APPENDIX C

SEO INSPECTION REPORTS

SMU4.C6 OFFICE COPY

ENGINEERS INSPECTION REPORT

OFFICE OF THE STATE ENGINEER-DIVISION OF WATER RESOURCES - DAM SAFETY BRANCH
1313 Sherman Street, Room 818, Denver, CO 80203, (303) 866-3581

DAM NAME: Summitville Tailings — W. DIV.: 3 — W. DIST.: 21 — DATE OF INSPECTION: 10/3/00

DAM ID: 210103 — FILE NO.: C- — FOREST I.D.: — DATE OF LAST INSPECTION: 7/1/87 by Water Commissioner

OWNER NAME: — OWNER PHONE:

ADDRESS: — ZIP CODE:

CONTACT NAME: Austin Buckingham - CDPHE — CONTACT PHONE: 303-[illegible]

CLASS: 3 — CAPACITY: 723 / 294 AF — SURFACE AREA: 16 AC. — HEIGHT: 64 FT. — CREST LENGTH: 480 FT — CREST WIDTH: 30.0 FT.

CURRENT RESTRICTION ☐ (NO) ☐ (YES) — LEVEL: — EPP ON FILE ☒ (NO) ☐ (YES) N/A — SPWY WIDTH: 16 FT, FBD.: 4 FT, Z:

INSPECTION PARTY: Jim Sellers, Austin Buckingham, Tom Ascarrunz, Mike Leming, Angus Campbell

REPRESENTING: DSWR, CDPHE, RMC, BOR, CDPHE

DIRECTIONS: MARK AN X FOR CONDITIONS FOUND AND UNDERLINE WORDS THAT APPLY. GIVE LOCATION AND EXTENT WITH NUMBER REFERENCE I.E. (25) ALL ALONG SLOPE, OR SHOW IT ON SKETCH.

FIELD CONDITIONS OBSERVED

WATER LEVEL - BELOW DAM CREST: 11,282 (spill. elev.) FT., BELOW SPILLWAY: 11,278 (water elev.) FT., GAGE ROD:

GROUND MOISTURE CONDITION: DRY X — WET — SNOWCOVER — OTHER

Conditions Observed: GOOD / ACCEPTABLE / POOR

UPSTREAM SLOPE

PROBLEMS NOTED: ☐ (0) NONE ☒ (1) RIPRAP - MISSING, SPARSE, DISPLACED, WEATHERED ☒ (2) WAVE EROSION-WITH SCARPS
☐ (3) CRACKS-WITH DISPLACEMENT ☐ (4) SINKHOLE ☒ (5) APPEARS TOO STEEP ☐ (6) DEPRESSIONS OR BULGES ☐ (7) SLIDES
☐ (8) CONCRETE FACING-HOLES, CRACKS, DISPLACED, UNDERMINED ☐ (9) OTHER

Comments: (1) Riprap placed in mid-1990's not well-graded (2) Erosion below riprap w/ minor scarps - riprap extends down ~ 1/3 from crest (5) Whole slope appears steep

CREST

PROBLEMS NOTED: ☐ (10) NONE ☐ (11) RUTS OR PUDDLES ☐ (12) EROSION ☐ (13) CRACKS - WITH DISPLACEMENT ☐ (14) SINKHOLES
☐ (15) NOT WIDE ENOUGH ☒ (16) LOW AREA ☐ (17) MISALIGNMENT ☒ (18) INADEQUATE SURFACE DRAINAGE
☐ (19) OTHER

Comments: (16) Dip in crest near pump house (18) Appeared level

Good gravel road across crest

DOWNSTREAM SLOPE

PROBLEMS NOTED: ☐ (20) NONE ☐ (21) LIVESTOCK DAMAGE ☒ (22) EROSION OR GULLIES ☐ (23) CRACKS - WITH DISPLACEMENT ☐ (24) SINKHOLE
☒ (25) APPEARS TOO STEEP ☐ (26) DEPRESSION OR BULGES ☐ (27) SLIDE ☐ (28) SOFT AREAS ☐ (29) OTHER

Comments: (25) Upper 1/5 of dam steeper than remainder - probably due to raise of crest (addition of ~15') (22) Erosion at both groins

Added filter drains and more fill ~1995

SEEPAGE

PROBLEMS NOTED: ☐ (30) NONE ☐ (31) SATURATED EMBANKMENT AREA ☐ (32) SEEPAGE EXITS ON EMBANKMENT
☒ (33) SEEPAGE EXITS AT POINT SOURCE ☒ (34) SEEPAGE AREA AT TOE ☒ (35) FLOW ADJACENT TO OUTLET ☐ (36) SEEPAGE INCREASED/MUDDY
DRAIN OUTFALLS SEEN __No __Yes ☐ (37) FLOW INCREASED/MUDDY ☐ (38) DRAIN DRY/OBSTRUCTED
☐ (39) OTHER (35) [illegible] adjacent to both pipes — Show location of drains on sketch and indicate amount and quality of discharge.

Comments: [illegible] of max. section (34) At max section collected in pond [illegible] from as high as 30 gpm (~15 gpm during visit). Annual seep analysis performed

OUTLET

PROBLEMS NOTED: ☐ (40) NONE ☐ (41) NO OUTLET FOUND ☐ (42) POOR OPERATING ACCESS ☐ (43) INOPERABLE
☐ (44) UPSTREAM OR DOWNSTREAM STRUCTURE DETERIORATED ☒ (45) OUTLET NOT OPERATED DURING INSPECTION
INTERIOR INSPECTED ☒ (120) NO ☐ (121) YES ☐ (46) CONDUIT DETERIORATED OR COLLAPSED ☐ (47) JOINTS DISPLACED ☐ (48) VALVE LEAKAGE
☐ (49) OTHER [illegible]

Comments: (45) [illegible] [illegible] spillage [illegible] structure 1995 [illegible] 16" [illegible] 8" [illegible] valves)

SPILLWAY

PROBLEMS NOTED: ☐ (50) NONE ☐ (51) NO EMERGENCY SPILLWAY FOUND ☐ (52) EROSION-WITH BACKCUTTING ☐ (53) CRACK - WITH DISPLACEMENT
☐ (54) APPEARS TO BE STRUCTURALLY INADEQUATE ☐ (55) APPEARS TOO SMALL ☐ (56) INADEQUATE FREEBOARD ☐ (57) FLOW OBSTRUCTED
☐ (58) CONCRETE DETERIORATED/UNDERMINED ☐ (59) OTHER

Comments:

See Guidelines on Back of this Sheet

DC185a-85

DAM NAME: Summitville Tailings DAM I.D.: 210103 DATE 10/3/00

MONITORING

EXISTING INSTRUMENTATION FOUND ☐ (110) NONE ☐ (111) GAGE ROD ☒ (112) PIEZOMETERS ☐ (113) SEEPAGE WEIRS/FLUMES
☐ (114) SURVEY MONUMENTS ☒ (115) OTHER Pressure transducer for reservoir depth.
MONITORING OF INSTRUMENTATION: ☐ (116) NO ☐ (117) YES PERIODIC INSPECTIONS BY: ☐ (118) OWNER ☐ (119) ENG.
Comments: (112) 3 piezometers installed 1999 (115) Q-trackers in each outlet pipe (2) to measure flowrate for outlet, PVC used to measure seepage @ pond

GOOD ☐ ACCEPTABLE ☒ POOR ☐ — MONITORING

MAINTENANCE AND REPAIR

PROBLEMS NOTED: ☐ (60) NONE ☐ (61) ACCESS ROAD NEEDS MAINTENANCE ☐ (62) CATTLE DAMAGE
☐ (63) BRUSH ON UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, TOE ☐ (64) TREES ON UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, TOE
☐ (65) RODENT ACTIVITY ON UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, TOE ☐ (66) DETERIORATED CONCRETE-FACING, OUTLET, SPILLWAY
☐ (67) GATE AND OPERATING MECHANISM NEED MAINTENANCE ☒ (68) OTHER Pond at toe (seepage), Upstream riprap
~~Comments~~: and heavy spillway channel erosion

GOOD ☐ ACCEPTABLE ☒ POOR ☐ — MAINTENANCE AND REPAIRS

OVERALL CONDITIONS

REMARKS: Presently exempt from Rules and Regulations for Dam Safety since the dam is included within the permit boundary of the current mining operation and has been removed from the normal inspection schedule.
Based on this Safety Inspection and recent file review, the overall condition is determined to be:

☐ 71 SATISFACTORY ☒ 72 CONDITIONALLY SATISFACTORY ☐ 73 UNSATISFACTORY

OVERALL CONDITIONS

THIS IS THE MINIMUM ACTION YOU SHOULD TAKE. ADDITIONAL ACTION MAY BE NECESSARY PER YOUR ENGINEER'S ADVICE.

ITEMS REQUIRING ACTION BY OWNER TO IMPROVE THE SAFETY OF THE DAM

MAINTENANCE - MINOR REPAIR - MONITORING

☒ (80) PROVIDE ADDITIONAL RIPRAP: on upstream slope
☒ (81) LUBRICATE AND OPERATE OUTLET GATES THROUGH FULL CYCLE: Annually
☐ (82) CLEAR TREES AND/OR BRUSH FROM:
☐ (83) INITIATE RODENT CONTROL PROGRAM AND PROPERLY BACKFILL EXISTING HOLES:
☒ (84) GRADE CREST TO A UNIFORM ELEVATION WITH DRAINAGE TO THE UPSTREAM SLOPE: Superelevate to u/s slope & provide uniform elevation
☐ (85) PROVIDE SURFACE DRAINAGE FOR:
☒ (86) MONITOR: Seepage
☒ (87) DEVELOP AND SUBMIT AN EMERGENCY PREPAREDNESS PLAN. If becomes Class 2. dam
☒ (88) OTHER: Remove spillway obstructions u/s of spillway (pipeline and logs); berm d/s
☒ (89) OTHER: Flatten and/or protect spillway channel slopes to protect from erosion

ENGINEERING - EMPLOY AN ENGINEER EXPERIENCED IN DESIGN AND CONSTRUCTION OF DAMS TO:

☐ (90) PREPARE PLANS AND SPECIFICATIONS FOR THE REHABILITATION OF THE DAM:
☒ (91) PREPARE AS-BUILT DRAWINGS OF: Dam
☐ (92) PERFORM A GEOTECHNICAL INVESTIGATION TO EVALUATE THE STABILITY OF THE DAM:
☒ (93) PERFORM A HYDROLOGIC STUDY TO DETERMINE REQUIRED SPILLWAY SIZE: Determine if spillway capacity + reservoir capacity is adequate
☐ (94) PREPARE PLANS AND SPECIFICATIONS FOR AN ADEQUATE SPILLWAY:
☐ (95) SET UP A MONITORING SYSTEM INCLUDING WORK SHEETS, REDUCED DATA AND GRAPHED RESULTS:
☐ (96) PERFORM AN INTERNAL INSPECTION OF THE OUTLET:
☐ (97) OTHER:
☐ (98) OTHER:
☐ (99) OTHER:

SAFE STORAGE LEVEL RECOMMENDED AS A RESULT OF THIS INSPECTION

☐ (101) FULL STORAGE
☒ (102) CONDITIONAL FULL STORAGE
☐ (103) RECOMMENDED RESTRICTION

RESTRICTED LEVEL - OFFICIAL ORDER TO FOLLOW →
_____ FT. BELOW DAMS CREST
_____ FT. BELOW SPILLWAY CREST
_____ FT. GAGE HEIGHT
_____ NO STORAGE-MAINTAIN OUTLET FULLY OPEN

REASON FOR RESTRICTION:

ACTIONS REQUIRED FOR CONDITIONAL FULL STORAGE ~~OR CONTINUED STORAGE AT THE RESTRICTED LEVEL~~: Unsure whether dam is Class 2 or 3. Hydrology study to determine spillway size or amount of storage still to be completed. As built plans to be submitted by 11/15/00
(91)(93)(86)(88)(89)

Engineer's Signature [signature] INSPECTED BY: Owner's Signature [signature] OWNER/OWNER'S REPRESENTATIVE DATE: 10/3/00

DC-185a-85