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STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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August 15, 1984

CERTIFIED RETURN RECEIPT REQUESTED
(P492 430 094)

Mr. Douglas C. Pearce
Mine Engineer
Kaiser Steel Corporation
P. O. Box D
Sunnyside, Utah 84539

Dear Mr. Pearce:

RE: Additional Technical Deficiencies, Kaiser Steel Corporation, Sunnyside Mine, ACT/007/007, Folder No. 2, Carbon County, Utah

Enclosed please find a list of additional technical deficiencies which were outlined in the Technical Analysis for the Sunnyside Mining and Reclamation Plan (MRP) submitted to the Division on July 26, 1984 by Simons, Li and Associates, Inc. These deficiencies must be adequately addressed before the Division can finalize the Technical Analysis and Decision Document and forward it to the Office of Surface Mining.

In order to expedite this review, a response to these additional deficiencies must be submitted within two weeks from receipt of this letter.

Should you have any questions regarding these deficiencies, please contact Mary Boucek or Steve Cox of my staff.

Sincerely,

James W. Smith, Jr.
Administrator
Mineral Resource Development
and Reclamation Program

JWS/jvb
cc: Allen Klein, OSM
Lou Hamm, OSM
Ron Daniels, DOGM
M. Boucek, DOGM
S. Cox, DOGM
98370

TECHNICAL DEFICIENCIES

Kaiser Steel Corporation
Sunnyside Mines
ACT/007/007, Carbon County, Utah

August 15, 1984

UMC 805.11 Amount and Duration of Performance Bond

The applicant has detailed the costs. However, there are areas which were omitted that must be addressed.

Deficiencies

1. The applicant must resolve the road discrepancies and revise the bond as needed.

2. The applicant must provide additional backfilling and grading information and revise the bond estimate as needed. This information must include a regrading plan for the borrow area and a specific plan for covering of coal seams exposed in the facilities area. The bond estimate must reflect the additional costs.

3. The coal waste disposal plan must be approved and the bond estimate adjusted accordingly.

4. The bond estimate needs a summary page for the entire estimate.

5. Will the rail lines be removed and reclaimed? If so, this must be included in the bond estimate.

UMC 817.21-.25 Topsoil: General Requirements

Deficiencies

1. The applicant must submit soil test analysis results to the Division showing that the borrow material selected for covering coal refuse disposal sites is an acceptable growth medium. The sampling depth of the borrow material must reflect the provided depth of recovery.

UMC 817.43 Diversions

Deficiencies

1. Supporting calculations and dimensions of disturbed and undisturbed diversion ditches associated with the Manshaft Sediment Pond are not included in the MRP. This information must be supplied.

2. Supporting calculations for riprap protection measures to be implemented in diversion ditches (where velocities exceed five feet per second) at spillway outlet points and at culvert inlets and outlets are not included in the MRP. Velocity calculations for all diversion ditches (disturbed and undisturbed), all spillway outlets and at all culvert outlet points must be included in the MRP. Based on the predicted velocities, detailed erosion protection measures must be specified (e.g., for each ditch, spillway point, etc.). Where rock gabion-type structures are proposed to reduce velocities in diversion ditches, supporting calculations to show that velocities are reduced below five feet per second must be included in the MRP. Calculations and installation details must be provided for a filter blanket under the riprap. If a filter blanket is not deemed necessary, adequate justification demonstrating this must be included in the MRP.

3. The hydrologic calculations to determine peak discharges for culverts and diversion ditches in the Sunnyside Surface Facilities area are in error. The calculation of basin lag time is excessive by a factor of 10, resulting in computed peak discharges which are too low. These calculations must be corrected and then used for design of culverts and ditches in this area.

UMC 817.45 Sediment Control Measures

Deficiencies

1. The use of straw bales for permanent sediment control on small areas is mentioned in the MRP. The installation methodology and maintenance of straw bales is not covered in the MRP. The location of straw bales and the installation and maintenance procedures must be included in the MRP. The effectiveness of straw bales for permanent sediment control is not documented.

UMC 817.46 Sediment Ponds

Deficiencies

1. Several deficiencies in the Sunnyside Surface Facilities Pond design information must be corrected. These are enumerated as follows:

A. The peak flow calculation (25-year, 24-hour storm) must be corrected (see discussion in UMC 817.43 under lag time calculations) and the emergency spillway designs sized accordingly.

B. The volume of the proposed pond does not appear to be able to contain the 10-year, 24-hour storm. Use of a weighted curve number approach is not advisable in this situation. The two areas denoted should be calculated separately then summed to obtain the total storm runoff volume. The dimensions on the pond should be clearly denoted as to length and width in order to accurately calculate pond volumes. The size of the pond must be increased to accommodate the 10-year, 24-hour runoff volume.

2. The MRP does not contain an inspection program for all sediment ponds pursuant to UMC 817.46(t). An inspection program must be outlined in the MRP.

UMC 817.47 Discharge Structures

Deficiencies

1. Calculations and design details for protection measures at each discharge point must be included in the MRP. Please see the discussion under UMC 817.43 for details.

UMC 817.49 Impoundments

Deficiencies

1. The requirements for inspections of permament impoundments, specifically Grassy Trail Reservoir, are not adequately addressed in the MRP. An inspection program meeting the requirements of UMC 817.49(f), (g) and (h) must be included in the MRP. The results of the latest detailed inspection of the reservoir by a professional engineer experienced in dam safety should be forwarded to the Division.

UMC 817.52 Water Monitoring

Deficiencies

1. The applicant's surface water monitoring plan must include a commitment to providing flow measurements. The MRP refers the Division to the U. S. Geological Survey (USGS) records for flow data. It is the applicant's responsibility to

provide water monitoring data to the Division. The applicant can use data collected by another agency, but must provide these data to the Division with the quarterly constraints required by UMC 817.52(b). Further, the flow data submitted should be for the same points in time that the samples for chemical analysis are taken. The MRP must be amended to address this deficiency.

2. The in-mine monitoring program is not in conformance with standard monitoring requirements which will be forthcoming shortly from the Division. The following aspects of in-mine monitoring should be included in the MRP.

The results of the monitoring program (data analysis) shall be reported on an annual basis and shall include a map of all points and/or areas of defined measurable flow (greater than one [1] gpm) as well as an indication of the geologic source of the flow (channel sandstone, fault, fracture, lineament system, etc.). The map shall also show the location of in-mine sumps used to collect water, as well as updated information on the geologic structures (faults, dikes, fractures, channel sandstone, etc.) encountered in the mine. The report shall also contain a discussion of the quantity, quality and source of the water encountered. When new points or areas of measurable flow are first encountered, flow data and field water quality parameters shall be measured monthly until the inflow stabilizes. After stabilization, sampling shall be conducted on a quarterly basis. Field water quality parameters shall, at a minimum, consist of: pH, temperature and electrical conductance. A relationship shall be developed between electrical conductance and total dissolved solids data obtained from the quarterly samples.

Quarterly sampling for the abbreviated water quality parameters list shall be completed. The abbreviated water quality analytical schedule shall, at a minimum, consist of the laboratory measurements for: sodium, potassium, calcium, magnesium, iron (total), chloride, bicarbonate, sulfate, carbonate, pH, and TDS as well as the field parameters. A cation/anion balance shall be calculated on sufficient quarterly samples (approximately 10 percent) to assure accuracy of the laboratory data.

Semi-annually, and at the approximate time each year (corresponding to two of the quarterly samples), a comprehensive water quality analytical schedule for the samples shall be completed. The full suite of parameters to be analyzed shall include those recommended in the DOGM guidelines for establishment of a surface and ground water

monitoring program. If the number of measuring points becomes excessive, the applicant may request a modification of the number of sampling sites from the regulatory authority.

In addition to the in-mine monitoring of ground water flow, the applicant must account for all ground water consumption (evaporation and other losses) and transfers of water in and out of the mine.

UMC 817.81-.85 Coal Processing Waste Banks

Deficiencies

1. The applicant provided the geotechnical report for the coal processing waste banks. However, the applicant must provide the plans that show design and construction of the coal processing waste banks. The consultants' reports in the appendix are not adequate unless there is an explanation and commitment by the applicant that the consultants' suggested recommendations will be followed.

2. The applicant must provide certification of the coal refuse disposal site design by a registered professional engineer, as well as a commitment that all the inspections of the disposal site will be conducted by a registered professional engineer.

3. The consultants' reports need to be certified.

UMC 817.91-.93 Coal Processing Waste: Dams and Embankments

Deficiencies

1. The applicant must provide certification of the design of coal refuse embankment structures by a registered professional engineer. In addition, a weekly inspection of the embankment structures by personnel qualified in these types of inspections must be provided.

2. The applicant must provide a plan for stabilizing the west side dike extension to meet the stability requirements of the regulations. In addition, the stability of east side embankment under saturated conditions must be evaluated and plans for stabilizing the structure under these conditions must be provided, if necessary. The feasibility of reclamation of the potentially saturated slurry material in the East Slurry Cell must be addressed.

UMC 817.97 Fish and Wildlife Information

Deficiencies

1. The application must include details regarding its wildlife educational program and rest-rotation grazing system.

2. The applicant must submit a statement committing to the avoidance of the use of persistent pesticides and to report to the regulatory authority any future occurrence of threatened or endangered species or golden eagles on the permit area.

UMC 817.101 Backfilling and Grading

Deficiencies

1. The applicant has stated that portal and shaft cuts will typically be graded to blend into the surrounding topography. Specific plans must be provided which show the location of the highwalls and that the highwalls meet the requirements of UMC 817.101(b)(8) and that they will have a static safety factor of 1.5 as required by UMC 817.101(b)(1). In addition, a specific plan for covering of coal seams exposed in the facilities areas must be provided.

2. A regrading plan for the borrow area that shows the drainage pattern from the depression created during excavation will be obtained.

UMC 817.103 Backfilling and Grading: Covering Coal and Acid- and Toxic-forming Materials

Deficiencies

1. The applicant must commit to continued monitoring of slurry test plots to assess the long-term revegetation potential of slurry materials. The applicant must also commit to applying four feet of nontoxic fill over slurry disposal areas during revegetation if the test results show that slurry is not an acceptable growth medium.

UMC 817.111-.117 Revegetation

Deficiencies

1. The applicant must decide whether seedling transplanting will or will not be accomplished and revise the plan to reflect this decision. The bond estimate may require revisions based on this decision.

2. The applicant must decide which set of seed mixtures will be used during final revegetation and revise the plan to reflect this decision. The bond estimate may require revision based on this decision.

UMC 817.121 Subsidence Control Plan: General Requirements

The subsidence monitoring program submitted by the applicant is not adequate due to the lack of an annual data collection and submittal schedule.

Deficiencies

1. The applicant must provide a subsidence monitoring schedule that gives the timing of annual data collection and subsequent data submittal to the Division.

UMC 817.124 Subsidence Controls: Surface Owner Protection

Although subsidence effects have not been observed to date, the potential for future impacts on certain renewable resource lands, wildlife habitats, cultural resources and structures do exist.

Deficiencies

1. The applicant must provide specific plans for mitigation of potential subsidence impacts to springs and streams, aquifers and recharge areas, raptor nesting areas, the fishery, cultural resources, roads and the reservoir.

UMC 817.126 Subsidence Controls: Buffer Zones

The application describes mining operations that will extend beneath a reservoir having a storage volume greater than 20 acre-feet and beneath and adjacent to perennial streams.

Detailed subsurface information accompanied by a comprehensive pillar design plan for mine areas beneath and adjacent to perennial streams has not been presented. The application does not include sufficient detailed subsurface information, justification of the

proposed safety factor or the methods used to calculate the angle-of-draw and pillar dimensions for the mine area beneath the reservoir.

Deficiencies

The application must include the below listed information for mine areas beneath the reservoir and beneath and adjacent to perennial streams.

1. The formula and a listing of the weight-density parameters used in the multiple-layer roof calculation.

2. The angle-of-draw calculations.

3. The pillar strength value.

4. The calculations to derive pillar dimensions using safety factor values of 1.1, 2.0 and 3.0 and anticipated rate of pillar collapse for each safety factor value.

5. Comparative maps, generated for safety factor values of 1.1, 2.0 and 3.0, that delineate foot and barrier pillar locations and dimensions, haulageways, and cross-cuts and the attendant surface projection of buffer zone boundaries.

UMC 817.131 Cessation of Operations: Temporary

Deficiencies

1. The applicant must notify the Division before, or as soon as it is known, that a temporary cessation of operations will extend beyond 30 days. The notice will contain all requirements of UMC 817.131.

UMC 817.133 Postmining Land-Use

Deficiencies

1. The applicant must obtain written permission of the postmining landowner and provide appropriate justification pursuant to UMC 817.133 to leave structures following conclusion of mining and reclamation activities as stated in Section 3.5.3.2, page 38, Volume 1 of the MRP).

UMC 817.150-.176 Roads

Deficiencies

1. The applicant must provide documentation as to how the performance standards are being met for all of the roads.

2. The applicant must finalize plans for roads which are to be left in place and how they will meet performance standards.

UMC 817.180 Other Transportation Facilities

Deficiencies

1. The postmining use of the railroad spur and conveyor belt must be addressed. Will they be removed? These figures must be included in the bond estimate.

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