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Court of Appeals
Division III
State of Washington

NO. 35199-8

**COURT OF APPEALS, DIVISION III
OF THE STATE OF WASHINGTON**

CROWN RESOURCES CORPORATION,

Appellant,

v.

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

Respondent,

and

OKANOGAN HIGHLANDS ALLIANCE,

Intervenor-Respondent.

**STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY'S
RESPONSE BRIEF**

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I. INTRODUCTION

This case is about whether carefully crafted conditions in a renewed water quality permit, designed to prevent a gold mine on Buckhorn Mountain in Okanogan County from degrading state waters, should stand. The Department of Ecology developed the renewed Permit over a two year period based on the mine's operation history in a process that included extensive input from the mine and others through a series of 21 technical meetings and a formal comment period.

The Pollution Control Hearings Board upheld the Permit after a seven-day evidentiary hearing. Substantial evidence supports the Board's decision, including its findings on (1) the requirement that the mine capture and treat all mine-contaminated water, (2) the interim limits and compliance schedule for transitioning from the previous permit, and (3) the background-based final limits and procedures used to calculate them. These findings were upheld by the Ferry County Superior Court.

Appellant, Crown Resources Corporation, brings a primarily factual challenge but fails to assign error to specific findings in the Board's decision, or acknowledge the extensive testimonial and documentary evidence the Board cited and discussed on each issue. Neither does Crown identify a statute or regulation that conflicts with the Permit terms.

This Court should affirm the Board and uphold the Permit to ensure that the mine leaves no legacy of pollution in Okanogan County.

II. RESTATEMENT OF THE ISSUES

1. Does substantial evidence support the Board's finding that the capture zone boundary line is a reasonable boundary for the furthest permissible extent of contaminated water?

2. Does substantial evidence support the Board's finding that the interim limits and compliance schedule were reasonable and appropriate and within Ecology's discretion?

3. Does substantial evidence support the Board's finding that the final limits were derived using statistically rigorous methods consistent with standard industry practice, in keeping with Ecology and U.S. Environmental Protection Agency guidance documents?

4. Did the Board properly conclude that the Permit was effective on its listed effective date, 30 days after issuance, because Crown never filed a motion to stay the Permit as required under the Board's statute and rules?

III. RESTATEMENT OF THE CASE

A. The Buckhorn Gold Mine

The Buckhorn mine is an underground gold mine located near the top of Buckhorn Mountain in the Okanogan Highlands. The area

surrounding the mine is characterized by rugged, mountainous terrain that is heavily forested at higher elevations. *See* AR 2980. The mine is located on private land owned by Crown Resources Corporation that is surrounded by national forest. The mine includes both belowground facilities such as shafts and sumps and aboveground facilities including the mine water treatment plant, an access road, maintenance shops, parking lots, ore and development rock stockpiles, and detention ponds. A number of dewatering wells, monitoring wells, surface water monitoring stations, and piezometers surround the mine. *See* AR 7321-22 (Figures 2.4, 2.5).

The aboveground facilities are generally located on the northeast slope of Buckhorn Mountain. Gold Bowl Creek is at the bottom of this slope, receiving drainage from the mine through surface runoff and seeps and springs from groundwater on Buckhorn Mountain. The creek drains into Marias Creek, to Toroda Creek, into the Kettle River, north into Canada, and finally into the Columbia River. AR 3126 (3.7-28).

Originally, the mine was proposed by Crown's predecessor as an open pit mine. An Environmental Impact Statement (EIS) was completed on the open pit proposal in 1997. In 2000, the Board reversed several permits issued for the open pit mine. *Okanogan Highlands Alliance v. Dep't of Ecology*, PCHB Nos. 97-146, -182, -183, -186, 99-019 (Jan. 19, 2000). Crown acquired the property and proposed the present underground

mine. A supplemental environmental review was completed on the underground mine in 2006. The resulting Final Supplemental EIS (FSEIS) is the foundational environmental document for the current mine.

B. The FSEIS and Capture Zone

The FSEIS discusses the potential water quality impacts of the underground mine in detail and proposes various mitigation measures to address those impacts. AR 3160 (§ 3.7-72). Ultimately, the FSEIS concluded that while the project would alter the hydrogeologic system at the mine, there would be no significant *unavoidable* adverse impacts to water quality conditions.¹ AR 3331 (§ 3.17.7).

A key concern was the potential for the mine to generate acid drainage from the ore and development rock stockpiles and from the damaged rock zone underground. AR 3159–60 (3.7-71–72). Acid mine drainage can pose a serious threat to freshwater ecology and fish health and has proven to be a persistent problem at both historic and new mining sites throughout North America. AR 8546–75 (*Acid Mine Drainage and Effects on Fish Health and Ecology: A Review*). Regarding the damaged rock zone, the FSEIS describes the concern as follows:

The quality of groundwater that flows into the underground mine would become impacted during mine dewatering.

¹ “While there is a potential that water quality could become degraded, these potential impacts are considered avoidable with the proposed and recommended mitigation measures.” AR 3331 (§ 3.17.7).

When the water table is lowered below its original lowest levels, air would come in contact with bedrock that has not been regularly exposed to the atmosphere. This exposure would increase the weathering of iron sulfide minerals that have heretofore been submerged and increase the potential for acid generation.

AR 3161 (3.7-73);

To address this concern, the FSEIS proposes several mitigation measures, including testing rock both underground and in the stockpiles for acid generating potential, using marble to neutralize rock identified as “Potentially Acid Generating” (PAG), applying shotcrete (a concrete mixture) to PAG rock underground, and capturing and treating water contaminated by the mine workings and the stockpiles. AR 2192–93 (3.7-81–82). To ensure that state waters are not contaminated by this new underground mine, the FSEIS identifies and maps a “capture zone” within which the water contaminated by the mine would be captured and treated. AR 3140 (Table 3.7-10). The FSEIS states that the capture zone will be created by the dewatering wells used to lower the water table encompassing the entire mine workings. AR 3137 (3.7-40).

C. The 2007 Permit

Based on the FSEIS, Ecology issued the first water quality permit to Permit to Crown in fall 2007 as a National Pollutant Discharge Elimination System (NPDES) permit under state and federal water quality

law. AR 2019–64. The 2007 Permit required Crown to “establish and maintain a groundwater capture zone to include all underground mine workings, the surge pond, and all surface stockpiles of ore and development rock.” AR 2028 (Condition S1.D). This required Crown to contain and capture all polluted water from the mine within the capture zone, run it through the mine water treatment plant, and then discharge it only as clean, treated water through designated outfalls. In order to monitor the success or failure of the capture zone, the 2007 Permit required monitoring of springs, streams, seeps, and monitoring wells around and outside the mining area. AR 2032–35 (Conditions S2.B.5, S2.C). The Permit authorized discharges from the mine water treatment plant at four outfalls, 001 through 004, and set effluent limits for these outfalls at levels equal to the numeric criteria of state surface and groundwater quality standards. AR 2026 (Condition S1.A).

D. Problems, Capture Zone Failure, and Penalties Under the 2007 Permit

Soon after mining commenced, serious water management problems began to emerge. *See* AR 9350–56. The key underlying problem was that Crown had failed to plan for or address the quantity of water it could encounter during the spring freshet each year on Buckhorn Mountain. *Id.* The FSEIS drastically underestimated the amount of inflow

to the mine during the spring. When winter snows melt, large quantities of water are released to surface streams and to groundwater through rain and snow melt. These large inflows of groundwater flood the mine workings and the capture zone and must be pumped out and treated to mine the gold ore, as well as to comply with the Permit's capture zone requirement. *Id.* Water management during the spring freshet became an ongoing and well-documented problem. AR 1452–53; *See* AR 9372–82.

In spring 2008, Crown failed to make required measurements 17 times and exceeded its discharge limits for total dissolved solids in its treatment plant effluent, causing Ecology to issue a Notice of Violation. In 2008–09, Crown failed to maintain the capture zone for 310 days and failed to respond according to its adaptive management plan, resulting in a \$40,000 civil penalty from Ecology. Also, sometime prior to January of 2009, a slump occurred above Gold Bowl Creek and below the surge pond, which led Ecology to issue an Administrative Order, requiring additional engineering that led to installation of a reverse osmosis treatment process in the treatment plant. *Id.*

After Crown self-reported that one of its staff had been adjusting its wastewater flows to dilute samples collected from mid-May to August 2009, Ecology issued a \$22,000 penalty to Crown for submitting sample results that were not representative. In June 2010, Ecology conducted a

compliance inspection at the mine site, discovered a slope failure at the infiltration gallery that measured approximately 25 feet wide and 100 feet long down gradient from the infiltration gallery where wastewater was being discharged to groundwater, issued another Notice of Violation, and prohibited further use of the infiltration gallery, outfall 001. AR 9349–85. In spring 2011, Crown failed to maintain the capture zone, resulting in a substantial landslide at Gold Bowl Creek below outfall 002 and a penalty of \$395,000.² In all, under the 2007 Permit, violations at the mine had caused Ecology to issue six notices of violation, six administrative orders, and three civil penalties totaling over \$450,000. AR 1452; AR 9349–85.

E. The 2014 Permit

After administratively extending Crown’s 2007 Permit, Ecology issued a renewed NPDES Permit on February 27, 2014, for a five year term beginning March 1, 2014. AR 1495. To develop this renewed permit, Ecology established a technical workgroup that included representatives from Crown and the Okanogan Highlands Alliance (OHA) that met 21 times. Ecology also received extensive public comments on the draft

² Crown’s appeal of the \$395,000 penalty was resolved through a settlement agreement. AR 1452; AR 2169–84 (Ex. A-8). Among other things, the Settlement Agreement recited Crown’s and Ecology’s expectations that the renewed NPDES Permit would contain stricter background-based limits as well as interim limits and a compliance schedule. *Id.* Contrary to Crown’s misleading suggestion, the settlement agreement provided no terms or conditions whatsoever on what the interim limits would be or on the length of the compliance schedule. *Id.*

permit. AR 2114–68; AR 2185–2613. The major changes in the renewed 2014 NPDES Permit compared to the 2007 Permit are listed on pages 4–8 of the Fact Sheet. AR 1614–18. These include:

1. The addition of a capture zone map, more detailed capture zone definition, and specific compliance points.
2. Final effluent limits for outside the capture zone based on a statistical analysis of background water quality, rather than the water quality criteria-based limits in the 2007 Permit.
3. Interim numeric limits applicable through the calendar year of 2014 carrying forward the 2007 Permit’s water quality criteria-based limits to provide Crown a bridge to compliance with the new stricter final limits in the 2014 Permit.

F. Procedural History

Crown appealed the 2014 Permit to the Board. OHA intervened as an intervenor-respondent. After dismissing some issues on partial summary judgment, the Board held a seven-day evidentiary hearing in early 2015. Crown presented testimony from its employees and consultants. Ecology presented the testimony of its Unit Supervisor Sanjay Barik who wrote the 2014 Permit and had been involved in issues at the

mine since 2006.³ RP 1084–86, Feb. 2, 2015; AR 9595–98. Ecology’s former hydrogeologist, Lorraine Powell, was not available to testify at the hearing, but her deposition is included in the administrative record. AR 9613–47. OHA called Steven Swope, an expert in the statistical evaluation of groundwater data, who explained the methods used to calculate the pre-buckhorn mine background groundwater quality for the final limits. RP 1228–31, Feb. 2, 2015.

After the hearing, Ecology modified the 2014 Permit to correct specific errors in the Permit that were identified at the hearing. The Board granted Ecology and Crown’s post-hearing requests that the documents pertaining to the modification be added to the record and considered by the Board. AR 1455.

In July 2015, the Board issued its final decision, resolving the issues raised in the appeal that were not resolved by the post-hearing Permit modification. The Board’s detailed decision made extensive factual findings based on the evidence in the case and the Board’s credibility

³ Crown misleadingly suggests that Mr. Barik had “little prior experience with Buckhorn Mine” before 2013 and was somehow unqualified in his position. In fact, Mr. Barik has two bachelor’s degrees and two master’s degrees, a background in geochemistry and environmental engineering, a 20-year environmental work history, and has been promoted multiple times at Ecology. RP 1084–86, 1092–96, Feb. 2, 2015; AR 9595–98. After first reviewing the FSEIS in 2006, Mr. Barik went on to work extensively with hydrogeologist Lorraine Powell and others at Ecology on issues that arose at Buckhorn under the 2007 Permit, before he took over the lead in writing the renewed permit in 2013. *Id.*; AR 9639–40 (Powell Dep. 26–27).

determinations, and ultimately affirmed the Modified 2014 Permit.⁴

AR 1442–47.

The Board’s 46-page decision made detailed factual findings on the basis for the Permit’s conditions on outfall capacity, the capture zone, the interim limits, compliance schedule, final effluent limits, and the haul road. The Board concluded that each challenged Permit condition was reasonable and supported by substantial evidence, and that Crown had not carried its burden of proof to show otherwise. AR 1486.

A key Board conclusion was that detrimental water quality impacts from the mine should have been avoided through the mitigation measures identified in the FSEIS. The Board concluded that the Permit “constitutes a mechanism for requiring Crown to ensure that the long term impacts of the Mine are consistent with the impacts predicted in the FSEIS.” *Id.* The Board further determined that the Permit provides Crown with “sufficient flexibility to conduct mining operations consistent with the requirements of state and federal law” and that the requirements that the mine capture and treat all mine-contaminated waters are “reasonable provisions that

⁴ Crown makes surprising assertions that the Board did not thoroughly review or consider the testimony in this case. Crown’s Opening Brief 12. In fact, the Board’s findings discuss and cite the testimony and exhibits that were presented by all parties. Although the Board does not provide pinpoint citations to the hearing transcript, the decision provides a granular review of the highly technical testimony and exhibits and a detailed treatment of the issues that demonstrate a thorough consideration of the testimony.

attempt to make certain that the Mine does not leave a legacy of water pollution.” AR 1487.

The Board also found that the Permit went into effect on its effective date and rejected Crown’s argument that the Permit was automatically stayed. AR 1485.

Crown appealed the Board’s decision to Ferry County Superior Court, which affirmed the Board on all issues. CP 1490–99, Feb 22, 2017. Crown appeals to this Court.

IV. STANDARD OF REVIEW

This Court reviews the decision of the Board and not the decision of the superior court. *See Buechel v. Dep’t of Ecology*, 125 Wn.2d 196, 202, 884 P.2d 910 (1994). Here, the agency action under review is the Board’s Findings of Fact, Conclusions of Law, and Order, *Crown v. Dep’t of Ecology*, PCHB No. 14-018 (July 30, 2015); AR 1442–87. The Board’s decision is presumed correct, and Crown bears the burden to prove otherwise. RCW 34.05.570(1)(a).

The Court reviews the Board’s findings of fact under the “substantial evidence” standard. RCW 34.05.570(3)(e); *Terry v. Emp’t Sec. Dep’t*, 82 Wn. App. 745, 748, 919 P.2d 111 (1996). A court will uphold an agency’s finding of fact if it is supported by “evidence that is substantial when viewed in light of the whole record before the court.”

RCW 34.05.570(3)(e). “Substantial evidence,” is “evidence in sufficient quantum to persuade a fair-minded person of the truth of the declared premises.” *Heinmiller v. Dep’t of Health*, 127 Wn.2d 595, 607, 903 P.2d 433 (1995) (internal quote and citations omitted).

The substantial evidence standard is “highly deferential” to the agency fact finder. *ARCO Prods. Co. v. Wash. Utils. & Transp. Comm’n*, 125 Wn.2d 805, 812, 888 P.2d 728 (1995). The court will view the evidence in the light most favorable to the party who prevailed in the highest administrative forum to exercise fact-finding authority. *City of Univ. Place v. McGuire*, 144 Wn.2d 640, 652, 30 P.3d 453 (2001). The court will accept the fact-finder’s determinations of witness credibility and the weight to be given to reasonable but competing inferences. *Id.*

In applying this standard, the court reviews the entire record. If there are sufficient facts from which a reasonable person could make the same finding as the agency, the court will uphold the finding, even if the court would make a different finding based on its reading of the record. *Callecod v. Wash. State Patrol*, 84 Wn. App. 663, 676 n.9, 929 P.2d 510 (1997). Where a petitioner does not assign error to a factual finding, that finding is considered a verity on appeal. *Hilltop Terrace Homeowners’ Ass’n v. Island Cty.*, 126 Wn.2d 22, 39, 891 P.2d 29 (1995).

The Board's legal conclusions are reviewed under the “error of

law” standard, which allows the court to substitute its view of the law for that of the Board. *Verizon Nw., Inc. v. Emp’t Sec. Dep’t*, 164 Wn.2d 909, 915, 194 P.3d 255 (2008); RCW 34.05.570(3)(d). Substantial weight is accorded to an agency’s interpretation of a statute within its expertise, and to the rules the agency promulgated. *Verizon Nw.*, 164 Wn.2d at 915; *Port of Seattle v. Pollution Control Hrgs. Bd.*, 151 Wn.2d 568, 593, 90 P.3d 659 (2004). The court can grant relief to a petitioner only if that party has been “substantially prejudiced” by the action being reviewed. RCW 34.05.570(1)(d).

The Legislature granted Ecology jurisdiction on matters related to the control of water pollution. RCW 90.48.030. Ecology’s interpretation of the law it administers is entitled to great weight. *Port of Seattle*, 151 Wn.2d at 593. The Legislature created the Board to adjudicate appeals arising out of Ecology actions. *Id.* at 597. Board members are qualified by experience or training in matters pertaining to the environment. *Id.* at 591–92 (citing RCW 43.21B.020). For these reasons, a reviewing Court should be “loath to override the judgment of both agencies, whose combined expertise merits substantial deference.” *Id.* at 600.

V. ARGUMENT

The protective conditions of the water quality Permit at issue in this case are built upon the capture zone requirement that was a

fundamental basis for originally permitting the mine. As explained below, this central requirement that the mine capture and treat all mine-contaminated water is supported by substantial evidence, as are the interim limits, compliance schedule, and final limits, all of which were carefully crafted to ensure that the capture zone is maintained and that the mine does not leave a legacy of pollution in Okanogan County.

A. The Law Requires Ecology’s Permit to Set Limits Protecting the High Quality Waters on Buckhorn Mountain from Degradation

In 1945, the Legislature passed the Water Pollution Control Act, RCW 90.48. The Act gives Ecology responsibility and jurisdiction “to control and prevent the pollution of streams, lakes, rivers, ponds, inland waters, salt waters, water courses, and other surface and underground waters of the state.” RCW 90.48.030. The Act makes it unlawful for any person to allow any organic or inorganic matter that causes or tends to cause pollution to be discharged into waters of the state. RCW 90.48.080. Later amendments to RCW 90.48 make it unlawful for any person conducting a commercial or industrial operation of any type to dispose of solid or liquid waste material into waters of the state without obtaining a state waste discharge permit. RCW 90.48.160.

In 1972, Congress passed the federal Water Pollution Control Act, also known as the Clean Water Act (CWA). The CWA makes it unlawful

for any person to discharge pollutants from a point source into navigable waters of the United States unless the discharge complies with a NPDES permit. 33 U.S.C. §§ 1311(a), 1342(a), 1362(12). Congress authorized the Environmental Protection Agency (EPA) to delegate the NPDES permit program to states, 33 U.S.C. § 1342(b), and Ecology is designated as the state Water Pollution Control Agency for all purposes of the CWA in Washington. RCW 90.48.260. Ecology regulates water quality under both state and federal law primarily through the use of combined NPDES and state waste discharge permits, such as the Permit at issue in this case.

The animating idea of the NPDES program is to require all point sources of water pollution to acquire permits for any discharges of water pollution and for these permits to become increasingly more stringent over time as industry innovates to reduce pollution. This ratcheting-down effect on water pollution is achieved under the CWA through two key mechanisms: the anti-backsliding rule and the anti-degradation policy.

The anti-backsliding rule in the CWA states that effluent limits in a renewed permit shall not be less stringent than those in a previous permit. 33 U.S.C. § 1342(o)(1). This rule helps implement the CWA's purpose to always move towards the elimination of water pollution. 33 U.S.C. § 1251(a)(1). The CWA defines the term "effluent limitations" very broadly as "any restriction established by a State . . . on quantities, rates, and

concentrations of chemical, physical, biological, and other constituents” 33 U.S.C. § 1362(11). The definition specifically includes “schedules of compliance.” *Id.* Under EPA regulations, “schedules of compliance” may include interim requirements such as interim effluent limits. 40 C.F.R. § 122.47. *See also* WAC 173-201A-510(4). The anti-backsliding rule is particularly relevant to renewed permits and interim limits, where it ensures that permits do not allow steps backward in the march towards improved water quality.

Under Washington’s antidegradation policy, in areas where water quality exceeds state-wide water quality criteria, no measurable change may be allowed to water quality without a specific finding that lowering water quality is necessary and in the overriding public interest.

RCW 90.54.020(3)(b); WAC 173-201A-320(1); WAC 173-200-030(2)(c). The anti-degradation policy is particularly relevant at Buckhorn Mountain, where the area had relatively good pre-mining background water quality—better than state water quality criteria in most cases.

B. Crown Has Not Carried Its Burden Under the Administrative Procedure Act

The Court’s task in this case is to review the Board’s decision to ensure that its factual findings are supported by the evidence and that the decision is based upon sound law. The Administrative Procedure Act

(APA) places the burden on Crown, as the party challenging the agency action, to show particular factual findings that have no substantial support in the record or to identify a prejudicial legal error. RCW 34.05.570(1)(a); *Bowers v. Pollution Control Hrgs. Bd.*, 103 Wn. App. 587, 595, 13 P.3d 1076 (2000).

The bulk of Crown's briefing addresses the Board's factual findings on the basis for the conditions and requirements of the Permit, which Crown also styles as arbitrary and capricious and contrary to law. Crown essentially re-argues its case, citing primarily its own witnesses and exhibits. But the fact that Crown identifies some contrary or cross-cutting evidence is not a basis to overturn the Board's decision where the Board's decision is also supported by other substantial evidence in the record.

In making its factual findings, the Board applied its special environmental expertise to engage with the technical matters in this case, made credibility determinations, and weighed the evidence based on the live testimony and exhibits in the seven-day hearing. Crown's invitations to re-evaluate witnesses' credibility are inappropriate in this appeal, which requires "acceptance of the factfinder's views regarding the credibility of witnesses and the weight to be given reasonable but competing inferences." *McGuire*, 144 Wn.2d at 652.

As explained above at pages 12–14, the Board’s findings should be deferred to unless they substantially lack any evidentiary support when the evidence is viewed in the light most favorable to the Board. If there are sufficient facts in that record from which a reasonable person could make the same finding as the Board, the Court must uphold the finding even if the Court might make a different finding based on its reading of the record. Crown has not met this standard.

Moreover, because Crown fails to assign error to any of the Board’s factual findings, these findings must be considered verities on appeal. *Hilltop Terrace*, 126 Wn.2d at 39. RAP 10.3(g) requires a separate assignment of error for each finding of fact a party contends was improperly made. Strict adherence to RAP 10.3(g) is not merely a technical nicety. *In re Estate of Lint*, 135 Wn.2d 518, 532, 957 P.2d 755 (1998). Crown assigns error generally to the trial court’s ruling affirming the Board’s decision, but does not assign error to specific factual findings in the Board’s decision. Crown’s Opening Brief (Crown Br.) 3–4. Indiscriminate assignment of error to every finding does not comply with RAP 10.3(g). *In re Application of Santore*, 28 Wn. App. 319, 323, 623 P.2d 702 (1981).

The Board’s findings are supported by substantial evidence in the record. Crown has not demonstrated otherwise.

C. The Capture Zone Requirements Are Supported by the Evidence

The Board found that both the capture zone definition and boundary in the 2014 Permit were reasonable and appropriate exercises of Ecology's permitting discretion. These findings are supported by substantial evidence in the record. Testimony at hearing showed that the definition in the 2014 Permit was based on the definition in the FSEIS and the 2007 Permit. RP 1101–20, Feb. 2, 2015. Testimony also showed that the boundary in the 2014 Permit was based on the boundary identified in the FSEIS and in maps Crown provided to Ecology. RP 1117–27, 1216–17, Feb. 2, 2015. While Crown disputes this testimony, the mere existence of a dispute is not a basis for relief under the APA.

Crown's argument is that the FSEIS and the 2007 Permit applied the capture zone only to so-called "deep" groundwater, not to all mine-contaminated water, so that these documents do not support the capture zone delineated in the 2014 Permit. The Board properly rejected that argument because it is not supported by the language of the documents themselves—both of which refer to water draining from surface stockpiles as included in the capture zone, and thus not limited to "deep" groundwater. Further, Crown's argument is inconsistent with state and

federal water quality law. Crown's argument would allow the escape of contaminated "shallow" ground water from the site without restriction, thereby polluting the surrounding waters. That result is not permissible under either state or federal law, which prohibit unfettered pollution and instead mandate compliance with water quality standards.

- 1. The capture zone definition clarifies that all contaminated groundwater must be captured, consistent with the 2007 permit and the FSEIS**

Condition S1.A.2 of the 2014 Permit requires

1. Capture Zone - The Permittee must maintain the groundwater Capture Zone as identified in Appendix B of this Permit. The Capture Zone is to include all underground mine workings, the surge pond, and all surface stockpiles of ore and development rock. The Capture Zone represents the farthest extent from the mine that mine-related contaminants in groundwater and surface water are allowed. This extends from the land surface to depth at which groundwater is not affected by mining activities.

AR 1115. Ecology explained the capture zone requirement in the accompanying Fact Sheet:

The 2007 NPDES Permit did not have a Capture Zone definition or map included in the Permit. The 2014 NPDES Permit has both. The 2014 Capture Zone map is based in part on modeling done for the 1996 FSEIS and monitoring data collected during the 5-year term of the 1st Permit. The Capture Zone is designed as a pump and treat system in which collection and treatment of mine impacted waters (surface, ground, and stormwater) would prevent mine generated pollutants from escaping untreated outside the Capture Zone, impacting waters of the state.

Groundwater and surface water monitored at points of compliance outside the Capture Zone are to meet water quality limits as delineated in S 1.A Table 5, Table 6, and Table 7 for the duration of the 2014 NPDES Permit.

AR 1614. These capture zone conditions in the 2014 Permit are based on similar conditions in the 2007 Permit, which in turn were based on the FSEIS. In fact, the capture zone concept was the fundamental basis for the original permitting of the Buckhorn Mine in 2007.

The FSEIS identified and mapped a capture zone that included all mine-contaminated water at the site. AR 3140 (Figure 3.7-10). According to the FSEIS, the mapped capture zone represented the modeled cone of depression created by pumping dewatering wells and sumps at the site. AR 3137 (3.7-40). The FSEIS recognized that this capture zone would need to include water seeping from the surface stockpiles of ore and development rock and groundwater in the shallow vadose zone. AR 1445; AR 3160–61 (3.7-72–73).

In reliance on the FSEIS, the 2007 Permit required maintenance of a capture zone that included “all underground mine workings, the surge pond, and all surface stockpiles of ore and development rock.” AR 2028 (Condition S1.D.) In addition to removing water from the mine workings, the dewatering wells would create a capture zone around the surface stockpiles. As described in the fact sheet for the 2007 Permit, a “principal

purpose of dewatering is to *create a capture zone around mine surface stockpiles.*” AR 2071 (emphasis added).

The 2007 Permit also required monitoring at various surface and groundwater locations and seeps and springs outside the capture zone, but it did not expressly identify these locations as specific compliance points. AR 2032–35. Ecology used this monitoring data to evaluate capture zone maintenance and took enforcement actions against Crown based on the monitoring results. AR 9350–57; RP 1091:9–1092:15, Feb. 2, 2015.

This capture zone requirement from the 2007 Permit is carried forward to the 2014 Permit and clarified with a detailed capture zone definition, a boundary line included directly in the Permit, and a set of compliance points outside the capture zone to clearly indicate how capture zone compliance will be evaluated. RP 1108–09, 1118, Feb. 2, 2015 (Barik testimony explaining that the detailed 2014 Permit capture zone requirements clarified the original capture zone requirement of the 2007 Permit). *See also* AR 9621–23 (Powell Dep. 53–60).

2. The capture zone boundary line is supported by substantial evidence

The boundary line of the capture zone is supported by the record. The capture zone boundary line map appears in the 2014 Permit in Appendix B. AR 1565–67. Ecology derived this regulatory boundary for

the 2014 capture zone from the FSEIS and the monthly capture zone maps submitted by Crown since 2009 indicating where it had maintained the capture zone. *See* AR 8576–90, 8658–70, 9326–44, 9388–9412, 9511–25.

In delineating the capture zone in the 2014 Permit, Ecology altered the boundary from the original capture zone map in the FSEIS in two significant respects. First, Ecology shrank the capture zone in the southwest portion of the site based on the monthly maps provided by Crown, all of which showed a capture zone smaller in the southwest than the one identified in the FSEIS. Second, Ecology expanded the capture zone in the east to include dewatering well D-6 and monitoring well MW-16. AR 1615 (Ex. A-2). This expansion was done at Crown's request, based on the contention that the installation of D-6 had altered the boundary of the capture zone in that area. RP 1122–23, Feb. 2, 2015.⁵

Ecology based the 2014 Permit capture zone boundary on Crown's own analyses and reports of where the mine had reported the zone to be located under the 2007 Permit capture zone requirement. As discussed above, the 2007 Permit specifically required capture of contaminated water from the deep mine workings as well as from surface features. The Board's finding upholding the capture zone requirement is supported by

⁵ During the Permit development process, Crown proposed a "mine water management area" boundary very similar to the Permit's delineated capture zone. *See* AR 6744–47.

substantial evidence including the testimony of Mr. Barik and Ms. Powell explaining how Ecology derived the capture zone boundary in the 2014 Permit, the 2014 Permit Fact Sheet, the analysis and modeling in the FSEIS identifying that the mine could capture and treat the contaminated water from surface features and mine workings within the capture zone, and the 2007 Permit's capture zone requirement. AR 1444–49, 1460–65; RP 1101–33, 1216–17 Feb. 2, 2015; AR 9621–23 (Powell Dep. 53–60); AR 3137–46, 3159–61, 3178–80 (§ 3.7 at 31–40, 71–73, 90–92); AR 1612–17, 26–27, 53.

3. Crown's critiques of the capture zone requirements are unfounded

Crown objects to the capture zone boundary line, arguing that the capture zone delineated in the FSEIS and in its monthly maps was not intended to include shallow subsurface groundwater. Crown Br. 39–43. This claim is related to Crown's argument that the capture zone requirement should be applied only to deep groundwater and not to surface or shallow subsurface flow. *Id.* Crown supports its claim almost exclusively with its own witness testimony. But that testimony is contradicted by the original permitting documents for the mine, which clearly envisioned the use of the capture zone to capture all contaminated water, from the mine-workings as well as from surface features.

Furthermore Crown did not present any specific evidence on the fate and transport of shallow subsurface water to demonstrate that it cannot be captured within the originally-modeled capture zone. The FSEIS specifically concluded that this water could be captured through additional mitigation if needed. AR 3159–61. The Board properly rejected Crown’s arguments in favor of Ecology’s based on the evidence before it. AR 1446-48, 86. As the Board found, Crown did not show why it cannot capture and treat all mine-contaminated water using the mitigation methods described in the FSEIS. AR 1465.

The 2007 Permit and the FSEIS clearly state that the capture zone would include *all* mine-contaminated water as a regulatory requirement. The FSEIS does not differentiate between different types of groundwater, whether shallow or deep. The 2007 Permit expressly included surface features within the capture zone, such as the surge pond and the ore and development rock stockpiles. AR 3178, 3180 (WAT-6, WAT-19). Rather than excluding shallow subsurface flow, the language in the FSEIS and 2007 Permit specifically *include* contamination originating from surface sources. AR 2028 (Condition S1.D); RP 1101–03:6, Feb. 2, 2015 (Barik explaining that the capture zone in the 2007 Permit applied to all groundwater); AR 9621–23, (Powell Dep. 53–60) (explaining that Crown can and must capture water from surface sources and all groundwater in

the capture zone within which it is allowed to violate water quality standards under the 2007 capture zone requirement). Applying the capture zone requirement to all mine water was not new in the 2014 Permit.

The modeling used to develop the FSEIS capture zone boundary accounted for all groundwater, including shallow and deep groundwater. Although disputed by Crown, one of the main advantages of the type of model relied on in the FSEIS is that it accounts for all subsurface groundwater because it driven by recharge from the surface. RP 1122–23, Feb. 2, 2015 (Barik testimony that that modeling of the FSEIS capture zone boundary took into account subsurface flow “[b]ecause it’s a recharge model, so water will go through the vadose zone as well.”).

Crown also argues that the capture zone definition in the 2014 Permit is inconsistent with the scientific definition of a capture zone. *See* Crown Br. 42. But the capture zone described in the Permit is a *regulatory* requirement, setting a boundary within which Crown needs to maintain *actual* capture of all contaminated groundwater. RP 1125:1–4, Feb. 2, 2015. *See* RP 1108:1–21, Feb. 2, 2015 (discussing EPA guidance on target versus actual capture zone).

Ecology treated the capture zone as a mixing zone within which Crown is allowed to contaminate background water quality conditions, but outside of which Crown cannot. RP 937:1–12, Jan. 30, 2015. Essentially,

the capture zone is the permitted underground contamination footprint of the mine, which the mine needs to control and prevent from leaking out into the environment untreated. AR 1464. Under Washington law, such a mixing zone is required to have discrete and specific dimensions, and so a boundary for contaminated water in the mixing zone is essential. WAC 173-220-130(3)(c).

Crown claims that it is not realistic or feasible for it to capture all mine-contaminated water within the capture zone. The Board was entitled to reject this contention because it is contrary to the findings of the FSEIS and testimony in this case. As discussed above, according to the FSEIS, all mine contaminated water *would* be captured and treated, and this finding was a foundational premise on which the mine was permitted. The 2014 Permit does no more than hold Crown to this promise. In addition, testimony at hearing showed that Crown could implement various techniques to capture and treat both shallow and deep groundwater, including deep and shallow dewatering wells, shallow trenches, and other tools. RP 1127-33, Feb. 2, 2015. *See also* AR 9621 (Powell Dep. 60).

Crown failed to identify any concrete technical reason for altering the boundary of the capture zone with respect to shallow subsurface flow.⁶

⁶ Crown speculated at hearing that there may be areas of perched groundwater on the site that are not captured by the dewatering wells. Crown Br. 30. *See e.g.*, AR

But Crown did not identify any specific areas of shallow subsurface water that it cannot capture and treat. In fact, Crown has installed a shallow dewatering well (SDW-12) and shallow trenches to do this very thing. *See* AR 7082–83 (§ 13.5). Mr. Barik explained in his testimony that Crown can capture contaminated groundwater by adding additional dewatering wells and can capture shallower groundwater with trenches, honing in on preferential pathways of water and addressing them systematically. RP 1127:25–1133:18, Feb. 2, 2015. This testimony supports the Board’s finding that the capture zone requirement is reasonable.⁷

D. The Interim Limits were Properly Derived from the Prior Permit to Maintain the Status Quo

The 2014 Permit gave Crown 10 months to comply with the Permit’s new background-based effluent limits. During this compliance period, which lasted from March 2014 to January 2015, the Permit set interim limits that Crown must meet. These interim limits were largely the same as the effluent limits from the 2007 Permit and were in most cases

7078–79 (speculating on the possibility of perched groundwater at piezometer P-8). But Crown offered no more than speculation.

⁷ Crown also claims that the capture zone boundary is erroneous because parts of the mine workings extend beyond the boundary. Ecology, however, presented testimony that the boundary should be interpreted to include these features because capture zone compliance is assessed based on the compliance points, while other monitoring points around the capture zone are identified for monitoring only. RP 1218–19; 1201–04, Feb. 2, 2015. None of the compliance points fall within these areas. RP 1201–04, Feb. 2, 2015. *See also* RP 1334–41, Feb. 2, 2015. Moreover, the sump and surface features referenced by Crown are lined and capture and route water back to the mine water treatment plant. AR 9613–47 (Powell Dep. 60–61). Thus, this is a non-issue.

equal to the numeric water quality standards for surface and groundwater. Crown argues that Ecology should have set higher limits, but the Board properly rejected this argument. Higher limits—above state water quality standards—would have allowed significant pollution of state waters.

The Board found that Ecology's use of the 2007 Permit's effluent limits as the basis for the interim limits in the 2014 Permit was reasonable and within Ecology's discretion. AR 1473, 1478. The Board's finding is supported by substantial evidence and makes good sense. Ecology was not required to provide any interim limits at all, but in its discretion provided these interim limits as a bridge from the 2007 Permit to the 2014 Permit. *See* AR 1683.

The 2007 Permit authorized Crown to discharge at four designated outfalls from its mine water treatment plant. AR 1466, 2020 (Ex A-4). These four discharges were subject to limits that were derived from the water quality standards numeric criteria for groundwater and surface water. AR 1466, 2024–27 (Condition S1). *See* AR 2064–2113 (describing outfalls, effluent limits, and structure in the 2007 Permit). These four permitted discharges from the treatment plant were the only permitted discharges from the mine.

All contaminated water from the mine workings had to be collected through the operation of the dewatering wells, sumps, and

trenches to maintain the capture zone and the capture of stormwater runoff from surface stockpiles of ore and development rock. AR 2019–64 (Condition S1.D, capture zone requirement, Condition S1.B, storm water discharges authorized through outfall 002); AR 2065–2113 (Ex. A-5 at 8, table identifying industrial surface runoff as source for outfalls). The Permit required all contaminated water from the mine to be captured and treated, routed through the mine water treatment plant, and then discharged at one of these four outfalls. *See* AR 2077 (“The Permittee anticipates that the only routine discharges to waters of the State will consist of treated mine drainage and treated stormwater associated with the stockpile areas”). Thus, the maximum pollution levels Crown could legally discharge outside the capture zone under the 2007 Permit were the effluent limits for the four mine water treatment plant discharge outfalls.

The interim limits in the 2014 Permit carry forward these water treatment plant effluent limits to maintain the status quo and allow Crown to discharge up to the previously permitted pollution levels during the interim compliance schedule timeframe. The 2014 Permit’s interim limits are equal to the limits in the 2007 Permit, except where the final background-based limits are higher, in which case the interim limit is equal to the final limit. AR 1473; RP 1134, Feb. 2, 2015; AR 1683. Also, specific locations with high pre-mining levels of arsenic, manganese, and

total suspended solids were specifically identified and exempted from compliance with the interim or final limits. AR 1270–76. Thus the interim limits account for natural background conditions as well as authorized prior discharges.

Crown contends that the interim limits in the 2014 Permit are fundamentally different from the limits in the 2007 Permit. Crown Br. 35–38. Crown argues that Ecology should not have derived these interim limits by carrying forward the water treatment plant effluent limits from the old Permit and applying them at monitoring locations “in the environment,” meaning at a ring of monitoring compliance points around Buckhorn Mountain outside the capture zone. Crown Br. 37. Crown contends that this was not proper because the interim limits do not account for natural background conditions in the environment, do not account for certain “previously authorized” discharges, and that water quality at these compliance monitoring points is out of Crown’s control.

Crown fundamentally misconstrues the 2007 Permit to have authorized polluting discharges. As described above, the 2007 Permit did no such thing. *See* WAC 173-201A-510(1) (requiring permits to be conditioned to meet water quality standards). The 2007 Permit authorized only four outfalls and required all other contaminated water to be captured and treated to the treatment plant effluent limits. Any pollution above the

interim limits was a result of Crown's well-documented Permit violations. *See* AR 9359–60 (summarizing Crown's history of violations).

Because the 2007 Permit's effluent limits applied to the designated sampling locations—many of which are the same as in the 2014 Permit—the Clean Water Act's anti-backsliding rule requires that the interim limits in the new Permit be no less stringent. 33 U.S.C. § 1342(o)(1) (“a permit may not be renewed . . . to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit”); RP 1139:23–1140:08, Feb. 2, 2015 (Barik testimony that Crown's proposed 400 mg/L interim limit for sulfate, for example, would exceed the 2007 Permit's 250 mg/L limit, contrary to the anti-backsliding rule).

Setting limits above background water quality conditions and above state water quality standards, as Crown seems to suggest, would authorize contamination of Gold Bowl Creek and the adjacent groundwater on Buckhorn Mountain. It would also remove any incentive for Crown to achieve compliance with state standards and allow Crown to argue in the future, as it does here, that discharges at those levels were “authorized” and should form the basis for final Permit limits. Using existing polluted water quality conditions unlawfully caused by the mine's own actions to set effluent limits—even interim ones—in a new Permit is inconsistent with the CWA or Ecology's regulations.

Under Ecology's regulations, interim limits should be set according to Ecology's "best professional judgment." WAC 173-201A-510(4)(b). Ecology exercised its judgment by carrying forward the limits from the previous Permit. AR 1466-67, 78; RP 1133:23-1136:20, Feb. 2, 2015. The Board's finding that the interim limits are reasonable is supported by substantial evidence and should be affirmed.

E. The Compliance Schedule Timeframe is Supported by the Evidence

The interim limits discussed above were applicable under the Permit's compliance schedule for 10 months until January 2015, when the new, stricter, background-based limits in the Permit went into effect. As Mr. Barik explained, Ecology set the 10-month period to give Crown one more spring freshet, in 2014, to complete necessary preparations to meet the stricter background-based limits and transition onto the final limits before mine closure. AR 1467, 1473; RP 1140:23-1142:8, Feb. 2, 2015.

Crown claims that a longer compliance period should have been granted, but submitted no evidence to support any specific compliance period. Crown argues, in effect, that it should be given an indefinite time to comply, an argument that is inconsistent with state and federal regulations. A compliance period must be designed to achieve compliance

with water quality standards in the “shortest practicable time.”

WAC 173-201A-510(4)(a); WAC 173-200-100(4)(b). Thus, an unlimited or excessive compliance period is inappropriate and contrary to law.

Further, while adaptive management is an appropriate tool to achieve compliance, it cannot be an endless process without clearly defined limits.

See Copper Dev. v. Dep’t of Ecology, PCHB Nos. 09-135 through 09-141, CL 36 (Apr. 25, 2011).

As Ecology staff testified, and the Board properly found, Crown had ample time to study water quality at the Buckhorn site and implement necessary water quality controls. AR 1473, 1478; RP 1142:9–21, Feb. 2, 2015. Crown and its consultants have been studying the hydrogeology of the site for more than 20 years, since the preparation of the original EIS for the open pit mine proposal. Crown has been subject to NPDES Permit coverage since 2007, and has known that background-based effluent limits would be required for at least two years.⁸

Crown identifies no particular study and no particular facility that must be completed in order to achieve compliance. While Crown’s experts were quick to opine that the compliance schedule was too short, they were

⁸ Crown has known that the new Permit would include background-based limits since discussions began in 2011 and 2012. AR 1473.; RP 1137, Feb. 2, 2015, (“Ecology made clear from as early as summer of 2011 that the new Permit would have a capture zone definition and map, and final limits based on pre-mining background water quality”), 1140:17–25, Feb. 2, 2015 (Crown knew from at least 2012 that new Permit would be background-based). AR 1610–1933, 2114–16, 2169–84.

reluctant to commit to a specific timeline for compliance. In fact, Crown has declined to say when it will ever achieve compliance, and has suggested that even three to five years would not necessarily be enough time. CP 818, 821. Reliance on a poor compliance record and an inadequate environmental protection program at the mine does not demonstrate that the compliance schedule is too short. The Board correctly found that Crown failed to meet its burden of proof that the compliance period in the Permit was unreasonable.

Crown argues that a longer compliance period is needed to flush away previously authorized treatment plant discharges, discharges from construction fill, and road dust suppression chemicals. Crown Br. 29–32. The Board properly rejected this legacy pollutant argument because it was based on speculation and conjecture by Crown’s experts. Crown failed to show why discharges permitted under the old Permit would not flush out during the 10-month compliance period including another spring freshet.

Crown argues that it should not be held responsible for pollution that still remains on the site because it was authorized by the 2007 Permit to discharge pollutants up to the water quality criteria. This argument lacks factual or legal support. Although Crown was *authorized* to discharge up to the groundwater quality standards in the 2007 Permit, it did not *as a factual matter* discharge to those levels for most constituents. The water

was treated in the plant before discharge and thus was free of most contaminants. For sulfate, for example, Crown's highest actual treatment plant discharge was approximately 250 mg/L in June 2008. AR 9159. Since then, its discharges have been below 100 mg/L, and below 50 mg/L since June 2009. *Id.* Discharges at those levels do not explain documented sulfate levels above 250 mg/L in Gold Bowl Creek and elsewhere. *See* AR 8276–77 (Ex. A-112, graph of increasing trend of annual sulfate spikes at MW-14 near Gold Bowl of 300-400 mg/L from 2008–2014), AR 8278–79 (Ex. A-113, map of monitoring well locations).

Further, Crown's experts provided no calculations or specific analysis to analyze the extent or lasting time of its legacy pollution. Crown did not document the fate and transport of contaminants historically discharged by the treatment plant. For example, Crown points to chloride discharged from the treatment plant as a legacy pollutant that will take "several additional years" to dissipate. Crown Br. 31. But Crown does not support this assertion with any calculations or technical analysis or explanation other than looking at current trend lines that assume no further actions by Crown. On the other hand, the FSEIS indicates that the rate of travel in groundwater at one of the MWTP outfalls (001) ranges from 5 to 284 feet per day. AR 3111. This rate of travel should have allowed any legacy pollutants discharged under the 2007 Permit to flush out within the

10-month compliance timeframe. In short, Crown's unsupported assertions of legacy pollution do not provide a basis for extending the compliance period.

Crown also argues that the construction fill that it used to level the mine site has become a major source of sulfate pollution at Buckhorn Mountain, impacting surface and groundwater. Crown Br. 20–21. Crown claims these impacts were authorized, but, as described above, the 2007 Permit never authorized these discharges, which were supposed to be captured and treated. Moreover, Crown's claim that it still needs more time beyond the 2014 Permit's compliance schedule to address the construction fill is belied by its own actions, as it put in its first collection trench to begin addressing construction fill leaching in 2011, well before the 2014 Permit was issued. RP 311–314, Jan. 27, 2015; AR 9234.

Crown argues that it has implemented corrective actions pursuant to the settlement agreement to address the annual water contamination exceedances in the Gold Bowl drainage and should be given time for those corrective actions to work. Crown Br. 18. But, if the corrective actions were the right ones, improvement should have been seen in the 2014 freshet. Instead of intervening with more aggressive water quality protection measures as needed, Crown offers speculation about what is causing the contamination in the Gold Bowl drainage and a history of

“action plans” that have not adequately addressed the observed Permit exceedances. RP 630–631:9, Jan. 28, 2015; AR 9234.

Crown has had ample time to take actions to address this potential source. The fact that Crown was still implementing water protection measures in 2014 and 2015, because it had been forced to do so in a penalty settlement agreement with Ecology, does not mean that Crown is entitled to a longer compliance schedule now to accommodate its slow and inadequate attempts at adaptive management.

Crown is essentially asking for regulatory cover through an extended compliance schedule for exceeding not just the background-based final limits, but also the water quality criteria-based limits of the 2007 Permit. *See e.g.*, AR 8276–77 (Ex. A-112, sulfate spikes over the 250 mg/L water quality criteria limit for sulfates). The Court should deny the request. Crown controlled how it placed the construction fill, what kind of fill it used, and how quickly it responded to its 2010 discovery that the fill was contributing significant groundwater pollution at the mine.

The Board properly found that a compliance period of one freshet was reasonable and appropriate, and created a strong incentive for Crown to achieve compliance “in the shortest practicable time,” as required by WAC 173-201A-510. AR 1478. The Board reviewed and weighed the extensive evidence presented by both Ecology and Crown on this issue,

assessed the credibility of the witnesses, and determined that the compliance schedule was reasonable and within Ecology's discretion. AR 1466–78. The Board found insufficient evidence to support Crown's argument that natural or prior permitted discharges required a longer transition period. The Board's determination is supported by substantial evidence and should be upheld on review.

F. The Final Limits Were Properly Derived Using an Appropriate Procedure and Accepted Statistical Methods

The Board determined that the 2014 final limits were correctly derived using statistically rigorous methods for the large data set of background water quality data at Buckhorn Mountain. The Board's decision includes an in-depth discussion of these statistical methods and the evidence presented by statistical experts on both sides. AR 1467–79. The Board found Ecology's methods were consistent with standard industry practice, EPA and Ecology statistical guidance, and, with few exceptions, those of Crown's own experts. AR 1478. *See* RP 865:4–9, Jan. 29, 2015. The Board's finding that the final limits were properly derived is supported by substantial evidence and should be upheld.

1. Ecology set the final limits as near as practical to background water quality pursuant to the antidegradation policy

The final limits in the 2014 Permit are based on a statistical

analysis of a large pre-mining background water quality data set gathered at Buckhorn Mountain during the EIS development process from 1990 to the initiation of mining in 2007. AR 1467, 1694. Ecology chose background water quality as the basis for the final limits in order to be consistent with the state antidegradation policy and to ensure maintenance of the capture zone. The antidegradation policy provides that, where background water quality exceeds standard numeric criteria, the background water quality *is the standard*. RCW 90.54.020(3)(b); WAC 173-201A-320(1) (surface water); WAC 173-200-030(2)(c) (groundwater). As documented in the FSEIS, the ground and surface water quality at Buckhorn generally exceeds the numeric criteria in state water quality standards. *See* AR 3120 (Table 3.7-2).

Crown agrees that Ecology is required to set enforcement limits at compliance points “as near the natural groundwater quality as practical” under the antidegradation policy, per WAC 173-200-050(3)(a)(i). Crown Br. 15. This regulation requires Ecology to set the limits as close to background as possible, subject to practical limitations in Ecology’s ability to characterize background water quality due in the typical case to limited data. RP 1256, Feb. 3, 2015 (Swope describing how the robust groundwater data set at Buckhorn differs from very limited data available at the typical site). Ecology set the final limits “as near the natural

groundwater quality as practical” in this case by using the most accurate possible statistical methods for the large background data set to calculate background water quality.⁹

2. Crown’s new claim that the AKART standard controls the limits is contrary to the regulations and guidance it cites

Crown latches on to the word “practical” in WAC 173-200-050, construes the word out of context, and suggests for the first time, without any supporting legal authority, that this requires an AKART analysis of “all known, available, and reasonable methods of prevention, control, and treatment,” or “AKART,” under WAC 173-200-050(3) that could limit the stringency of the final limits. Crown Br. 15–16. Crown raises this new argument the first time in this appeal—it was not ruled on by the Board or Ferry County Superior Court and should not be considered here.¹⁰ In any case, Crown’s claim is unsupported by the regulations and guidance it cites, which clearly require limits to meet water quality standards including antidegradation, unrestricted by any consideration of cost factors

⁹ In addition to the groundwater quality standards, WAC 173-200, the surface water quality standards, WAC 173-201A, also apply at Buckhorn Mountain because the groundwater in the top of the mountain drains to surface waters at lower elevations.

¹⁰ Crown did not make this argument in briefing to the Board or Ferry County Superior Court and thus it is not properly raised for the first time here. RAP 5.2; RCW 34.05.554; *Bowers*, 103 Wn. App. at 597–98 (“RCW 34.05.554 precludes appellate review of issues not raised below.”). *King County v. Wash. State Boundary Review Bd.*, 122 Wn.2d 648, 670, 860 P.2d 1024 (1993) (“[T]here must be more than simply a hint or a slight reference to the issue in the record.”).

under AKART.¹¹ AKART is for evaluating treatment technology, such as the mine water treatment plant, not for the capture zone requirement.

The plain language of WAC 173-200-050(3) makes clear that AKART is the minimum standard for enforcement limits, but those limits may need to be more stringent due to other considerations including the antidegradation policy:

All enforcement limits shall, *at a minimum*, be based on all known, available, and reasonable methods of prevention, control, and treatment.

(a) The department shall consider all of the following in establishing enforcement limits:

- (i) *The antidegradation policy*;
- (ii) Establishment of an enforcement limit as near the natural groundwater quality as practical;
- (iii) Overall protection of human health and the environment;

...

WAC 173-200-050(3)(emphasis added). AKART sets the floor for enforcement limits, but does not define how stringent they must be.¹²

Ecology's implementation guidance, cited by Crown, is consistent with the regulation. It clearly lists AKART as a minimum standard for

¹¹ As discussed throughout this brief, Crown failed to show a persuasive technical basis for why it cannot maintain the capture zone and meet the final limits at the end of the compliance schedule, while the FSEIS found that Crown could maintain the capture zone using appropriate mitigation measures, such as additional dewatering wells.

¹² Crown also cites *Spokane County v. Sierra Club*, 195 Wn. App. 1042 (2016) (unpublished), to suggest that Ecology should have conducted an AKART analysis, but that case did not deal with technology-based permit limits or the AKART standard. Crown appears to confuse AKART with the "reasonable potential" analysis at issue in that case, which requires Ecology to determine whether a facility has a reasonable potential to violate water quality standards, and if so impose stricter water-quality based effluent limits. *Id* at 7; 40 C.F.R. § 122.44(d).

setting enforcement limits, and states that “additional treatment may be necessary to achieve the antidegradation policy.” AR 2747.¹³ Ecology’s interpretation of the regulations is entitled to deference.

When, as here, water quality-based effluent limits are more stringent than technology-based AKART limits, the water quality-based limits are controlling.¹⁴ *See* RCW 90.48.520 (setting forth AKART standard, but also prohibiting any “discharge of toxicants . . . that would violate any water quality standard”). “Agencies issuing NPDES permits must impose limits on discharges as necessary to implement water quality standards set by state or federal statutes and regulations, *regardless of technical practicability.*” *Puget Soundkeeper Alliance v. Ecology*, 189 Wn. App. 127, 138, 356 P.3d 753 (2015) (emphasis added).

3. Ecology’s background calculation provides a buffer consistent with the implementation guidance.

Crown also argues that according to Ecology’s implementation guidance, Ecology should have set enforcement limits above actual background and then set early warning values between those limits and background. Crown Br. 17–19; *See* AR 2726–2867. This approach was not required and would have resulted in limits that are not protective of

¹³ The guidance also specifies that *the permittee* must complete the AKART evaluation, not Ecology. AR 2795.

¹⁴ Where technology-based limits are appropriate because effluent would be better quality than background, Ecology set the limits based on AKART, such as the effluent from the mine water treatment plant. AR 1612, 28, 51–53.

background water quality.

Although Ecology's guidance document is not binding,¹⁵ Ecology generally followed the guidance by building an adequate buffer into its calculation of the background-based limits. For most constituents, Ecology determined that the calculated background limits themselves provided sufficient buffer above actual background because they are based upon the highest representative background value from all locations on the mountain. As explained by the permit writer, Mr. Barik, the robust sample size (over 3,000 samples for some constituents) over a 15 year period allowed this approach because the sample itself included substantial seasonal and geographic variability.¹⁶

In contrast, in the typical scenario where Ecology sets an enforcement limit based a sample size of 20 or smaller, adding a specific additional buffer over the calculated background is more appropriate. RP 1268:3–23, Feb. 3, 2015. Where appropriate, Ecology did set limits above the calculated background values—for example, for iron and manganese in surface water. RP 1159–60, Feb 2, 2015 (Barik testimony that Ecology

¹⁵ RCW 34.05.230(1); *Wash. Educ. Ass'n v. Public Disclosure Comm'n*, 150 Wn.2d 612, 619, 80 P.3d 608 (2003) (interpretive statement has no legal or regulatory effect).

¹⁶ For example for sulfate, there are only two monitoring locations where natural background is up close to the calculated site-wide background limit 72 mg/L, while at most locations actual background is much lower than the final calculated background limit. RP 1268:11–1269:24, Feb. 3, 2015; AR 2517 (Ex. A-13 at Figure 37).

added “delta” as a buffer for these parameters).

As explained above, under the antidegradation policy, Crown must ensure compliance with background values in the receiving surface and groundwater. Setting limits above background in those receiving waters, as Crown argues Ecology should have done, is inconsistent with the antidegradation policy and would have improperly allowed Crown to not maintain the capture zone. This would cause pollution in waters of the state in violation of state and federal water pollution laws.

4. Background water quality was properly calculated using accepted and rigorous statistical methods

The primary work in deriving the background values from the large data set for Buckhorn Mine was done by Steven Swope and others at Pacific Groundwater Group (PGG). *See* AR 2427–49, 2450–2517. Ecology reviewed PGG’s work, consulted with other experts, and concluded it was technically sound. Therefore, Ecology adopted PPG’s proposed limits, but with specific changes—e.g., changes to iron for surface water and manganese for groundwater. AR 1468, 1476.

After screening the data for suspect or rejected values and outliers, PGG performed a statistical analysis to determine the background value for each constituent under the 95% coverage, 95% confidence standard.¹⁷

¹⁷ Coverage is also referred to as the upper tolerance interval. RP 1212, Feb. 2, 2015.

This standard is the accepted industry standard for calculating background water quality and is recommended by Ecology and EPA Guidance. AR 1474, 1476; RP 1254–58, Feb. 3, 2015. As described by the Board and by experts on both sides, the 95% standard is used to balance the risk of type I errors (false positives) with type II errors (false negatives). AR 1476. *See* RP 869:22–870:13, Jan. 29, 2015; RP 1258, Feb. 3, 2015. PGG’s statistical expert, Stephen Swope, explained that the 95% standard appropriately balances the risk of type I and type II errors to achieve statistically appropriate and technically rigorous values for background limits—values, that will not unfairly over- or under-detect violations of background water quality. AR 1476. RP 1256–59, 1264–66, Feb. 3, 2015; *See also* RP 1214:18–1215:21, Feb. 2, 2015 (Barik testimony).

Ecology’s guidance document states that background water quality “is statistically defined as the 95% upper tolerance interval with a 95% confidence.” AR 1474, 2726–2867. EPA guidance also indicates that the 95% standard should be used for this type of data set. RP 1257–58, Feb. 3, 2015; AR 5352. The 95% confidence standard is used because a higher standard would allow instances of mine contamination to go undetected and be mistaken for an artificially high “background” calculation. RP 1214:18–1215:21, Feb. 2, 2015. Crown’s claim that the 95% standard would yield false positives 5% of the time is not accurate, as it relies on an

entirely misleading assumption that the data set is drawn from a single consistent, homogeneous population. Crown Br. 23. As Mr. Swope explained, this is not the case at Buckhorn where there are multiple parameters at multiple locations, and only some locations have background levels that are close to the calculated overall background limit. Under these conditions, the calculated background limits would not predict at 5% false positive rate. RP 1288:24–1289:18, Feb. 3, 2015.

Even Crown's statistical expert, Owen Reese, agreed that the 95% standard is an accepted method in the industry. RP 839:9–841:1, Jan. 29, 2015. Although he testified that a higher confidence standard would be more favorable to the mine by lowering the risk of false positives, which he viewed as more important than false negatives, he acknowledged on cross-examination that the 95% method was appropriate, easier to defend on a statistical basis, and not a standard for which he had any actual objection based on his expertise. RP 866–68, Jan. 29, 2015, ("I don't disagree with the 95th percentile as background water quality value"). Substantial evidence supports Ecology's use of the 95% background calculation standard.

G. The Permit Was Not Stayed Because Crown Did Not Move for a Stay

The only purely legal issue raised by Crown is whether the 2014

Permit was stayed during the pendency of the appeal at the Board. Crown points to a general provision in the APA, arguing that it automatically stayed the Permit during the appeal to the Board. Crown Br. 45–48. But under the Board’s statute and procedural rules, the only way for Crown to obtain a stay was by motion. Because the Board’s specific procedural rules control over the APA’s general default rules, the Board properly ruled that the 2014 Permit was not stayed. AR 1485.

The Board’s specific rules of procedure under its statute and WAC 371-08 take precedence over the general APA procedures where the rules are in conflict. RCW 43.21B.170; WAC 371-08-300. “A person appealing to the hearings board an order, not stayed by the issuing agency, may obtain a stay of the effectiveness of that order *only as set forth in this section.*” RCW 43.21B.320(1) (Emphasis added). RCW 43.21B.320 establishes specific procedures for requesting a stay of an order. *See also* WAC 371-08-415. The permit is an “order,” subject to the stay procedure under RCW 43.21B.320, as it is “a written statement of particular applicability that finally determines the legal rights, duties, privileges, immunities, or other legal interests of a specific person or persons.” RCW 34.05.010(11)(a). The only Ecology decisions that are subject to an automatic stay upon appeal to the Board are civil penalties. RCW 34.21B.300(2)(c) (penalty appealed to Board not due and owing

until 30 days after Board decision). Since Crown never filed a motion for a stay, the terms of the 2014 Permit were not automatically stayed.

VI. CONCLUSION

The Court should affirm the Board's detailed decision upholding the 2014 Permit for the Buckhorn Mine as supported by substantial evidence. As detailed above, extensive evidence supports the Board's findings that the Permit's capture zone requirement is appropriate and consistent with the original permitting of the mine in 2007, that the interim limits and compliance schedule are reasonable, and that the background-based final limits were properly calculated. The Board's ruling that the Permit was not automatically stayed should be upheld as consistent with the Board's statute and rules.

RESPECTFULLY SUBMITTED this 3rd day of November 2017.

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CERTIFICATE OF SERVICE

I certify under penalty of perjury under the laws of the state of Washington that on November 3, 2017, I caused to be served the Department of Ecology's Response Brief in the above-captioned matter upon the parties herein via U.S. mail and using the Appellate Court Portal filing system, which will send electronic notification of such filing to the following:

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