ATTACHMENT 1

IMPOUNDMENT REVIEW--EXECUTIVE SUMMARY OF FINDINGS

Date(s) of review: _____

1) State _____. County
2) Impoundment Name _____.
   a. Downstream Receiving Stream(s): (1) of impoundment:
      (2) of breakthrough points:

   b. Watershed Size: acres
   c. Impoundment Storage volume: (1) current: acre-feet; (2) maximum: acre-feet
3) Permittee _____.
4) Permit No. _____. 5) MSHA ID. No. _____.
6) MSHA's Risk Rating _____.
7) RA's Remediation Priority _____. (Rate site based on worst-case situation.)

8) Site Classification Codes (the classification code is included in the Remediation Priority):
Aa--pool above UG mine; UG mine(s) located within IC 8741 "zone of no extraction" (Zone A); and UG mine(s) located within the "zone of extraction using guidelines" (Zone B).
Ab--pool above UG mine; UG mine(s) located within "zone of no extraction," (Zone A) ; and UG mines are not located within the "zone of extraction using guidelines" (Zone B).
Ac--pool above UG mine; UG mine(s) not located within "zone of no extraction," (Zone A); and UG mine(s) are located within the "zone of extraction using guidelines" (Zone B).
B--pool below UG mine but permitted to go above UG mine and UG mine within "zone of no extraction," (Zone A) ; and UG mines are not located within the "zone of extraction using guidelines" (Zone B).
C--pool above or will be above UG mine and UG mine is not within "zone of no extraction," (Zone A); and UG mines are not located within the "zone of extraction using guidelines" (Zone B)
D--pool below UG mine and is not permitted to exceed floor elevation of UG mine; and UG mines are not located within the "zone of extraction using guidelines" (Zone B).
E—no adjacent or subjacent underground mines.

9) Impoundment Type: ☐ Slurry, ☐ Water, ☐ Other (AMD Treatment, CCB Disposal, etc.).
10) Current Freeboard _____ ft.
11) Decant: ☐ Yes, ☐ No. 12) Open/Emergency Spillway: ☐ Yes, ☐ No.
12) Is water/slurry currently being added to the impoundment? ☐ Yes, ☐ No.
13) Is precipitation runoff diverted around impoundment? ☐ Yes, ☐ No.
14) Are the ground or surface water monitoring stations located to provide information on leakage from the pond into the mine? ☐ Yes, ☐ No.

15) Findings. Check the boxes where the review indicated a potential for:
a. □ breakthrough due to failure of seals to underground mine works,
b. □ breakthrough at unsealed underground mine openings,
c. □ breakthrough at UG mine outcrop barrier,
d. □ breakthrough at barrier between highwall and UG mine,
e. □ breakthrough at barrier between auger holes and UG mine,
f. □ breakthrough at barrier between adit and UG mine,
g. □ breakthrough at strata overlying the coal seam through natural fractures,
h. □ breakthrough at strata overlying the coal seam through mining-induced fractures.

16) If the impoundment breaks into the UG mine, is a discharge to the surface possible?
a. □ Yes (through open portals),
b. □ Yes (by causing failure of UG mine's portal backfill ____ feet high),
c. □ Yes (by causing failure, based on 50+H, of the UG mine's outcrop barrier _____ ft wide),
d. □ No (the above-drainage UG mine has the capacity to contain the water/slurry,
e. □ No (the below-drainage UG mine has the capacity to contain the water/slurry.

17) Are there any indications of?
a. □ leakage into the UG works,
b. □ drainage from the UG portals,
c. □ leakage through the UG mine's outcrop barrier.

18) Is there a potential for overlying underground mines to blow-out into the impoundment?
□ Yes, □ No.

19) Has a breakthrough previously occurred at this impoundment? □ Yes, □ No.

20) Attach narrative describing adverse conditions identified in 15, 16, 17, 18, and 19.

21) Has the RA or MSHA previously required remediation with respect to a potential breakthrough? □ Yes, □ No. Describe.

22) Would the remediation required by the RA or MSHA address the current breakthrough concerns identified by the RA? □ Yes, □ No, □ N/A. Describe.

23) Address the status of the RA or MSHA-required remediation (include appropriate dates).

24) Address the remediation action taken by the RA and the status of the action (include appropriate dates).

25) Does an early warning system exist to alert of sudden changes in water level? □ Yes, □ No.

26) Is there an Emergency Action Plan (EAP) with phone numbers of appropriate:
a. □ individuals living downstream of the embankment and the possible underground mine discharge points,
b. □ facilities (e.g., public water supplies),
c. □ agencies.

27) Does the EAP cover areas where a breakthrough could discharge? □ Yes, □ No.

28) Describe the affected downstream locations if: (a) dam breach occurred; (b) breakthrough resulted in discharge to other streams. Description should note type (home, school, business, industry, etc.), number, and location of properties and distance downstream, location above bank-full condition, anticipated flood stage at structure; presence of water supply intakes, high quality or special stream value, and other pertinent information.

Impoundment, coal seam, and mining information. (1) All distances are in feet.

Feature	Elevations (for coal seams, give floor elev.) (msl)	Coal Seam Thickness (T) & Mining Height (H)	Mining Info (2)	Outcrop Barrier-- Width (W) & Vertical Dist. (D) From Edge of Barrier to Surface, e.g. 50W, 25D	For Mines Below Impoundment. Vertical Dist. Mine Roof to Surface	Barrier Width (e.g., between auger and UG mine) & Over-burden, e.g. 20W,50D	Coal Seam, Mine Name/Number, and Mining Date	Remediation Priority by Seam
Dam, Max Permitted (M) and Current (C)								
Pool Level, Max Permitted (M) and Current (C)								
Slurry Level, Current								
Coal Seam (Above Current Pool)								
Coal Seam (Above Current Pool)								
Coal Seam (Within Pool)								
Coal Seam (Within Pool)								
Bottom of Impoundment								
Coal Seam Below Impoundment Bottom								
Coal Seam Below Impoundment Bottom								

NOTES: (1) For all fields, where you have not been able to verify the information, add a **NV** for "not verified" to your entry. (2) Mining Information: specify the types of activity along the coal croplines and below the impoundment: **C** contour mine. **R D** road or diversion at/near the cropline. **Auger** auger holes. **Adit** adits, house coal mines, etc (generally short entries that do not connect with a conventional underground mine). **Portal** portals to underground mine. **PO** punchouts from the underground (UG) mine into the impoundment area. Mining method and recovery--e.g., UG1st (50x50) and UG2nd/2B (30x40). **UG1st (#x#)** UG works--pillars not pulled (i.e., area first mined) in the panel(s) under/adjacent to the impoundment; give pillar size. **UG2nd/#B (#x#)** UG works-ventilation bleeder pillars retained around the perimeter of the panels and adjacent to the outcrop barrier, and pillars pulled outby the bleeder row; give size of bleeder pillars and number of bleeder rows, e.g., 2 rows of 30x40 pillars UG2nd/2B (30x40). **UG2nd (#x)** UG works--pillars pulled (i.e., area second mined) under/adjacent to the outcrop, and size of pillars.