

**Table RP-1a Summary of Criteria for Successful Groundwater Restoration and Surface Reclamation (Page 1 of 2)**

The evaluation of groundwater restoration success within the production zone will be based on the average water quality over the production unit as measured in the baseline production zone monitor wells or their approved replacements. The baseline water quality data will be collected and submitted as part of each respective mine unit package (**Section OP 3.2.2.3 and Attachment OP-8**). The post-mining data will be collected during stabilization as outlined in Section RP 2.4. Assessment of the success of groundwater restoration and surface reclamation will be conducted as follows:

**1) Determination of Stability**

The groundwater chemistry data will be analyzed on the basis of production zone averages and on a parameter-by-parameter basis. Standard statistical techniques such as trend regression analysis will be used to determine stability. The data will be compared against baseline variability to determine if the water quality is stable. For example, the degree of water quality variability during stabilization sampling must be similar to or less than the variability of baseline water quality before the mine unit can be declared stable. If the water quality is determined to be stable, then the success of returning the water quality to the primary goal can be assessed. If not, then additional stability monitoring or restoration may be required.

**2) Primary Goal Assessment**

The primary goal of groundwater restoration is to return the groundwater quality to a level consistent with the baseline quality (while considering the statistical confidence of baseline and stability water quality). If the results of stability monitoring confirm that all measured parameters have been returned to a quality consistent with baseline conditions, then restoration will be deemed successful and complete. Abandonment of wells and surface reclamation may commence. However, if the primary goal of reaching baseline water quality has not been reached then the secondary goal of WDEQ-WQD Class of Use may be pursued.

**3) Class of Use Assessment**

The secondary groundwater restoration goal of class is deemed successful if the implementation of Best Practicable Technology, discussed in Section RP 2.3, has been implemented, and the water quality has been returned to class of use for all parameters. Upon a determination by WDEQ that the secondary goal of class of use has been reached, abandonment of wells and surface reclamation may commence. However, if all parameters have not been successfully returned to class of use then additional restoration may be required or, LC ISR, LLC may request that the WDEQ Director recommend to the Environmental Quality Council that the water quality criteria for groundwater restoration be modified in accordance with W.S. 35-11-429(iii)(2003).

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**4) Restoration Outside the Production Zone**

Regardless of the restored groundwater quality in the production zone, the adjacent aquifers and other waters within the same aquifers must be fully protected to their class of use and, outside the aquifer exemption boundary, to applicable Maximum Contaminant Levels from the U.S. Environmental Protection Agency Rules (40 CFR 141 as amended July 1, 2001). If the restored groundwater in the production zone poses a threat to groundwater outside the production zone, then flow and/or fate and transport models may be used to assist in determining what action, including monitoring sufficient to verify the model, needs to be taken.

**5) Well Abandonment and Surface Reclamation**

Upon approval by WDEQ and the NRC that groundwater restoration is complete, well abandonment and surface reclamation will be initiated pursuant to **Sections RP 3.0** and **4.0** and completed within two years as required

**6) Bond Release**

At the conclusion of successful groundwater restoration the following reclamation activities will occur prior to complete bond release:

- a.** Proper abandonment of all wells pursuant to WDEQ-LQD NonCoal Rules and Regulations, Chapter 11 Section. 8 and as described in **Section RP 3.1**;
- b.** Removal of all piping conveyances, power lines, roads, culverts, header houses and other infrastructure pursuant to **Sections RP 3.2** and **4.0**;
- c.** Contamination surveys and any necessary mitigation required to return soil to unrestricted use;
- d.** Contouring and reapplication of topsoil pursuant to **Section RP 4.5**; and
- e.** Re-vegetation with successful growth pursuant to **Sections RP 4.5.4** and **4.5.5**.

LC ISR may seek partial bond release from the agencies (WDEQ, NRC and BLM) at any stage of reclamation.