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ENERGY WEST Mining Co.
PO Box 310
Huntington, Utah 84528

RECEIVED
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DIVISION OF
OIL, GAS AND MINING

January 4, 2001

Utah Coal Program
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Copy Mary Ann, Karen, Pam & Jim Smith

Re: Revised Volume 9 Hydrologic Section, PacifiCorp, Des-Bee-Dove mines, [redacted] Deer Creek Mine, C/015/018, Cottonwood Mine, C/015/019

AMOCD

[redacted] for each

PacifiCorp, by and through its wholly-owned subsidiary, Energy West Mining Company ("Energy West") as mine operator, hereby submits a revised Volume 9 Hydrologic Section: Table of Contents pages i-iv, Text Section pages 168-178, Appendix A, and hydrologic maps HM-2, HM-3 for the following mines: Cottonwood Mine C/015/019, Deer Creek Mine C/015/018 and Des-Bee-Dove mines C/015/017. Revisions to Volume 9 are in response to concerns raised during review completed on November 3, 2000 (Deer Creek Mine Reclamation Plan).

The concerns raised during the review include:

Concern: **R645-301-731.210, Flow at Cottonwood Spring has proven to be measurable as in stream flow in Cottonwood Creek, but not directly as discharge from a pipe or other identifiable point source. This is the measurement method used by the USGS. The monitoring plan does not make it clear that the operator will continue to monitor Cottonwood Spring discharge by using weirs to measure this gaining reach on Cottonwood Creek.**

Response: *As stated in the August 25, 2000 deficiency response, on October 27, 1998 the Division sent a letter to the Bureau of Land Management and the United States Forest Service that stated, "The Division has made an extensive review of this issue (Cottonwood Spring) and has made findings to conclude the complaint. By this letter and enclosed memos, the Division also concludes the issue of Cottonwood Spring. To date, no definitive connection between Cottonwood Spring has been cited or proven in relation to mining at the Deer Creek Mine. Hopefully, this documentation from our division will provide the needed paperwork for the US Forest Service and the Bureau of Land Management to move forward with the lease relinquishment for this area."*

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

After the Division's findings were sent to subsuface and surface regulatory agencies, the USFS (surface owner) sent a response letter dated May 5, 1999. The letter indicated to reslove the Cottonwood Spring issue, the USFS would accept three (3) listed alternatives: 1) for PacifiCorp to conduct gain/loss surveys for a two year period to confirm hydrologic trends, 2) for PacifiCorp to restore perennial flow of like quantity and quality at or above Cottonwood Spring, or 3) for PacifiCorp to finance manipulation of existing watershed to increase water yield. PacifiCorp did not receive an official notification from the USFS or the Division concerning these alternatives listed above. Findings listed in the USFS letter dated May 5, 1999 consist of the same inconsistencies which were discussed above.

To help resolve and bring closure to the Cottonwood Spring issue, for the last two years PacifiCorp has voluntarily conducted periodic gain/loss surveys of Cottonwood Canyon area. As detailed earlier, (refer to Cottonwood Canyon gain/loss Surveys), gain/loss surveys included measurements collected along the Cottonwood drainage from Mill Canyon in Section 2, Township 17 South, Range 6 East to below Roans Canyon in Section 24, Township 17 South, Range 6 East (refer to Volume 9 Appendix C: Attachment 4). These surveys included measurements of each of the contributing sub-drainages and Spring 91-72. Depending upon flow, quantity data was collected at each site utilizing either the bucket/stop watch method or by temporarily installing a 90° v-notch weir.

Energy West closely monitors the groundwater levels in a series of monitoring wells in Cottonwood Canyon as well as climatic trends of central Utah (refer to Volume 9 Appendix C: Drilling Results Section for more detail). As climatic trends returned to normal patterns, (refer to Volume 9 Appendix C: Palmer Drought Index figure presented on page 9), the alluvial system of Cottonwood Canyon started to recharge. This is shown by the upward trends in the alluvial monitoring wells (refer to Volume 9 Appendix C: Drilling Results Section, Drill Site #1). As the trend line elevation of well CCCW-1A equaled the elevation of the Cottonwood Spring area, discharge from the alluvial deposits was re-established. From the data collected over a two year period (1998 – 2000), discharge from Cottonwood Spring area ranged from approximately 40 to 99 GPM (refer to Volume 9 Appendix C: Attachment 6 for Gain/Loss data). The discharge data collected by PacifiCorp from 1998-2000 from the Cottonwood Spring area compared directly to the data collected by the USGS during the late 70's and early 80's.

As stated in Volume 9 Appendix C, PacifiCorp has concluded the Cottonwood Canyon Hydrologic Investigation and will no longer conduct gain/loss surveys in Cottonwood Canyon. As stated above, to help resolve and bring closure to the Cottonwood Spring issue, for the last two years PacifiCorp has voluntarily conducted periodic gain/loss surveys of Cottonwood Canyon area. However, PacifiCorp commits to monitoring the series of wells in Cottonwood Canyon until formally requesting permission to seal the wells according Division of Water Rights specifications.

Concern: **R645-301-731, In the operation monitoring plan in Volume 9, Appendix A, there is no indication that monitoring of ground-water for baseline parameters is to be done every five years during mine operation, as recommended in the Division's Directive Tech 004. There is such a commitment for surface-water monitoring sites during mine operation, and surface- and ground-water sites are to be monitored for baseline parameters during the 5th and 9th year of reclamation.**

Response: *Volume 9 Appendix A included a commitment on page 13 (Section B: Quality Sampling 2. Groundwater Hydrology) "Baseline analysis was performed in 1996 and will be repeated every five years". Reclamation Monitoring - Groundwater Hydrology has been revised to clarify reclamation monitoring of groundwater sites.*

Concern: **R645-301-121.200, The tables in Appendix indicate that in the 5th and 9th years after final reclamation, analyses are to be done for baseline parameters for all surface-water monitoring sites, springs, and well T-18 (Oliphant). There is a commitment in the plan to monitor the Deer Creek portals for baseline parameters in the 5th and 10 year after final reclamation. Identifying the 9th year for most cases and the 10th year for another is potentially confusing.**

Response: *Volume 9 Appendix A has been revised to clarify reclamation monitoring. Surface water sites will be monitored for baseline parameters during the fifth (5th) and ninth (9th) years after final reclamation. Groundwater will follow the scheduled listed below:*

a. East/Trail Mountain Springs: Water samples will be collected and analyzed during the months of July and October. Rilda Canyon Springs (NEWUA: Meters 2 & 3) monitored for quality quarterly. Parameters analyzed are those listed in the DOGM Guidelines for Groundwater Water

Quality (see Table #2). Spring monitoring will be conducted for at least three (3) years after the last date of mining or until coal lease relinquishment.

b. *In-Mine: Two water samples will be collected and analyzed per mine quarterly until the mine is sealed or the sites become inaccessible. Parameters analyzed are those listed in the DOGM Guidelines for Ground-water Water Quality (see Table #2).*

c. *Wells: Well TM-1B will sealed during Phase I reclamation. Quarterly sampling will continue until sealing. Parameters analyzed are those listed in the DOGM Guidelines for Groundwater Water Quality (see Table #2).*

d. *Waste Rock Wells: Waste rock wells will be sealed during Phase I reclamation. One water sample will be collected and analyzed per location quarterly until well sealing. Parameters analyzed are those listed in the DOGM Guidelines for Groundwater Water Quality (see Table #2).*

Post Reclamation Monitoring: PacifiCorp commits to conduct annual surveys to identify new discharge locations within and below sealed portals.

Concern: **R645-301-121.200, It would possibly be better to simply continue the five-year sequence of analysis for baseline parameters from operations into reclamation rather than start a new sequence of 5th and 9th (10th) year analyses at final reclamation. In the extreme case, there could be a ten-year gap between the last five-year baseline analysis during mine operation and the 5th year reclamation analysis: monitoring during the first year of reclamation would be another option that would eliminate such a situation. In any case, the commitment for a set of baseline analysis in the next-to-last or last year of reclamation should be maintained.**

Response: *Volume 9 Appendix A has been revised to clarify reclamation monitoring of Surface sites for baseline parameters. Commitment added to Appendix A page 13: Sampling will conducted on a quarterly basis until bond release. Baseline analysis will be performed on the 5th and 9th years following reclamation. In no case will baseline sampling time frame exceed 5 years converting from operational to reclamation monitoring.*

Concern: **R645-301-121.200, -732.214, A commitment to monitor any discharge from the Deer Creek portals in the 5th and 9th year after final reclamation is made on pages 5-5 and 7-14. Ground-water Hydrology-Reclamation Table 2 in Appendix A of Volume 9 should indicate the commitment to baseline monitoring of the Deer Creek portal during reclamation.**

Response: *Appendix A has been revised to state:*
Post Reclamation Monitoring: PacifiCorp commits to conduct annual surveys to identify new discharge locations within and below sealed portals. If discharge occurs, one water sample will be collected and analyzed per location quarterly. Parameters analyzed are those listed in the DOGM Guidelines for Groundwater Water Quality (see Table #2). Baseline analysis will be performed on the 5th and 9th year.

Concern: **R645-301-121.200, -731.214, According to the reclamation monitoring tables in Appendix A, East Mountain and Trail Mountain springs will be monitored in July and August for operational parameters, and East Mountain - Rilda Canyon spring will be monitored quarterly for operational parameters. Text on page 10 of Appendix A states that during reclamation East Mountain and Trail Mountain springs will be field monitored during July and August and does not mentioned Rilda Canyon springs. Both the monitoring frequency and the parameters to be measured need to be clarified.**

Response: *Volume 9 Appendix A Field Monitoring has been revised to include monitoring of Rilda Canyon Springs.*

Concern: **R645-301-121.200, -731.214, Wells in Cottonwood and Rilda Canyons will be monitored for water levels in March and June through December according to the reclamation monitoring tables in Appendix A. Text on page 11 states that, subject to access, peizometric surface wells will be monitored monthly for level only. The monitoring frequency needs to be clarified.**

Response: *Volume 9 Appendix A Hydrologic Monitoring Schedule has been revised to include monitoring of wells on a monthly basis subject to access.*

Concern: **R645-301-731, The proposed reclamation plan provides for a survey, to be conducted during the Annual Subsidence Monitoring Surveys, to identify new discharge locations within or below sealed portals. Commonly, subsidence surveys are conducted for two years following longwall mining, but the duration for monitoring for these new discharges is not mentioned. The operator should formulate a water-quality and water-quantity monitoring plan for new, measurable flows that are found issuing from these areas during the reclamation period.**

Response: *Appendix A has been revised to state:*
Post Reclamation Monitoring: PacifiCorp commits to conduct annual surveys to identify new discharge locations within and below sealed portals. If discharge occurs, one water sample will be collected and analyzed per location quarterly. Parameters analyzed are those listed in the DOGM Guidelines for Groundwater Water Quality (see Table #2). Baseline analysis will be performed on the 5th and 9th year.

Concern: **R645-301-731.520, According to pages 169 and 170 in Volume 9 of the MRP, there is a potential of post-mining discharge of up to 200 gpm of all portals, most of which will probably discharge from Cottonwood Mine portal in Miller Canyon, which is at the lowest elevation of all portals; however, the access and conveyor tube portals in Cottonwood Canyon–constucted in 1994 and 1995–are lower in elevation and the potential for gravity discharge from these portals is not discussed.**

Response: *Volume 9 Hydrologic Section text on pages 168 - 178 has been revised to reflect current conditions and future commitments. In addition, Maps HM-2 and HM-3 have been revised to include mine elevation contours, portal elevations and proposed hydrologic seals.*

The following list the revisions to Volume 9 - Hydrologic Section:

Volume 9 HYDROLOGY

- *Replace Table of Contents, entire section: revised to reflect current conditions.*
- *Replace text pages 168-178: revised to reflect current conditions and future commitments. Four redline copies are enclosed along with seven clean copies.*
- *Replace Appendix A: revised to satisfy deficiencies noted in Deer Creek Mine Revised Reclamation Plan Technical Analysis and Findings dated November 3, 2000. Four redline copies are enclosed along with seven clean copies.*

Response: *Appendix A has been revised to state:*
Post Reclamation Monitoring: PacifiCorp commits to conduct annual surveys to identify new discharge locations within and below sealed portals. If discharge occurs, one water sample will be collected and analyzed per location quarterly. Parameters analyzed are those listed in the DOGM Guidelines for Groundwater Water Quality (see Table #2). Baseline analysis will be performed on the 5th and 9th year.

Concern: **R645-301-731.520, According to pages 169 and 170 in Volume 9 of the MRP, there is a potential of post-mining discharge of up to 200 gpm of all portals, most of which will probably discharge from Cottonwood Mine portal in Miller Canyon, which is at the lowest elevation of all portals; however, the access and conveyor tube portals in Cottonwood Canyon–constucted in 1994 and 1995–are lower in elevation and the potential for gravity discharge from these portals is not discussed.**

Response: *Volume 9 Hydrologic Section text on pages 168 - 178 has been revised to reflect current conditions and future commitments. In addition, Maps HM-2 and HM-3 have been revised to include mine elevation contours, portal elevations and proposed hydrologic seals.*

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- *Replace text pages 168-178: revised to reflect current conditions and future commitments. Four redline copies are enclosed along with seven clean copies.*
- *Replace Appendix A: revised to satisfy deficiencies noted in Deer Creek Mine Revised Reclamation Plan Technical Analysis and Findings dated November 3, 2000. Four redline copies are enclosed along with seven clean copies.*

- Replace Map HM-2: revised to include structural data, portal elevations and proposed hydrologic seals. Seven copies are enclosed.

- *Replace Map HM-3: revised to include structural data, portal elevations and proposed hydrologic seals. Seven copies are enclosed.*

Attached are seven copies of the amendment (four redline/strikeout) with the required C1/C2 forms. One copy has been sent to the Price Field Office.

If you have any questions or concerns regarding this submittal, please feel free to contact myself at 687-4720 or Dennis Oakley at 687-4825.

Sincerely,

Charles A. Semborski
Geology/Permitting Supervisor

CAS/cas

cc: Scott Child (InterWest Mining Company) w/o
Carl Pollastro (Energy West Mining Company) w/o
File

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Form DOGM - C1 (Last Revised February 10, 2000)

APPLICATION FOR PERMIT PROCESSING

Permit Change ☒	New Permit ☐	Renewal ☐	Transfer ☐	Exploration ☐	Bond Release ☐	Permit Number: C/015/017,018,019

Title of Proposal: Amendment, Revise Volume 9 Hydrologic Section, PacifiCorp, Des-Bee-Dove mines, C/015/017, Deer Creek Mine, C/015/018, Cottonwood Mine, C/015/019

Mine: Des-Bee-Dove/Deer Creek/Cottonwood

Permittee: **PacifiCorp**

Description, include reason for application and timing required to implement: Revisions to Volume 9: Hydrologic Section: Table of Contents (pages i-iv), Text Section (pages 168-178), Appendix A, Map HM-2 and HM-3.

Instructions: *If you answer yes to any of the first 8 questions (gray), this may be a Significant Revision and require Public Notice. Any questions, please call a Permit Supervisor.*

☐ Yes	√ No	1. Change in the size of the Permit Area? acres Disturbed Area? acres ☐ increase ☐ decrease
☐ Yes	√ No	2. Is the application submitted as a result of a Division Order? DO #
☐ Yes	√ No	3. Does application include operations outside a previously identified Cumulative Hydrologic Impact Area?
☐ Yes	√ No	4. Does application include operations in hydrologic basins other than as currently approved?
☐ Yes	√ No	5. Does 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 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 calculations?
☐ Yes	√ No	20. Does the application require or include subsidence control or monitoring?
☐ Yes	√ No	21. Have reclamation costs for bonding been provided for?
☐ Yes	√ No	22. Does 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?

√ Attach 7 complete copies of the application.

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 — Geology/Permitting Supervisor — 1/5/2001
Signed - Name - Position - Date

Subscribed and sworn to before me this 5th day of JANUARY, 2001.

Notary Public

My Commission Expires: November 15, 2004
Attest: STATE OF UTAH
COUNTY OF Emery } ss:

DON CHILDS
NOTARY PUBLIC • STATE of UTAH
31 NORTH MAIN
HUNTINGTON, UT 84528
COMM. EXP. 11-15-2004

Received by Oil, Gas & Mining

ASSIGNED TRACKING NUMBER

Form DOGM - C2 (Last Revised February 1, 2000)

Application for Permit Processing
Detailed Schedule of Changes to the MRP

Title of Application: Amendment,Revise Volume 9 Hydrologic Section, PacifiCorp, Des-Bee-Dove mines, C/015/017, Deer Creek Mine, C/015/018, Cottonwood Mine, C/015/019	Permit Number:C/015/017/018/019
	Mine:Des-Bee-Dove/Deer Creek/Cottonwood
	Permittee: **PACIFICORP**

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit application. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	√ REPLACE	☐ REMOVE	Volume 9: Hydrologic Section, Replace Table of Contents, Entire Section
☐ ADD	√ REPLACE	☐ REMOVE	Volume 9: Hydrologic Section, Replace Text Section Pages 168-178
☐ ADD	√ REPLACE	☐ REMOVE	Volume 9: Hydrologic Section, Replace Appendix A
☐ ADD	√ REPLACE	☐ REMOVE	Volume 9: Hydrologic Section, Replace Map HM-2
☐ADD	√ REPLACE	☐ REMOVE	Volume 9: Hydrologic Section, Replace Map HM-3
☐ ADD	☐ REPLACE	☐ REMOVE	
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Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?