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 In C# 0150017 Incoming

September 30, 2004

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Utah Coal Regulatory Program
 Division of Oil, Gas, and mining
 1594 West North Temple, Suite 1210
 Box 145801
 Salt Lake City, Utah 84114-5801

DIV. OF OIL, GAS & MINING

Incoming
C/015/0017
Response

RE: **Deficiency Response to the Amendment to Update Appendix XIV, Phase 1 Reclamation Plan, Task ID#1786, PacifiCorp, Des Bee Dove Mine, C/015/017, Emery County, Utah**

Task 10
#2046

PacifiCorp, by and through its wholly-owned subsidiary, Energy West Mining Company ("Energy West"), as mine operator, hereby submits deficiency responses to the above stated amendment for Volume XIV of the Des Bee Dove Mine MRP.

An amendment was submitted to the Division on December 10, 2003 to update RUSLE calculations for the bathhouse slope. This slope was originally designed to include a buffer strip. Because of inadequate substitute soil resources in this area, a change order was made with cooperation of the Division to excavate soil from the entire slope. This change necessitated recalculation of the LS value for the slope length for segment A3-2D (refer to map CS1854D in Appendix B of said volume) in RUSLE. The corrections were made on Table 2 in Appendix B, but as the 4/8 TA pointed out, the data was inserted incorrectly.

In the Technical Analysis document dated April 8, 2004, Energy West received deficiencies stating that the values for segment A3-2D in Table 2 (Appendix B) had been placed incorrectly in the cell for A1-1D and the new SY value was not entered in the table. Three questions/requests were also included in reference to the RUSLE calculations submitted:

1. Choice of time-varying vs. time -invariant cover and management © factor) option. The C factor chosen was #2 time invariant option using average annual production values and designating the cover crop as desert grassland. The Division believes that the time varying scenario (option #1) fits the site, based on a single disturbance of subsoil fill with no rock cover, adjusting for moisture depletion and calculating the surface cover from soil and slope based on a selection for "no vegetation".
2. If the time-invariant C factor is used, the first choice to make is where the vegetation information is from. The Permittee chose #1 "from plant community & site potential." The Division believes that the choice of #3 "entered directly" might be more appropriate.
3. Hiawatha was added to the City database with a reported rainfall of 5 inches, whereas the 1988 Carbon County Soil Survey (page 151) reports an average of 13.51 inches over the time period 1951-1980.

Huntington Office:
 (435) 687-9821
 Fax (435) 687-2695
 Purchasing Fax (435) 687-9092

Deer Creek Mine:
 (435) 687-2317
 Fax (435) 687-2285

Trail Mountain Mine:
 (435) 748-2140
 Fax (435) 748-5125

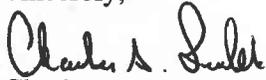
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This amendment reflects the changes made in RUSLE to satisfy the Divisions concerns displayed in the above questions. The time-invariant C factor was chosen with plant information entered directly. Plant information values used were very conservative and should reflect a very slow growing plant community.

Precipitation and temperature data from the Carbon County Soil Survey was replaced in all six disturbed profiles. R, EI, and frost-free day values were taken from AH703, Utah Supplement. A and SY values reflect the changes in made in RUSLE.

Table 2 in Appendix has been corrected and amended to reflect the data utilized. Attached is seven (7) redline/strikeout pages and seven (7) clean copies of Section R645-301-700: Hydrology, Appendix B, page 3. Also included is seven (7) 3.5 inch floppy disks with the all existing and corrected RUSLE data. The required C1/C2 forms are also included with this submittal. If you have any questions please contact Dennis Oakley at (435) 687-4825.

Sincerely,



Charles A. Semborski
Geology/Permitting Supervisor

cc: Carl Pollastro
File

APPLICATION FOR COAL PERMIT PROCESSING

COPY

Permit Change New Permit Renewal Exploration Bond Release Transfer

Permittee: PacifiCorp

Mine: Des Bee Dove Mine

Permit Number: C/015/017

Title: Deficiency Response to the Amendment to Update Appendix XIV, Phase 1 Reclamation Plan, Task ID#1786, PacifiCorp, Des Bee Dove Mine, C/015/017, Emery County, Utah

Description, Include reason for application and timing required to implement:

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- Yes No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ increase decrease.
- Yes No 2. Is the application submitted as a result of a Division Order? DO# _____
- Yes No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
- Yes No 4. Does the application include operations in hydrologic basins other than as currently approved?
- Yes No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes No 6. Does the application require or include public notice publication?
- Yes No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
- Yes No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
- Yes No 9. Is the application submitted as a result of a Violation? NOV # _____
- Yes No 10. Is the application submitted as a result of other laws or regulations or policies?

Explain: _____

- Yes No 11. Does the application affect the surface landowner or change the post mining land use?
- Yes No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
- Yes No 13. Does the application require or include collection and reporting of any baseline information?
- Yes No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
- Yes No 15. Does the application require or include soil removal, storage or placement?
- Yes No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
- Yes No 17. Does the application require or include construction, modification, or removal of surface facilities?
- Yes No 18. Does the application require or include water monitoring, sediment or drainage control measures?
- Yes No 19. Does the application require or include certified designs, maps or calculation?
- Yes No 20. Does the application require or include subsidence control or monitoring?
- Yes No 21. Have reclamation costs for bonding been provided?
- Yes No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
- Yes No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Charles A. Semborski
Print Name

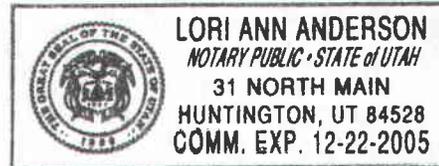
Charles A. Semborski

Geology/Permitting Supervisor 9-30-04

Sign Name, Position, Date

Subscribed and sworn to before me this 30th day of September, 2004

Lori Ann Anderson
Notary Public



My commission Expires: _____
Attest: State of Utah 12/22, 2005) ss:
County of Emery

The following responses to deficiencies are formatted as found in the technical analysis document. They are broken down into logical section headings similar to the R645 regulations. In each section, the regulation number along with the associated deficiency is followed by the permittee's italicized response.

HYDROLOGIC INFORMATION

Hydrologic Reclamation Plan

R645-301-121.200, 742 - The recalculated values for A and SY need to be placed in the correct cells in Table 2 of Appendix B.

The values in Table 2 have been updated and corrected to reflect the Division's requests as outlined in the Technical Analysis document dated April 8, 2004.

STABILIZATION OF SURFACE AREAS

R645-301-244, (1) The RUSLE calculation for the disturbed area slopes should be based on a 13 inch average annual rainfall for Hiawatha; and provide a rationale for the choices made concerning development of the C factor. (2) An As-Built of Drawing 300-1 should reflect the actual acreage seeded.

(1) As requested by the Division, Precipitation values found in the Carbon County Soil Survey (pg 151) were input into the City Data Base under Hiawatha. An annual average of 13.51 inches fell during the reporting period from 1951 to 1980. The mean temperature was also used from this reference.

Cover Management values were input as follows:

*where get vegetation information? = 3 (enter directly)
effective root mass (lbs/ac) in top 4" = 100 (conservative estimate)
% canopy cover = 25 (personal observation of reclamation sites)
average fall height (ft) = 1 (personal observation of reclamation sites)
roughness (in) for the field conditions = 1.1 (pitted)
has there been mechanical disturbance = 2 (yes)
of years needed for soil consolidation = 20
number of years since last disturbance = 0
total % ground cover (rock and residue) = 64 (data taken from Mt. Nebo monitoring; CTW Proposed Portal reclamation site)
% surface covered by rock fragments = 55 (data taken from Mt. Nebo monitoring; CTW Proposed Portal reclamation site)
% vegetation residue surface cover = 20 (data taken from Mt. Nebo monitoring; CTW Proposed Portal reclamation site)
surface cover function; B-value choice = 1 (calculated from soil, slope and cover)*

(2) As-Built drawings will be submitted in the Phase I Bond Release application. An aerial survey was conducted on September 14, 2004. This application will probably be submitted sometime within the next year.

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Form DOGM- C1 (Revised March 12, 2002)

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Update to Appendix XIV

PacifiCorp

Energy West Mining Company

C/015/017

September 30, 2004

Appendix B

Redline/Strikeout Text Pages

Comparison of the Undisturbed and Disturbed Areas at the Des Bee Dove Mine Site

The Des Bee Dove Mine is located in an un-named canyon on the southern portion of East Mountain. Drainage from this canyon reports to the sediment pond or to natural undisturbed drainage systems. The majority of the runoff from this canyon reports to the sediment pond.

During final reclamation, however, the sediment pond will be removed prior to vegetative establishment. Therefore, alternative sediment control processes will be used. These processes include (but not limited to):

- Contour Plowing
- Deep Gouging (pocking)
- Mulching
- Application of Tackifiers
- Use of Straw Bales/Sediment Fences

The purpose of this comparison is to evaluate the sediment yield characteristics of both the disturbed area of the mine and the undisturbed areas above the mine. Although straw bales and sediment fences could be installed as part of final reclamation, their effect is ignored in the calculations using the Revised Universal Soil Loss Equation (RUSLE).

RUSLE is a set of mathematical equations that estimate average annual soil loss and sediment yield resulting from interrill and rill erosion (Troy, Foster, 1998). This modeling program was derived from its predecessor, the Universal Soil Loss Equation (USLE, Wischmeier and Smith, 1978) using the equation $A=R*K*LS*C*P$,

where,

A	=	Annual soil loss (tons/year/acre)
R	=	Rainfall/runoff erosivity
K	=	Soil erodibility
LS	=	Hillslope length and steepness
C	=	Cover management
P	=	Support practice

Version 1.06 was released by OSM in 1998 and is used for all soil loss calculations. Editing of the City database was conducted in order to gain historical meteorological data similar to the conditions found at the Des Bee Dove mine site (i.e. temperature, precipitation, elevation, exposure, etc.). Twelve years of precipitation and temperature data from the town of Hiawatha, Utah was added to the data base in order to conduct this modeling exercise.

The soil erodibility "K" factor made use of the Soil Survey of the Carbon-Emery Area (issued 1970). The characteristics of the Kennilworth series (KeE2) was used for all undisturbed "K" factor calculations. The values used for all disturbed "K" factor calculations were from the

recommendation of E.I.S. Environmental & Engineering Consultant, Dan Larsen, Soil Scientist. Mr. Larsen compiled field data, soil sampling and laboratory data analysis, and suitability rating criteria from the trenching project at the Des Bee Dove Mine in December, 2001.

The hillslope length and gradient factors were found using the contour map (CS1854D) found in this appendix. Constructed slopes will be similar to or less than natural slopes. Location of slope profiles are shown on this map. The gradients found in the undisturbed and proposed reclamation areas are steep and exceed the design parameters of the program. In discussion with the program authors, accuracy for predicting sediment yield diminish with increasing gradient. Predicting output from RUSLE is still considered acceptable if comparisons are based on similar criteria recognizing the fact that research has not been conducted on slopes exceeding 50-60%.

Because of the Deer Creek mine's close proximity and similar elevation to the Des Bee Dove Mine, cover management factors for the undisturbed areas were used. This information (canopy cover and productivity) is found in the Deer Creek MRP (Volume 1, Part 2). Effective root mass was calculated within the program using the cold desert shrubs community. This community best describes the vegetative community found at the Des Bee Dove and Deer Creek mines.

The Table 1 below summarizes the results for the undisturbed areas calculated using the RUSLE model.

Table 1: Annual predicted soil loss from undisturbed area..

Profile*	R	K	LS	C	P	SDR	A	SY
DBDA11U	10	0.208	14.5	0.0017	1.0	1.0	0.05	0.05
DBDA12U	10	0.208	16.2	0.0016	1.0	1.0	0.05	0.05
DBDA13U	10	0.208	14.38	0.0017	1.0	1.0	0.05	0.05
DBDA21U	10	0.208	13.31	0.0017	1.0	1.0	0.05	0.05
DBDA22U	10	0.208	7.71	0.0020	1.0	1.0	0.03	0.03
DBDA23U	10	0.208	16.36	0.0016	1.0	1.0	0.05	0.05

* See map CS1854D for hillslope profile locations

As shown in Table 1, the average soil loss in the undisturbed areas of the Des Bee Dove Mine is approximately 0.05 tons/year/acre. Sediment yield is equal to the soil loss because no control practices are used in these areas (i.e. P is equal to 1.0). Slopes in the undisturbed areas were modeled as straight, uniform hillslope profiles. Table 2 shows the results of the profiles modeled in the disturbed areas of the mine.

Table 2: Annual predicted soil loss from disturbed area..

Profile*	R	K	LS	C	P	SDR	A	SY
DBDA11D	10	0.36	52.3 19.58	0.0411 0.0776	0.029	0.002	0.23 0.16	0.01
DBDA21D	10	0.36	9.72	0.0399 0.0726	0.029	0.002	0.04 0.07	0
DBDA22D	10	0.361	6.90	0.0377 0.0686	0.029	0.002	0.03 0.05	0
DBDA23D	10	0.36	16.80	0.0421 0.0766	0.029	0.002	0.07 0.14	θ 0.01
DBDA31D	10	0.36	11.07	0.0403 0.0733	0.029	0.002	0.05 0.09	θ 0.01
DBDA32D	10	0.36	11.92 29.18	0.0389 0.0794	0.029	0.002	0.05 0.24	θ 0.02

* See map CS1854D for hillslope profile locations

The results illustrated in Table 2 show similar annual soil losses per acre in the disturbed area as compared to the undisturbed. This is due directly to the deep gouging and mulching techniques that will be used during final reclamation. As shown by the values in the "P" (support practices) and "SDR" (sediment delivery ratio), much of the sediment that is detached as a result of rill and interrill erosion processes is trapped within the pocks or stabilized by mulching practices. The sediment yield from the disturbed area is near zero (0). Sediment contributions from the disturbed areas is expected to be negligible.

Comparison of the Undisturbed and Disturbed Areas at the Des Bee Dove Mine Site

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Update to Appendix XIV

PacifiCorp

Energy West Mining Company

C/015/017

September 30, 2004

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Clean Copy Text Pages

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DBDA23D	10	0.36	16.80	0.0766	0.029	0.002	0.14	0.01
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