

0022

### Document Information Form

Mine Number: C/007/007

File Name: Incoming

To: DOGM

From:

Person N/A

Company N/A

Date Sent: June 24, 1987

Explanation:

INITIAL COMPLETENESS REVIEW

\_\_\_\_\_

\_\_\_\_\_

cc:

File in:  
C/ 007, 007, Incoming

Refer to:

- Confidential
- Shelf
- Expandable

Date \_\_\_\_\_ For additional information

ACT/007/007

INITIAL COMPLETENESS REVIEW  
Coarse Refuse Expansion  
Kaiser Coal Corporation  
Sunnyside Mines  
ACT/007/007, Carbon County, Utah

June 24, 1987

UMC 771.23 Permit Applications - General Requirements for Format and Contents (PGL)

Maps and Plans - General Requirements (PGL)

A map showing the configuration of the pile at the midpoint of the life of the pile with details of underdrain construction, roads, sediment control and contemporaneous reclamation must be provided.

The map indicating the coarse refuse area must show the area under consideration and extension of refuse roads, the boundaries of the Carbon Railroad Right-of-Way and any other utility or right-of-way corridors.

UMC 771.27 Verification of Application (PGL/JRF)

A responsible official of the applicant must verify under oath that the application to amend the mine permit is true and correct to the best of the official's information and belief. This verification must be contained in the application.

UMC 782.14 (a)3 (PGL)

The applicant is self-bonded and has filed for Chapter 11 bankruptcy. The expansion of the coarse refuse pile will need to be covered by a surety or bond.

UMC 782.15 Right of Entry and Operation Information (PGL/JRF))

The application does not adequately describe the right of entry information for the new lands being added to the permit area. The type, date of execution, identification (i.e., description) of the specific lands and the legal rights claimed must be included in the application. Do any restrictions such as rights of way or liens in the Right of Entry ex

UMC 782.16 Relations For Minir

- File in:
- Confidential
- Shelf
- Expandable

able

The application c  
address this regulat

Refer to Record No. 0022 Date \_\_\_\_\_  
In C/ 007, 007, Incoming  
For additional information

n. Please  
7.

ACT/007/007

INITIAL COMPLETENESS REVIEW  
Coarse Refuse Expansion  
Kaiser Coal Corporation  
Sunnyside Mines  
ACT/007/007, Carbon County, Utah

June 24, 1987

UMC 771.23 Permit Applications - General Requirements for Format and Contents (PGL)

Maps and Plans - General Requirements (PGL)

A map showing the configuration of the pile at the midpoint of the life of the pile with details of underdrain construction, roads, sediment control and contemporaneous reclamation must be provided.

The map indicating the coarse refuse area must show the area under consideration and extension of refuse roads, the boundaries of the Carbon Railroad Right-of-Way and any other utility or right-of-way corridors.

UMC 771.27 Verification of Application (PGL/JRF)

A responsible official of the applicant must verify under oath that the application to amend the mine permit is true and correct to the best of the official's information and belief. This verification must be contained in the application.

UMC 782.14 (a)3 (PGL)

The applicant is self-bonded and has filed for Chapter 11 bankruptcy. The expansion of the coarse refuse pile will need to be covered by a surety or bond.

UMC 782.15 Right of Entry and Operation Information (PGL/JRF))

The application does not adequately describe the right of entry information for the new lands being added to the permit area. The type, date of execution, identification (i.e., description) of the specific lands and the legal rights claimed must be included in the application. Do any restrictions such as rights of way or liens in the Right of Entry exist currently?

UMC 782.16 Relationship To Areas Designated Unsuitable For Mining (JRF)

The application does not address this regulation. Please address this regulation specifically and completely.

UMC 782.19 Identification of Other Licenses and Permits (PGL)

A reference has been made to MSHA requirements of the pile. The applicant must submit the MSHA-approval for the coarse refuse expansion.

UMC 783.15 Ground Water Information (RVS)

The application lacks data to document the ground-water source for the coarse refuse toe seep. The description of the ground-water hydrology must contain data that delineate the water quality and depth below the surface and horizontal extent of the coarse refuse aquifer. The Division recommends installing piezometers to derive the requisite data for the coarse refuse ground-water characterization. The data must be portrayed on a contour map in accordance with UMC-783.25(p).

UMC 783.16 Surface Water Information (JRF)

(b)(2) The application does not completely describe the surface water system in the expanded Coarse Refuse Area or adjacent areas. The plan must contain water quality and quantity for the receiving stream (Icelander Wash). Additionally, the data present in Exhibit 2 should correspond with monitoring locations on the hydrology map. As presented, the data in Exhibit 2 is difficult to review. Seasonal variations in flow and quality cannot be determined.

UMC 783.17 Alternative Water Supply (JRF)

The application does not incorporate data that identify the extent to which the proposed coarse refuse extension may proximately result in leaching and contamination of water. If data indicate contamination may occur, then the application must identify alternative sources of water supply for replacement.

UMC 783.19 Vegetation Information (KM)

(a) Page 21 of the plan indicates that qualitative determinations of the vegetation types would not be made. This should be changed to indicate that quantitative sampling would not be made. Qualitative description has been provided.

UMC 783.20 Fish and Wildlife Resources Information (KM)

(a) The plan sites general wildlife information presented in the Sunnyside MRP. No site specific references are made to evaluate the relative importance of the expansion area for wildlife, e.g., deer and elk. While it is not desirable to repeat the general information from the MRP, Chapter 10, it is necessary to relate this information to the expansion area. For example: What is the value of the area to deer? Do they use the disturbed area vegetation? Where is critical deer habitat in relation to the expansion area and the old refuse road? Was the expansion area specifically surveyed for prairie dogs? Tree nesters? When?

A discussion of these other issues should include not only the expansion area but reactivation of the old coarse refuse road.

The wildlife map (Plate X-1) has an unlabelled solid line in the vicinity of the expansion area. What does this line indicate?

UMC 783.21 Soil Resource Information (DD)

(a)(1) Map E4-032 does not clearly delineate the strych very stony 3-30% soil type within the proposed coarse refuse expansion area. For clarification, either extend the soil type boundary line to encompass the refuse boundary, or put several more symbols for this soil type at other locations inside and outside the refuse boundary to help delineate the extent of this soil type.

(a)(3) The applicant must provide soil profile descriptions for the two soil types within the coarse refuse expansion area.

(b) Approximately 430,000 cy of topsoil will be required for final reclamation of the completed refuse disposal area. This will require 120,000 cy from alternate borrow areas. Please provide for the alternate soil borrow areas as follows:

- 1.- A map identifying the borrow areas to be used for reclamation of the coarse refuse expansion area. Plate VIII-1 of the Sunnyside permit shows three borrow areas. Plate III-1, 1 of 3 of the Sunnyside permit has three industrial borrow areas, 1 soil borrow area and a borrow area.
- 2.- Delineate extent of the borrow areas and volumes of material available.

- 3.- Soil identification and soil profile descriptions of the borrow areas.
- 4.- Chemical and physical analysis of the borrow materials to be used.
- 5.- The applicant must also discuss how much excess soil borrow material will then be available for reclamation of the Sunnyside permit area.

UMC 783.24 Maps: General Requirements (PGL/JRF)

The applicant must identify the maps referred to in the permit application by Sunnyside permit volume number and map number.

The applicant should identify (as noted in UMC 782.15) any right of way boundaries contiguous or within the permit area, including the Carbon County Railroad. Otherwise, the applicant should specify that no other boundaries exist.

It appears that the T14S is in error on the coarse refuse expansion area maps, or in the ownership map in the mine permit. Please rectify this error.

(g) The plan must contain the locations of water supply intakes (if any) for current users of surface waters flowing into, out of, and within the hydrologic area and those surface waters which will receive discharges from affected areas in the proposed mine plan area. If this information is present in the approved MRP, please reference by map or page number.

UMC 783.25 Cross Sections, Maps, and Plans (JRF/PGL)

The proposed subdrain and bench configurations (drawings No. E4-033, E4-029 and E4-030) do not reflect the same design as in Exhibit V, which was prepared to justify the stability. This discrepancy must be addressed and justified.

The applicant should include profile design details of the outlet of the under drain at the railroad embankment, the entire under drain profile, and protection of the under drain from contamination during and shortly after construction.

The applicant should show the design drawings and profiles after 5 years and the midpoint of the life of the facility showing contemporaneous reclamation completed, sediment control, all grades, etc.

(b) The elevations and locations of all water monitoring stations must be located on a map. The application references drawing E4-031 must contain this information. The drawing does not meet the requirements of this regulation as the map should show the point at which the site is monitored.

(e) A cross section and plan view of the existing coarse refuse subdrain culvert must be submitted.

(j) The applicant should address the location of any oil and gas wells that may be in the area. If there are none, this should be stated.

UMC 784.11 Operation Plan: General Requirements (PGL)

The applicant suggests that the fill be classified as a valley fill, but, often regards the pile as head-of-hollow and provides information concerning all these regulations. If the pile was reclaimed prior to its projected life, it could be classified as a valley fill. This should be stated in the MRP.

(a) Does the estimate of plant reject include dewatered fine refuse? What is the anticipated volume of underground development waste?

(b) What type of equipment will be used to develop 90% dry density compaction and topsoil spreading on the slope contours? How will the compaction be verified?

(b)(2) Given the steepness of the slopes, the applicant should describe in more detail the topsoil placement and the operation of the equipment along the contour of the slopes between benches.

(b)(3) The applicant has addressed monitoring by visual methods during construction by a certified inspector and toe seep monitoring as the only monitoring to be installed. How will saturation be checked? Piezometers should be installed to evaluate saturation during construction.

UMC 784.13 Reclamation Plan: General Requirements (PGL)

(b)(1) Page 53 of the submittal refers to the revegetation schedule. A timetable with approximate times should be submitted for the reclamation of the coarse refuse expansion area.

The timetable for reclamation is apparently tied to the map describing construction based on projected reject tonnages; however, since the applicant is constructing the valley fill with contemporaneous reclamation and periodic bond release, the applicant should add an additional map showing the timing of contemporaneous reclamation related to construction. In the interest of incremental bond increase and release the applicant should project the schedule of disturbance and reclamation.

(b)(2) The bond estimate presented has some erroneous assumptions:

1. "No reclamation costs have been included in this estimate for any disturbance below the 6440 bench. As these areas will be reclaimed as part of the contemporaneous reclamation and not part of the worst case reclamation scenario." (Page 2, Exhibit VI), the contemporaneous reclamation will be subject to bond release, and therefore, subject to be included in the bond estimate, worst case scenario, until officially released. The bond must be adjusted to reflect the entire coarse refuse expansion area.
2. The regrading and covering with soil refers to a borrow pit located east of the East Slurry Cell, as an existing approved borrow area.

Table III-43 in the Sunnyside permit indicated there are 638,650 cy of available borrow. Table III-44 indicated that there are 449,643 cy required for reclamation of the Sunnyside site. The amount shown on page 4 of Exhibit VI indicates that 236,500 cy is required for the coarse refuse expansion. A deficit of 47,493 cy of borrow material must be found. Please address where this material will come from.

3. The revised unit costs for the scraper must be included in the estimate as follows: The 1987 Unit Costs Means Scraper, self propelled, 21 cy, 3000' haul, common earth - \$2.36/cy (2.3, 164-2350)
4. Kaiser will revegetate the slopes of the coarse refuse. Table III-29 in the Sunnyside Permit which refers to costs for slope seeding, must be utilized.

5. The unit costs are in 1985 dollars and need to be escalated to 1987 dollars. The escalation rate is 3.82%.

1985	.92
1986	<u>2.90</u>
	3.82

(b)(3) The plan for backfilling and grading should include methods of topsoil stabilization plans for the slopes between benches and benches prior and during revegetation.

(b)(4) The applicant has stated that he "will not attempt to place topsoil on the outslope between any two benches prior to completion of the grading of the uppermost bench" (application, page 49). This statement could be interpreted to assume that the slopes between all of the benches will not be topsoiled until the top bench is reached after more than 20 years. The applicant should clarify the intent of this statement.

(b)(7) The applicant should address measures to be employed to remove debris particularly from underground development waste.

50' haul, 300 h.p. 2.3-163-5020 =	\$1.10/cy
Rip and doze, 300 h.p. 2.3-370-0300 =	<u>.32</u>
	\$1.42

Total = \$3.78/cy = 1.42 + 2.36.

UMC 784.14 Reclamation Plan: Protection Of Hydrologic Balance  
(RVS/JRF)

The application lacks a detailed description of the measures to be taken to ensure the protection of the quality of ground water discharged at the coarse refuse seep. The application must reference the plan for the treatment of ground-water drainage from the coarse refuse seep.

The determination of the probable hydrologic consequences for the coarse refuse expansion does not address impacts to the quality of surface and ground water under all seasonal conditions, including the contents of dissolved and total suspended solids, total iron, pH, total manganese and other potential contaminants that may leach from the coarse refuse.

UMC 784.15 Postmining Land Uses (KM)

(a)(1) The plan should discuss limitations imposed by the proposed plan on the post mining land use, e.g., greater than 70% of the area in 2:1 slopes for grazing and wildlife.

UMC 784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments (PGL)

(a)(1)(iii) The geologic information required to assess the hydrologic impact of the structure must be addressed.

(a)(3)(iii) The operation and maintenance of each of the ponds must be described.

((a)(3)(iv) The timetable for removal of the sediment ponds must be included.

UMC 784.17 Protection of Public Parks and Historic Places (KM)

Discussion of archeological resources should be discussed under this section, particularly the cemetery since it is a potentially significant site.

UMC 784.19 Underground Development Waste (PGL)

The presently approved Sunnyside permit states that underground waste is disposed of underground, (page 42, Chapter III, Book 1). This proposal includes underground development waste to be stored in the coarse refuse. None of the pile capacities in Table 6, page 38, include underground development waste amounts. The underground waste projections for the 25-year capacity must be included because this will have an impact on the size and timing of the pile.

The applicant should discuss the design parameters for the under drain such as expected volume, volume calculations, long term considerations for functioning of the pipe, purpose and rationale for size of concrete cradle, etc.

Since the pile is designed to handle storm waters by infiltration on the pile, to support stability of an impoundment (the West Slurry Pond) and the stability assumes an unsaturated level with moisture below 14%, the function of the subdrain seems important. Figure 1 of Exhibit V shows the subdrain extending to the 6350' contour, whereas map E4029 does not show the subdrain clearly, and also does not extend the subdrain to this level. UMC 817.72(b)(1)(ii) also requires the subdrain to extend from the toe to the head of the fill. The extent nor condition of the existing subdrain under the West Slurry Cell or the present coarse refuse does not seem to be known. Please justify why the new drain should not extend further along the length of coarse refuse to drain incremental drainage from the proposed pile.

In the geotechnical report Exhibit V (pg. 1), the consultant states: "Some effort is being expended at the present time to densify the refuse material as it is placed in the disposal area, and it is anticipated the same effort will be used to densify the material placed in the refuse pile." The applicant only states that construction will be 24-inch lifts per UMC 817.72(c)(1) with the use of truck wheels and dozer for compaction. Please describe construction and compaction to clarify what level of compaction is expected as utilized in material properties to insure stability and compliance with UMC 817.85(c). Utilizing the minimum methods described in the application, does the existing coarse refuse compaction result in these requirements for stability expectations?

(b)(4) The applicant states eight-inch rock rather than twelve-inch rock is available for the underdrain. The applicant should provide design parameters for the drain, then discuss how the change in the size of the rock is of some relevance. The applicant should test and describe the suitability of the available rock under drain material per UMC 817.72(4).

(b)(5) The applicant's consultant has provided the stability analysis based on critical failure surface within 30 feet of the surface, no pore pressures from infiltration, estimated material properties from the existing refuse pile, and assumed construction methods were used. The applicant's consultant should address what construction methods were assumed over the life of the pile to insure the conditions for stability are maintained for the long term.

UMC 784.21 Fish and Wildlife Plan (KM)

Contemporaneous reclamation is planned to minimize impacts on fish and wildlife. The MRP should, however, provide an estimate of acreage that is removed from wildlife use or will be of very low productivity because it is in early stages of reclamation. This should include refuse area, unreclaimed old refuse area, topsoil stripping areas, old refuse haul road and a buffer zone that would be impacted by area use. The plan indicates (p.63) that reclamation itself will constitute enhancement for wildlife. While this may be true for badland areas, the plan should also address other means of wildlife enhancement:

- manipulation of other habitats to compensate for area lost to wildlife including deer and birds.

- selective placement of shrubs on benches to provide better habitat cover for animals crossing the pile after completion (edge effect is valuable only if both 'sides of the edge' are valuable to the animal; homogeneous benches will not provide valuable edge if the slopes are of little value to the animal).
- enhancement of ponds with vegetation to provide better quality watering areas.
- description of why one pond will be retained after mining and others will be reclaimed. The plan should include an indication of how much water is likely to be in each pond to aid in determining the value of leaving a given pond for wildlife.
- enhancement of the creek downstream from the railroad embankment as compensation for filling the valley bottom riparian area.

UMC 784.23 Operation Plan: Maps and Plan (PGL)

(b)(1) The railroad right-of-way and any utility corridors which are in the permit area or adjacent area should be shown on appropriate maps.

(b)(2) The application shows areas of land to be affected but the area where the under drain crosses the railroad should be described and shown.

(b)(3) Each area where the performance bond will be increased or released should be shown on the map. All disturbed areas must be covered until bond release.

Plate E4-034 does not include the pond that is proposed as a permanent feature. All permanent features must be shown.

(b)(5) No storage areas in the application are mentioned for any areas other than the coarse refuse pile itself. Topsoil will be removed and spread in the same operation; will any topsoil be stored?

(b)(7) The sources of waste as listed are restricted to coarse refuse from the preparation plant and underground development waste. It is assumed that dewatered fine preparation plant refuse may also be deposited on the pile, however, the applicant has not identified the slurry cells as a source. Please clarify.

(b)(11) The application must provide a longitudinal profile of the underground drain, a map showing a worst case reclamation condition during the fifth and tenth years, and how the pile would look if the applicant abandoned mining at this time.

(b)(12) Locations of seeps are shown, however, as discussed previously, subsurface water monitoring points for inflow into the refuse pile and in the refuse pile should be provided to monitor conditions of the pile during and after construction.

UMC 784.24 Transportation Facilities (PGL)

The use of the refuse toe road may change its classification from a Class III to a Class II road. This must be discussed.

UMC 784.26 Air Pollution Control Plan (KM)

The air pollution control plan should address all disturbed areas:

1. the old coarse refuse area for the several years before it is covered by the expansion area;
2. the areas from which topsoil is salvaged before they are buried in refuse.

UMC 817.11 Signs and Markers (JRF)

The operator must revise the appropriate maps (Plates III-20 through III-23) in the existing MRP to depict the location of the disturbed area markers.

UMC 817.22 - .24 Topsoil Removal and Redistribution (DD)

The applicant must discuss the timing of soil removal and redistribution. Redistribution should occur at a time when the physical and chemical properties of the topsoil can be protected. The applicant has not clearly described how four feet of topsoil will be redistributed on the 2:1 outslopes of the coarse refuse pile. Also, the applicant must describe how the topsoil will be protected from wind and water erosion before and after it is seeded and planted.

UMC 817.43 Hydrologic Balance: Diversion and Conveyance of  
Overland Flow, Shallow Ground Water Flow, and Ephemeral  
Streams (JRF)

The applicant has proposed to divert storm runoff from the coarse refuse pile to three sediment ponds. To adequately assess the diversion plan, the contributing runoff area for each ditch should be clearly located on a map.

The design of the benches per Rollins, Brown and Gunnell, Exhibit V, Figure 1, is a different design than that proposed by the applicant. Differences in the design must be identified and justified as to their applicability.

In Table IV-6 the applicant notes that 50 percent of the flow from Terrace 6490 will be diverted to the rail cut pond. However, the drainage area for Terrace 6490 is not equally [50%] divided. Please correct.

Terraces 6540, 6590 and 6640 do not appear to have a logical drainage exit. How will storm runoff reach ditch 5 or other ditches intended to drain the pile.

The existing diversion ditch for the rail cut pond is not addressed in this plan. The applicant must submit design information for this ditch. The information must demonstrate that the existing ditch has adequate dimensions to accommodate the additional runoff, or the applicant may submit new ditch dimensions.

On drawing E4-033 it appears that ditch 2A diverts water on to Terrace 6390. However, runoff calculations for Terrace 6390 do not reflect the additional runoff from Ditch 2A. Please address this discrepancy.

Ditch 2A has a slope of 50 percent, Table IV-2 notes that loose riprap will be placed in the ditch. What measures will be taken to ensure that the riprap will remain stable on the 50 percent slope?

The diversion ditch plan must contain riprap design information. This information should include details on filter blanket gradation and depth, gradation of riprap and installation procedures. A reference to an approved methodology would be acceptable.

The following ditch design information must be provided or clarified:

1. Table IV-2 does not contain design information for Ditch 1A.
2. The total depth for Ditch 5A seems extreme.
3. Ditches 5C(100), 5D(100), and 5E(100) have Manning's n values of 0.35; this appears to be a typographic error.
4. Table IV-2 contains design information on Ditch 5 for both the 10 and 100 year runoff events, while discussion in the plan states that permanent diversions (Ditch 5) will be designed to accommodate the 100-year runoff event. Please explain why ditch 5 has two different design events.

The diversion design plan must address reclamation of the temporary and permanent diversions. Please address part (e) of UMC 817.43.

UMC 817.45 Hydrologic Balance: Sediment Control Measures (JRF)

The applicant has calculated sediment yield only for the slope areas and not the bench areas. There is a total of 12.8 acres in bench area on the entire refuse pile. The plan must provide sediment yield calculations for the bench areas or sufficient scientific documentation as to why sediment erosion does not occur on the bench area. Furthermore, the applicant must justify, with an appropriate methodology, why a sediment delivery ratio of 50 percent is utilized on the refuse slopes.

The applicant utilized a unit weight of 100 lb./ft<sup>3</sup>. to convert sediment yield to volume; the plan must contain the methodology used to derive the 100 lb./ft<sup>3</sup>. value.

Sediment yield and runoff calculations for Terrace 6525 do not incorporate the entire runoff area. Again, sediment yield and runoff calculations must be presented for all areas draining to a sediment pond. This includes the undisturbed areas south of Ditch 1.

On Drawing E4-033 it appears that the bench areas will be utilized to divert runoff and sediment to a diversion ditch. What measures will be taken to ensure that the bench areas will not erode? Ditch 1 is shown to be placed on the coarse refuse pile. It appears that this is erroneous and the ditch should be placed adjacent to the pile to prevent further erosion.

UMC 817.46 Hydrologic Balance: Sedimentation Ponds (PGL/JRF)

The MRP does not adequately address the following sections of this regulation:

- (a) The proposed sediment pond construction must be addressed in terms of parts (a)(1) through (a)(3) of this section.
- (d) Dewatering. The pond design must contain a dewatering device.
- (h) The design presented does not show a sediment level device. A sediment level device must be located in the pond to determine sediment accumulation.
- (i) The plan does not contain sufficient information on the emergency spillway. Is the spillway elevation at 6,469.71 feet for the entire 260 foot length? The Manning's n value used to determine spillway velocity needs to be justified. The value appears to be high for a grass channel.
- (j,k,&l) The design contains two berms that will be used to contain water in the pond. More information on the berms as to dimensions and construction is required. The constructed height should be increased by a minimum of 5% to allow for settlement. Additionally, it appears that ditch 3 enters the pond through a berm. Provide design information as to how this will be accomplished.
- (n) The embankment foundation must be discussed in terms of this regulation, i.e., how the embankment foundation will be built, sloped and scarified.
- (q) The embankment static safety factor must be demonstrated to be at least 1.5.
- (s) The MRP must contain a revegetation plan for pond embankments.
- (t) The MRP must contain a plan for inspecting the ponds for structural weakness, erosion, and hazardous conditions.
- (u) The MRP should reference, by page number, the reclamation detailed in the existing Sunnyside MRP for the coarse refuse toe pond and the rail cut pond.

UMC 817.48 Acid-Forming and Toxic-Forming Materials (DD)

The applicant has not submitted data on the Chemical and Physical characteristics of the existing coarse refuse. Representative samples of the existing material must be analyzed for the minimum: pH, Ec, SAR, Selenium, Boron, Acid-Base potential percent, organic matter, saturation percent, texture, and percent water content.

A plan must be developed which would identify and treat or bury any refuse that would be acid-forming and/or toxic-forming. This plan must address parameters to be analyzed, sampling intensity and frequency and measures to be taken if acid-forming or toxic forming materials are encountered.

UMC 817.49 Hydrologic Balance: Permanent and Temporary Impoundments (PGL)

The justification for allowing the coarse refuse pond to be converted to a stock watering facility for a permanent post mining use must address sections (a)(1) through (a)(7). These sections must demonstrate the justification for permanent retention of the pond.

(d) The applicant must address how all disturbed areas, including diversion ditches and impoundments will be revegetated upon completion of construction.

UMC 817.52 Hydrologic Balance: Surface and Ground Water Monitoring (JRF)

Ground Water

The applicant's proposal for ground water monitoring is not adequate. The MRP does not contain data that accurately describes the ground water regime. To adequately determine impacts to the ground water system a monitoring network must be proposed. The Division recommends that monitor wells be installed. The applicant should consult with the Division personnel as to the location of the monitor wells.

Surface Water

The applicant's surface water monitoring program is acceptable. However, the MRP should contain verbage on the NPDES permits for the sediment ponds. A reference to the existing approved surface water monitoring plan should be noted in this plan.

UMC 817.56 Hydrologic Balance: Postmining Rehabilitation of Sedimentation Ponds, Diversions, Impoundments, and Treatment Facilities (JRF)

The applicant's proposal does not provide detailed information for the abandonment of the coarse refuse sediment ponds. UMC 817.56 requires that permanent diversions, impoundments, and treatment facilities shall meet criteria specified in the detailed design plan for permanent structures and impoundments. The applicant must address the pertinent reclamation requirements of UMC 817.49 for the sediment pond and UMC 817.43(b) for the permanent diversions.

UMC 817.57 Hydrologic Balance: Stream Buffer Zones (JRF)

The applicant must provide sufficient information on whether a biological community of arthropods or molluscan animals exist in the stream channel which will be impacted by the coarse refuse expansion.

UMC 817.71 Disposal of Excess Spoil and Underground Development Waste: General Requirements (PGL)

(a)(1) The applicant has shown that in the past the leachate from the coarse refuse has met applicable water quality standards. The applicant should demonstrate after reclamation the amount and quality of water that percolates into the soils of the reclaimed expansion area that will be harvested by vegetation and soils.

(a)(2) The applicant's consultant has demonstrated the stability of the fill under certain parameters. The applicant needs to demonstrate that during and throughout construction these parameters, including compaction, free draining, clear and open under drain, etc., will be met.

(a)(3) The fill has been designed utilizing professional engineers and standards. The applicant's engineering report does not include Figure 26. Please elaborate on the relationship of the comparison method utilized by the California Division of Water Resources to the deterministic long term factor of safety of 1.5 recognized by the regulations. Since the applicant's design is based on use of plastic pipe in a cradle with a filter covered with large rock, please respond with the design standards used in this structure.

(e)(2) The regulations require a rock toe buttress for this site, here and under regulations for head of hollow fills. The applicant has stated that the use of a buttress or keyway is not "prudent"; why not?. (Prudence may not be the best choice of words, when stability and determining a satisfactory level of risk are at issue, cost benefit might be more appropriate.)

(f) Due to stability considerations, the applicant should demonstrate that compaction will result in the parameters required for stability based on recognized professional standards. The 24-inch lifts, use of truck wheels and dozer wheels, and past practices, are recognized. However, in the engineering report reference has been made to improving compaction in the existing operation. Please elaborate.

(g) Due to the fact that depressions and impoundments are not allowed in the final configuration, the plan needs to reference how the reclamation of the adjacent slurry cell will not impound water. Please discuss the impact of the slurry cell on the reclamation of the coarse refuse expansion.

(j) The applicant is disposing of coal processing waste in a valley fill. On page 93 of the applicant's submittal, dewatered fine processing waste is included with underground development waste and coarse refuse. The applicant should indicate how much fine refuse, 28 sieve, will be deposited in the pile and whether this material will be deposited in the pile and whether it will be kept toward the interior of the pile and away from the outslopes. Compliance with UMC 817.85 is required. The material has not been demonstrated to be non-toxic and non-acid forming, as required by this regulation. Please evaluate these questions.

(k) An under drain system is proposed by the applicant and the pipe is protected by a filter. The applicant should provide the rationale for not using a filter between the refuse and the rock. The rock is in fact part of the under drain and flow should be maintained.

UMC 817.72 Disposal of Underground Development Waste and Excess Spoil: Valley Fills (PGL)

(b)(1) A subdrain is proposed for the refuse pile. The applicant has stated sandstone will be used. It is assumed the rock will be durable when tested. The under drain is constructed along the natural drainage way but not extended from the toe to the head

of the fill due to the unknown condition of the existing under drain. Additionally, the applicant's extent of the under drain does not seem to correspond with consultants layout and should correspond. If not, a justification must be given for the difference.

The applicant has not proposed use of lateral drains. The applicant should justify not extending the drain to the head of the new fill along the outslope of the existing refuse and justify why lateral drains are not required.

(b)(2) Please provide the rationale and design parameters of standard geotechnical methods for the proposed under drain.

(b)(3) The applicant proposes to use eight inch rock which is available. Proper design rationale must be given.

The narrative and Exhibit V conflict regarding the size of rock. This discrepancy must be corrected. The under drain is apparently under sized as demonstrated by referring to total amount of fill material from Table 6.

(b)(4) The applicant will need to prove the under drain rock meets the criteria of this regulation before installation.

(c) Spoil handling involves transport, loading, and placement. For placement, the applicant should respond further to compaction to obtain the densities required by the stability analysis, and to avoid development of pore pressures. The applicant has not provided any special treatment for spontaneous combustion, such as weathering nor any segregation of coarse to the slope side and fines to internal side of the pile. The applicant should describe installation of the under drain showing how contamination of the under drain will be avoided. Since the pile is free draining, the applicant should explain how piping will be avoided above the large rock in the under drain without a filter.

(d) All diversions and benches used in conjunction with the permanent diversion must be designed for a 100-year, 24-hour event. Please re-evaluate using the correct storm event.

UMC 817.73 Disposal of Underground Development Waste and Excess Spoil: Head-of-Hollow Fills (PGL)

(a) The final configuration of the fill will completely fill the disposal site to the ridgeline (pediment), however, if the applicant should abandon coal mining prior to this time the fill will be a valley fill. This should be stated in the MRP.

(b) An under drain per valley fill is proposed by the applicant in lieu of a rock-core chimney drain system, yet the applicant has not extended the under drain head to toe in the new expansion, included material drains, addressed impounding in the west or east slurry cells, shown that the existing refuse under drain meets the requirements, or planned to install monitoring wells to verify coarse refuse saturation. A discussion of the above-mentioned parameters must be addressed for the coarse refuse expansion.

UMC 817.82 Coal Processing Waste Banks: Site Inspection (PGL)

The applicant must state that a registered engineer will perform the quarterly inspections.

UMC 817.83 Coal Processing Waste Banks: Water Control Measures (PGL)

(b) The surface drainage runoff does not meet the 100-year, 24-hour event and must do this, as outlined in UMC 817.72(d).

(c) The application must state that all disturbed areas will be revegetated upon completion of construction where slope protection can be provided to minimize erosion.

It appears that topsoil will not be applied to the slope until final reclamation. Please clarify.

UMC 817.85 Coal Processing Waste Banks: Construction Requirements (PGL)

(c) The applicant proposes to spread refuse in layers of 24 inches; however, the plan must provide justification in the operating plans to indicate that compaction of 90% maximum dry density is assured. Please provide justification that demonstrates required compaction can be achieved (see pg. 40, Book I, Chapter III, Sunnyside approved permit).

UMC 817.86 Coal Processing Waste Banks: Burning (PGL)

The applicant has provided contingency fire plans on page 54 of this application but has not provided and shown the approval by MSHA, the minimum provisions to ensure only those persons authorized by the operator, and who have an understanding of the procedure to be used, and shall be involved in the extinguishing operation. Please provide this information.

UMC 817.91 Coal Processing Waste: Dams and Embankments: General Requirements (PGL)

Prior to reactivating the West Slurry Cell, the applicant must show that the reactivation will not affect the stability and the intent of the refuse expansion area.

UMC 817.99 Slides and Other Damage (PGL)

A commitment about notification of any slides to the Division and remedial measures taken by Kaiser must be included in the MRP.

UMC 817.101 Backfilling and Grading: General Requirements (PGL)

(a) The applicant should provide a timetable for reclamation based on quantities of refuse. For instance, once a bench level is reached (1) first the berm is established, (2) then the slope and lower bench are recompacted, (3) depending on the planting season, a scraper then strips and distributes the first two feet of topsoil, (4) the first two feet are compacted, etc.

(b)(5) The applicant intends to use refuse for roadbase and surfacing on the haul roads. This can only be allowed on cut and fill terraces if all refuse is retained on the solid portion of the new benches and sediment from the road is not allowed to accumulate below the relief culverts. Sediment control of the relief culverts is required.

UMC 817.111 Revegetation: General Comments (KM)

The bench areas are discussed as valuable for water harvesting and therefore enhancing vegetation growth. "Temporarily holding water on the benches will greatly aid the vegetation without materially affecting the amount of water which infiltrates" (p. 56).

In order to grow, plants take up water through their roots and use or transpire it, i.e., it is not available to infiltrate down through the pile. If vegetation is enhanced, infiltration will decrease. Please incorporate this reality in the discussion of hydrologic balance (784.14) and availability of water for wildlife (784.21) and water replacement requirements (783.17).

UMC 817.131 Cessation of Operations: Temporary (PGL)

Prior to temporary cessation of operations, the applicant should submit a plan to secure the site since the reclamation plan submitted only addresses final reclamation.

UMC 817.150 Roads: Class I: General (PGL)

(1)(b) The applicant intends to use coarse refuse as surfacing for the coarse refuse road, however to minimize additional contributions of suspended solids the applicant must provide sediment control plans for this road. The applicants proposal does not comply with UMC 817.154 in utilizing refuse, and UMC 817.153 concerning culvert spacing; and the road is not located per UMC 817.152 (d)-(13). Also, the refuse will be carried as sediment through the culverts to the downslope of the embankments in violation of UMC 817.81(a) and UMC 817.101(c).

(d) New certification by a registered professional engineer is required prior to approval of the permit revision showing that the design of the existing road has incorporated the items in part (d)-(2) of this part. The applicant indicates reactivation includes construction of the road. The applicant must submit detailed plans for this construction showing changes anticipated along its length.

UMC 817.153 Roads: Class I: Drainage (PGL)

(a) The applicant should present details for sediment control measures to be used on the coarse refuse road.

(c) The applicant has stated that spacing of culverts does not meet the requirements; however, the applicant must demonstrate how the size, trash racks, etc. of the culverts meet these requirements.

UMC 817.154 Roads: Class I: Surfacing (PGL)

The applicant is being requested to formulate an acid and toxic-forming disposal plan in accordance with UMC 817.48. Upon compliance with this regulation, the applicant may use coarse refuse that is not toxic or acid-forming on the surface of the roads.

UMC 817.155 Roads: Class I: Maintenance (PGL)

Nothing in the applicants plans shall be construed to relieve the applicant from complying with these maintenance standards.

UMC 817.156 Roads: Class I: Restoration (PGL)

(a) The applicants existing permit does state some roads will be left for access for grazing. Unless the applicant can demonstrate that this road is needed and directly serves a post mining grazing land use, the applicant shall agree to reclaim this road. Unless the applicant states otherwise all requirements of restoration shall be required, including removal of surfacing material. The applicant should provide a typical reclaimed cross section of the road and address reclamation of the old coarse refuse road.

UMC 817.181 Support Facilities and Utility Installations (PGL)

The applicant shall show/describe any support facilities proposed for the refuse disposal area including any possible power lines.

The applicant shall describe any utilities etc., which pass over or under the permit area or state that none exist. The applicant shall describe any potential damage, destruction or disruption that could affect the railroad.