also be added to R614-301-748 or referenced in that section.

The operator should add language to the permit that states all exploration, monitoring and water wells will be sealed. This would be appropriate in section R614-301-748 with the inclusion of that language in the narrative.

- 731.510. **Discharges into an underground mine.**

No discharges to underground works are proposed for this operation.

- 731.520. **Gravity Discharges from UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES.**

The application references the post mining sealing of the mine portals in the section related to mine reclamation. This reference should be specific. In any event, no portal seal designs could be located.

The application should address the potential for mine discharge following mine closure. If discharge is possible, the application should provide details of the measures to be used to control the discharge (i.e. portal seal design) and discuss the probable water quality of the discharge.

-731.521. In addition to the information requested under section 500, the operator should discuss and summarize data collected to date for the mine discharge to demonstrate that the untreated or treated discharge complies with the performance standards of R614-301 and R614-302 and any additional NPDES permit requirements.

**-731.700. Cross Sections and Maps.**

Each application will contain for the proposed permit area:

-731.710. The operator should provide a map (or revise 731.720A) showing the locations of water supply intakes for current users of surface water from the ValCam loadout to Scofield Reservoir. This map should correlate with an updated water rights listing.

-731.720. The operator should provide a certified map or revise an existing map to showing the locations of each water diversion, collection, conveyance, treatment, storage and discharge facility (e.g. sewage treatment, mine discharge lines to pond 005A, 6" bypass line, yard drains, etc.).

-731.730. Each NPDES sample point and all previously monitored stations need to be identified on an appropriate map. The locations of VC-4 and VC-5 (map 100a) conflict with the data sheet descriptions.

-731.750. The cross-section 2b - 2b' for sediment pond 002A (map R614-301-731.750a) should be extended to the centerline of Mud Creek.

Map R614-301-731.750b contains a drafting error on Pond 003A embankment top.

The cross-section and planimetric view for pond 004A (4A - 4A') contains discrepancies relative to the embankment top elevation and the 25 yr. - 24 hr. storage elevation.

**-732.400. Road Drainage.**

-732.420. The permit application does not contain a description of measures, other than use of a rock headwall, to be taken to protect the inlet end of a ditch relief culvert.

**-733. Impoundments.**

**-733.110.** The applicant should revise the statement in the MRP, section R614-301-733.110, page 40 and provide a certification as requested under 301-512 of this document. In general, all designs, maps, and plans must be certified. The Appendix calculations should contain a certification lead sheet for each calculation section.

**-733.130.** The ponds are exempt from the requirements of 30 CFR 77 due to the size not the timing of construction.

The narrative on page 41 relative to the operation of the decant caps should include a commitment to retain all water in the ponds for a minimum of 24 hours and until effluent limitations are met.

Section 744.200 requires that discharge structures and energy dissipators be designed according to standard engineering procedures. Designs for the energy dissipators for the sediment pond outfalls should be submitted.

Page 43 discusses a plan to protect the outslope of Pond 002A. Details of the proposed riprap and design should be submitted with a schedule for installation.

**-733.200. Permanent and Temporary Impoundments.**

**-733.210.** This section should be revised. Ponds currently in use are not exempt from current regulations. The ponds at Valley Camp are exempt from the requirements of 30 CFR 77.216-1 and 2 due to the size of the impoundment, not the timing of construction.

**-733.220.** The operator does not propose any permanent impoundments for the Valley Camp site.

**-740. DESIGN CRITERIA AND PLANS.****-742.220. Sedimentation Ponds.**

**-742.221.** The narrative in section 742.221.3 (page 58) should be revised to include a summary of pond 004a. The discussion should be similar to the other ponds and include design water elevation, freeboard, top of embankment, sediment volume elevation, etc.

**-742.221.3.** The stage-volume curve presented in the Appendix is in error. Sheet 4/7 is titled "Pond 2A" with notation below that curve showing "Pond 3A".

There exists some discrepancies relative to the elevations for Pond 004a. For example, sheet 7/7 of the Appendix shows an emergency spillway elevation of 8876.3 with Maps 750b, 750f and pg 1/4 (hand calculations) presents 8875.9 feet. Map 731.750b shows a top elevation of 8878 ft., while cross-section 4A - 4A' shows 8878.2 feet.

Pond 003a (map 731.750b) shows the top of embankment at 7869' with notation. This should be corrected.

In general, the plan should be checked for consistent elevations between designs, maps, cross-sections, and text narrative.

The application should state that any modifications to the emergency spillway and embankment elevations (Ponds 002A and 004A) to meet design criteria will be completed in the construction season of 1990.

The design for the spillway for Pond 004A needs some detail. The design cannot be approved based upon past performance due to the low probability that the spillway has experienced a 25 yr. - 24 hr. design event. In any event, the regulations require that the spillway be designed to safely pass the design event. The spillway design can address capacity, existing rip rap lining sizes, expected design velocities and expected stability of the existing spillway.

-742.222. No sedimentation ponds are proposed that meet the size or other qualifying criteria of the MSHA, 30 CFR 77.216(a).

-742.240. **Exemptions.**

The operator should propose to collect samples of the drainage from the ASCA areas for analysis for total suspended solids and settable solids.

-742.300. **Diversions.**

-742.310. **General Requirements.**

Map 731.720d contains a label error for diversion D-345B.

Page 66, paragraph 1, discusses curve numbers used in the design. It is stated that undisturbed curve numbers were based on 75 and 70. Designs in the Appendix utilize some curve numbers as low as 40. A general statement of the hydrologic soil groups used in the CN determinations should be cited.

The discussion on page 66 relative to the design of the Belina Haul road diversion states that due to the concrete lining, designs are not necessary. Designs should be submitted demonstrating flow capacity and freeboard.

- 742.313. The operator should discuss the sequence and timing for the removal of the diversions. The plan should specify which diversions will remain for the Phase I (bond release) period of reclamation. The plan should specify the removal of those diversions prior to final abandonment and should specify which diversions (and culverts) are proposed as permanent structures. The MRP should provide a plan to restore the land disturbed by the removal process in accordance with R614-301 and R614-302 and discuss the timing of sediment control facilities downstream in accordance with this section.

Volume IV - Channel Reclamation should contain details on the permanent channel design relative to restoration of the approximate premining characteristics of the channel. This narrative should discuss the use of premining maps/photos and include plans for riparian vegetation species in the reclamation.

The plan should contain designs for restoration of fish habitat values in the vicinity of the haul road culvert removal. These plans should include designs to ensure adequate fish passage.

**-742.330. Diversion of Miscellaneous Flows.**

The applicant should address the undisturbed drainage immediately upslope from diversion D-1 (reference Map R614-301-731.720a) and the fate of the drainage for diversion UDD-4 (reference Map R614-301-731.720d).

**-742.400. Road Drainage.**

**-742.423. Drainage Control.**

- 742.423. The narrative discusses trash racks, however, the submittal should specify where the trash racks will be located relative to culvert ID.

- 742.423.1. The sections relative to road drainage and designs need to be carefully reviewed and edited. Due to the number of discrepancies in this section, it has not been reviewed completely and will be addressed following resubmittal. The following are examples of discrepancies found in those sections:

Designs for diversions D-20 through D-28 could not be located in the application.

Map 731-720b shows culvert C-12-48. This conflicts with the design section.

The design section has designs for both C-21-48 and C-21-52. These conflict.

No designs for culvert C-26A-24 were located in the design section.

Maps 731-720c and map 731-720d conflict relative to the labeling and locations of C-25-36 and C-28-24.

Designs are included for culvert C-40-42 as a permanent structure, however, Volume VI presents plans for channel restoration.

The Appendix designs labels several designs as "Permanent Structure". It is unclear as to the intent of this nomenclature (i.e. life-of-mine or remaining following final closure). The application should specify which structures are to remain as permanent facilities and those structures should be designed using 100 yr. - 6 hr. criteria.

It appears as if duplicate calculations for some structures in the Appendices were not removed from the application.

#### **-744. Discharge Structures.**

**-744.100.** Discharge from sedimentation ponds, permanent and temporary impoundments, coal processing waste dams and embankments, and diversions will be controlled, by energy dissipators, riprap channels and other devices, where necessary to reduce erosion to prevent deepening or enlargement of stream channels, and to minimize disturbance of the hydrologic balance.

**-744.200.** Discharge structures will be designed according to standard engineering design procedures.

#### **-746. Coal Mine Waste.**

The narrative in the MRP, Volume II would be more appropriate in section 301-528.300 and referenced in this section. The applicant should provide the MSHA approval documentation for disposal of the waste underground. Additionally, the operator should be aware that without approval for a surface storage site for the coal mine waste, enforcement action would be probable for any waste brought to and stored on the surface.

The operator should provide a disposal area for refuse in accordance with this section. If a surface disposal area is proposed, then the requirements of this section (R614-301-746) should be addressed.

**-747. Disposal of Noncoal Mine Waste.**

This discussion should be located in section 301-528.330 of the MRP and referenced in this section.

**-752. Sediment Control Measures.**

A reclamation drainage plan should be provided in the MRP. At the ValCam facility, the existing sediment ponds (or new ponds as appropriate) should be retained at the site for Phase I reclamation sediment control. The plan should reflect the permit area drainage plan for Phase I reclamation and final abandonment including drainage areas, alternative sediment controls, interim and permanent diversions and culverts.

**-752.200. Road Drainage.**

The MRP presents designs for the reclamation of the large fill drainage channel ("the bowl"). However, designs for the reclamation of the remaining drainages along the road were not submitted. These drainage restoration designs should be submitted demonstrating ability to pass the 100 yr. - 6 hr. event.

**-752.210.** The application should address the specific measures for each specific road for vegetating or otherwise stabilizing all exposed surfaces during the operational phase.

**-760. RECLAMATION.**

**-761.** In general, the reclamation plan needs to be more specific. It is understood that the final plan is awaiting finalization of the engineering sections. The plan should address drainage and sediment control for each reclamation phase, removal and retention of structures, interim sediment controls, restoration of all drainage channels (including designs), portal closure and post-mining water treatment facilities (as needed), and a timetable for each sequence in the reclamation.

For permanent drainage structures, the applicant should make a commitment to renovate the structures to the original design specification prior to final abandonment of the site.

**-762. Roads.**

Section R614-301-760 thru R614-301-765 does not address the reclamation of the Haul road culvert at Eccles Creek. With removal of the haul road, the culvert cannot be approved for retention in conjunction with that haul road as part of the postmining land use. Section 301-553 states this culvert will be removed (pg. 37, Chapter 5), however, designs are presented for retention of the culvert (i.e. 100 yr. - 6 hr. event). Please clarify. If the culvert is to be removed, the design for reconstruction must be in accordance with DOGM regulations and designs should be submitted. These designs should include capacity and stability criteria and fish habitat values (i.e. fish passage and riparian restoration). If the culvert is to remain, approval should be obtained under the criteria for postmining land use.

The reclamation plan should address the reclamation of the all drainage channels affected by road reclamation.

**-763. Siltation Structures.**

**-763.100.** The reclamation drainage plan requested previously should incorporate the requirements of this section and 763.200. (i.e., siltation structures will be maintained until removal is authorized by the Division and the disturbed area has been stabilized and revegetated and regrading and revegetation of removal area).

**-764. Structure Removal.**

A reclamation timetable for the removal of hydrologic structures was not discussed in this section or referenced to an appropriate section. The timetable should include retention of sedimentation control (including ponds at the ValCam area) until revegetation and regrading requirements are met and include scheduling for removal of the hydrologic control structures (e.g. the retention of UDD-2, etc. for access to the site and removal during Phase II reclamation). The timetable should reflect retention of sediment ponds and controls during Phase I reclamation, final removal of sediment control facilities, removal of reclamation phase diversions and access roads, and water monitoring commitments.

**-765. Permanent Casing and Sealing of Wells.**

The operator does not propose to transfer any wells on the permit area. The application should provide details of the permanent well closure and sealing to demonstrate compliance with this regulation and R614-301-529.400, R614-301-631.100, and R614-301-748.

**R614-302-320. ALLUVIAL VALLEY FLOORS.****-321.100-300 Alluvial Valley Floors - hs**

The applicant must submit at a minimum, the following information to demonstrate the probable existence and extent of an alluvial valley floor.

- (c)(1)(i)** Adequate geologic information necessary to define the clast characteristics and the sedimentary pattern of Unconsolidated Stream Laid Deposits adjacent to and within the Valcam Loadout Facility permit area.
- (c)(1)(ii & iii)** The PAP must incorporate a map that clearly delineate currently or historically flood irrigated areas (i.e. shows diversion structures, headgates, impoundments). Areas with various types of agriculture activities (pasture lands, improved pasture, undeveloped rangeland, etc.) must be mapped and accompanied by measurements of vegetation in terms of productivity and type. These maps must encompass both the Valcam Loadout Facility permit area and adjacent areas.
- (c)(1)(iv)** The applicant must provide documentation that the area adjacent to and within the Valcam Loadout Facility permit area are, or are not, subirrigated, based on ground water monitoring and soil moisture data.
- (c)(1)(v)** The applicant must provide documentation that areas identified are, or are not, flood irrigable, based on streamflow, water quality, water yield, and topographic characteristics.
- (c)(1)(vi)** Provide a series of aerial photographs, to include infrared imagery at a time of year to show any late summer and fall differences between upland and valley floor vegetative growth and a scale adequate for reconnaissance identification of areas that may be alluvial valley floor.

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