INTRODUCTION AND SUMMARY

This appeal challenges the Nevada Department of Conservation and Natural Resources, Division of Environmental Protection (NDEP), Bureau of Mining Regulation and Reclamation (BMRR)'s Renewal of Water Pollution Control Permit NEV0087001 to AngloGold Ashanti (Nevada) Corporation, effective August 15, 2005, for the permanent closure of the Big Springs Mine. The Big Springs Mine is a post-closure open pit gold mine located approximately 60 miles north of Elko, Nevada, in the Independence Mountains along the North Fork of the Humboldt River (NFHR). The NFHR is home to Lahontan Cutthroat Trout (LCT), a federally recognized threatened species, and several other fragile and valuable species, including the spotted frog, a candidate for listing as threatened or endangered, and up to 13 other species of concern. See *United States Fish and Wildlife Service letter to NDEP*, February 14, 1997.

Permit NEV0087001 was first issued for operation of the Big Springs Mine in 1987. Mining was ongoing at the site between 1987 and 1994. In 1995 the mine began final reclamation and closure, which has now been ongoing at the site for the last ten years. Despite the ongoing reclamation, the mine has been and continues to discharge pollutants from several sources into the NFHR and several of its tributaries. These discharges are causing elevated levels of several constituents in the NFHR and its tributaries, specifically selenium, total dissolved solids (TDS) or salt, sulfate, manganese, and arsenic. All of the affected waters are already recognized by the state as impaired waters

Great Basin Mine Watch (GBMW) is a nonprofit citizens' conservation organization based in Reno, Nevada that is working to protect the people, land, air, water and wildlife of the Great Basin from destructive mining. In this appeal, GBMW challenges NDEP's renewal of Permit NEV0087001 because: (1) the mine is discharging pollutants into waters of the state from

several point sources, yet NDEP has not issued a discharge permit for the mine as required by federal and state law; (2) the mine is causing exceedances of water quality standards in the NFHR and its tributaries in violation of state and federal law; (3) NDEP has not, as required by federal law, established total maximum daily loads (TMDLs) for the NFHR and its tributaries and cannot allow discharges into these waters until it does; (4) the mine's discharges are causing elevated levels of selenium in LCT species in the NFHR and, therefore, constitutes an impermissible take under the federal Endangered Species Act; (5) the mine's pit lakes are causing exceedances of drinking water standards in groundwater in violation of state law; and (6) the groundwater diversion program is discharging water that violates arsenic standards into the shallow groundwater aquifer in the Sammy Creek drainage in violation of state law. For these reasons, as will be explained in more detail herein, NDEP's renewal of Permit NEV0087001 is arbitrary and capricious and a violation of law, and must be reversed and remanded to NDEP with instructions to comply with all legal requirements.

PROCEDURAL AND FACTUAL HISTORY

Water Pollution Control Permit NEV0087001 was first issued to Freeport-McMoran Gold Company in 1987. Fact Sheet Permit NEV0087001, at 2 (NDEP 2005). Ownership of the project has changed several times and was acquired by the current owner, AngloGold, in 1999.[1] Id. Mining was conducted at the site from 1987 through August, 1993.[2] Id. Processing activities continued until October, 1994. Id. Final reclamation and closure of the site began in 1995 and has since been ongoing Id.

[1] In 1999 when AngloGold acquired the site it was named AngloGold (Jerritt Canyon) Corp. The Corporation was renamed in August, 2003 as AngloGold (Nevada) Corp and again in 2004 as AngloGold Ashanti (Nevada) Corporation. Fact Sheet, at 1-2.

[2] Some additional gold recovery was conducted at the site from the spent heap and tails material until June 2000. Fact Sheet, at 2.

The Big Springs Mine was an open pit gold mine with mill and heap leach cyanide processing. Id., at 1. The Site consisted of various processing and mining facilities, including twelve open pits and six waste rock disposal areas (RDAs). Id. In total, the site disturbed approximately 558 acres on primarily public land located within the Humbolt-Toiyabe National Forest. Id.

The NFHR and the surrounding area, is one of the most valuable recreation areas in and around Elko, Nevada. The terrain is mountainous with a series of canyons and peaks and an array of wildlife. See Declaration of Elyssa Rosen (attached). The NFHR itself is home to Lahontan Cutthroat Trout, a federally recognized threatened species. Fact Sheet, at 12. The NFHR is fed by several tributaries, including those relevant here, Sammy Creek, Dry Creek, and Water Creek Canyon Creek, all of which are located within the area of the Big Springs Mine. The NFHR is on the State's 303(d) list as an impaired water for selenium and TDS. Nevada's 2002 303(d) Impaired Waters List (NDEP 2002). Tributaries Dry Creek, Sammy Creek, and Water Creek Canyon are also on the State's 303(d) list for selenium and TDS. Id.[3]

It is without contest that the Big Springs Mine has adversely impacted water quality in the NFHR and its tributaries. See Fact Sheet, at 9 ("Mining operations in the NFHR drainage has impacted these waters"). As NDEP has explained,

> [i]n general, due to the sulfidic nature of the mining exposed host rock interacting with meteoric waters and oxygen (acid rock drainage) several constituents, primarily sulfate and selenium, have had recorded increases over pre-mine background condition in the surface and ground water in and below the mined areas.

Fact Sheet, 9. In fact, the impact of the Big Spring Mine has been so great that NDEP has explained that,

[3] Sammy Creek is also listed for arsenic, but above the RDA. See Nevada's 2002 303(d) Impaired Waters List (NDEP 2002).

> [a]ny increases to mining related constituents of concern as noted at Site S-110 (located in Sammy Creek just above the junction of Sammy Creek with the NFHR and below the Sammy Creek RDAs), or any other monitoring point with a clear connection to mined areas below S-102, will be assumed by NDEP to be related to the Big Springs mined area.

Notice of Decision (NOD), WPC Permit NEV0087001, at 19 (NDEP, July 26, 2005). Indeed the monitoring data plainly supports that assumption. See Expert Report, WPC Permit NEV0087001, at 36 (Tom Myers, 2005) ("Myers Report") (attached) ("[a]nalysis of TDS and selenium data clearly show that the Big Springs Mine has degraded the NFHR and tributaries"); Id. 22-24 (discussing several other studies that likewise found that concentrations of many constituents increased in the NFHR and its tributaries in response to the mine).

Water quality impacts are a result of discharges to surface and ground waters from three groups of sources – (1) Six RDAs; (2) two pit lakes; and (3) groundwater diversions. Although reclamation and closure has been ongoing at the site since 1995, these sources present ongoing problems for the mine and the surrounding area. As will be explained, WPC Permit NEV00787001 fails to regulate these discharges as required by federal and state law.

Of the twelve open pits at the site, all have been partially or completely backfilled, with the exception of the SWX Pit and the 303 Pit. Fact Sheet, at 3. Because of their depth relative to the groundwater table, these two pits intersected the pre-mining ground water table and required dewatering during ore recovery. Id. Since dewatering ceased in the early 1990s, the pits have filled with water and now contain pit lakes. The SWX pit lake has a surface area of 2.4 acres and a depth of 77 feet; the 303 pit lake has a surface area of 3.2 acres and depth of 100 feet. Id. The pit lake water is high in sulfates, TDS, manganese, selenium and arsenic. See supra 16. Both pits are flow-through pit lakes, with a predicted average combined annual outflow of 16 to 38 gallons per minute (gpm). Fact Sheet, at 3. NDEP has specifically acknowledged that "[t]he

outflow from the two pit lakes has or will reach the North Fork of the Humboldt River (NFHR)." Id.

In order to maintain water levels in the pits, AngloGold has installed two groundwater inceptor wells (MW-2 and MW-2a) up gradient of the pits. Fact Sheet, at 4. The wells are designed to, using artesian pressure,[4] intercept up gradient groundwater before it enters the pits, thus, helping to stabilize pit water levels. Fact Sheet, at 4. After interception, the water is piped to the shallow alluvial aquifer in the Sammy Creek drainage and discharged via an infiltration trench. Id. The piped groundwater has elevated levels of arsenic. See Myers, at 31 ("[t]he arsenic concentrations at MW-2 exceed the MCL consistently with some values being more than 0.17 mg/l"). Although, as NDEP points out, there is no immediate surface expression of the discharge, the discharged water seeps through the alluvium and into the immediately adjacent Sammy Creek or into the NFHR. See Myers, at 32.

> Because Sammy Creek is occasionally a gaining stream and occasionally a losing stream (see the mass balance analysis for Sammy Creek above), there is a groundwater flux between the alluvium and the stream. Additionally, water in the Sammy Creek alluvium which does not enter Sammy Creek would enter the NFHR alluvium and eventually the river. This discharge therefore is an addition of arsenic to the groundwater near Sammy Creek.

Myers, at 32.

The mine includes six rock disposal areas (RDAs) – Dry Creek, Lower Sammy Creek, Upper Sammy Creek, Mac Ridge, Lower Water Canyon and Upper Water Canyon. The waste rock dumps, in total, have disturbed approximately 174 acres. Fact Sheet, at 5. The RDAs developed in Sammy Creek, Dry Canyon and Water Canyon were all constructed as cross-valley fills "that partially covered ephemeral and intermittent drainages." Fact Sheet, at 6. As such,

[4] Artesian pressure means that the water flows as a result of internal hydrostatic pressure; i.e., there is no man-induced pumping required to move the water,

water flows through the preexisting drainages interacts with the waste rock in the RDAs, leaches various contaminants that are then carried through the tributaries to the NFHR. See supra 10-15. According to NDEP, diversions have been installed up gradient of all the RDAs, except for Mac Ridge and upper Sammy Creek, to intercept and direct runoff around the RDAs. Id. However, the data does not support that the diversion ditches, if constructed, are effectively eliminating flows through the RDAs. See Myers, 28 ("[i[t is also obvious that the seepage reduction hoped for in the closure plan has not occurred") 36 (same); Fact Sheet, at 6 ("the interaction of meteoric waters with the sulfide material in the waste rock is considered at least a significant source of the higher TDS, sulfate, and selenium values as compare to the receiving North Fork of the Humboldt River").

As a result of the discharge from these three sources, water quality at the mine is in steady decline with no sign of improvement. Myers conducted extensive time series and trend analysis of sulfate concentrations in the NFHR and its tributaries. See Myers, at 12-17.[5] The analysis conducted by Myers indicates that the degradation of water quality in the area of the Big Springs Mine began in 1992 with a substantial increase in sulfate concentrations over a few month period. Myers, at 36. Notably, that increase occurred just several years, as would be expected, after mining at the site began. Since then, the concentrations have continued to trend upward until 2000, when levels plateau in some locations, but continued to increase in others - in Water Canyon and Dry Canyon, for example, the highest concentrations have occurred since 2003. Id. As Myers concluded, despite the supposed reclamation that has been ongoing since

[5] Sulfate, again, is a useful indicator of general water quality, particularly in association with mining because sulfate directly relates to mine activity. Gold and silver ore frequently occurs in sulfidic rock. When exposed to air and water, the sufildic rock oxidizes and produces elevated levels of sulfate. See Myers, at 36.

1995, "[t]here is no evidence of water quality improvement at this site." Id., at 37.The renewed permit, unfortunately, does nothing to significantly change the thus-far failed reclamation approach.

WPC Permit NEV0087001 was previously renewed in 1997. Fact Sheet, at 2. This is the third renewal of the permit. Id. NDEP published notice of its intent to issue the renewal on March 2, 2005. GBMW submitted comments on the draft permit on March 31, 2005.[6] Review of WPC Permit Renewal NEV0087001 (Myers, March 31, 2005). NDEP issued the final permit, along with its response to GBMW's comments on July 26, 2005.[7] The permit became effective August 15, 2005 and will remain effective until August 15, 2010 unless it is modified, suspended or revoked. WPC Permit NEV008700, 2005. The permit fails to regulate the mine's discharges, fails to protect surface and ground waters, and fails to protect the Lahontan Cutthroat Trout, a federally recognized threatened species, as required by state and federal law. Accordingly, GBMW timely filed the underlying request for an appeal hearing before the State Environmental Commission (SEC) on August 5, 2005.

INTERESTS OF APPELLANT

Appellant GBMW is a nonprofit organization based in Reno, Nevada. Its members have used and enjoyed the NFHR, its tributaries, and the surrounding area that is affected by Permit NEV0087001 and the discharges from the Big Springs Mine for many years. Members of GBMW use and enjoy the NFHR and the surrounding area for a variety of activities including,

[6]The comments previously submitted by GBMW are incorporated by reference as part of this appeal.

[7] Notably NDEP's regulations require that NDEP take final action on the permit within fifteen days after the end of the time for public comment. NAC 445A.408. Here, NDEP far exceeded the fifteen-day time period and, in fact, did not issue the permit for more than three month after the end of the public comment period.

hiking, fishing, taking photographs, site seeing, and camping. These uses will be severely and adversely affected by the activities authorized by Water Pollution Control Permit NEV0087001. See Declaration of Elyssa Rosen.

ARGUMENT

I. NDEP IS REQUIRED TO ISSUE A DISCHARGE PERMIT FOR THE MINE.

The federal Clean Water Act (CWA) and the Nevada Water Pollution Control Law provides that is unlawful for any person "to discharge from any point source any pollutant into any waters of the state" without a permit. NRS 445A.465(1)(a); see also 33 U.S.C. § 1311(a).[8] The CWA was passed in 1972 with the lofty purpose "to restore and maintain the chemical, physical, and biological integrity of the Nations' waters." 33 U.S.C. § 1251. This objective incorporates a broad, systematic view of maintaining and improving water quality. As the House Report for the legislation explained, "'the word integrity . . . refers to a condition in which the natural structure and functions of ecosystems are maintained.'" United States v. Riverside Bayview Homes, Inc., 474 US 121, 132 (1985). Likewise, Nevada's Water Pollution Control Law was designed to "maintain the quality of the waters of the state consistent with the public health and enjoyment, the propagation and protection of terrestrial and aquatic life, the operation of existing industries, the pursuit of agriculture, and the economic development of the state." NRS 445A.305(2)(a). To those ends, both state and federal law prohibit the discharge of

[8] The federal program is referred to as the National Pollution Discharge Elimination System (NPDES). Its purpose was to eliminate the discharge of all pollutants into navigable waters by 1985. 33 U.S.C. § 1251(a); See also American Frozen Foods v. Train, 539 F.2d 107, 124 (D.C. Cir. 1976) ("[t]he principal purpose of the Act is to achieve complete elimination of all discharges of pollutants into the nation's waters").

pollutants into waters of the state without a permit.[9] NDEP is responsible for enforcing both the state and federal law.[10]

Under both state and federal law, a discharge permit is required where there is a discharge of pollutants from a point source into waters of the state. NRS 445A.465; 33 USC § 1311(a). A point source is defined as "any discernible, confined and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." NRS 445A.395, see also 33 U.S.C. § 1362(14). A pollutant, in turn, is defined as "dredged soil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water." NRS 445A.400(1); see also 33 U.S.C. § 1362(6). Finally, waters of the state are defined as "all waters situated wholly or partly within or bordering upon this state, including but not limited to: (1) All streams, lakes, ponds, impounding reservoirs, marshes, water courses, waterways, wells, springs, irrigations systems; and (2) all bodies or accumulations of water, surface and underground, natural or artificial." NRS 445A.415; see also 33 U.S.C. § 1311(a).[11]

[9] State NPDES permits must at a minimum conform with the requirements of the CWA and EPA'S implementing regulations. 40 CFR §§ 122.4(a), 123.25(A); Northern Plains Resource Council v. Fidelity Exploration and Development Co., 325 F.3d 1155, 1165 (9th Cir. 2002).

[10] The U.S. Environmental Protection Agency has authorized Nevada to implement the NPDES permit program within the state. 57 Fed. Reg., 5586, 5597 (August 10, 1992)(EPA originally approved Nevada's NPDES program on September 19, 1975).

[11] Notably, the CWA limits the prohibition on discharges to navigable waters. 33 U.S.C. § 1311(a). On the other hand, the State Water Pollution Control Law applies more broadly to all waters within the state, regardless of navigability. See NRS 445A.415.

The Big Springs Mine is discharging pollutants into watera of the state, the NFHR and its tributaries, from several sources – the RDAs, the pits, and the groundwater diversion project. The NFHR is a stream and, therefore, a water of the state under Nevada law. As will be explained, each of the three groups of sources at the Big Springs Mine requires coverage by a discharge permit under state and federal law.

A. <u>The discharge of pollutants from the RDAs requires a discharge permit.</u>

AngloGold and its predecessors have constructed waste rock dumps (RDAs) in several pre-existing drainages – specifically, Sammy Creek, Dry Canyon and Water Canyon. Throughout the life of the mine, waste rock, i.e. barren rock that is removed from the ore body during the mining process, was disposed of in the various RDAs. As acknowledged by NDEP, the RDAs were all constructed as cross-valley fills "that partially covered ephemeral and intermittent drainages." Fact Sheet, at 6; <u>see also</u> Myers, at 25-26; Final Closure Plan for the Big Springs Project, Water Pollution Control Permit NEV 87001, at 14 (Independence Mining Company (IMC),1996). The RDAs were specifically designed with under-dump drainage systems that "are intended to allow surface runoff from the contributing watershed to flow through the base of the dumps." Final Closure Plan, at 14 (IMC). In short, as explained by Myers, "they were designed to convey drainage water from above the dump through the dump and to downstream channels." Myers, at 26.

NDEP has acknowledged the existence of flows through and from the RDAs. Fact Sheet, 6 ("[s]easonal flow from Sammy Creek, Dry Canyon, and Water Canyon RDA's contribute to the Sammy Creek (S-110), Dry Canyon (S-115), and Water Canyon (S-120) drainages/monitoring stations"). In addition, several independent studies have acknowledged the presence of flows through the RDAs. <u>See</u> <u>e.g.</u> *Mine Site Closure Study for Independence Mining*

Company, Inc., Big Springs Project, Elko County, Nevada, at 30 (Schafer and Associates, 1996) ("water infiltrating through the waste rock dumps appears to be the primary mechanism for transport of the elevated and dissolved constituents"). Flows were also recently observed by Hydrologist Dr. Tom Myers on a visit to the site on August 8 and 9, 2005. See Declaration of Tom Myers (attached). The flows are also documented in his report and corresponding photographs attached to this brief. See Myers Report.

When water flows through the RDAs, the water leaches various pollutants from the rock, most importantly TDS (salts), sulfates and selenium, and transports them into the NFHR. Myers, 25-27. Monitoring is conducted at various points along the drainages. The chart below lists each monitoring point, its location, and its years.

Monitoring Point	**Location**	**Years**
S-101	Sammy Creek, above RDA	1992-current
S-101.5	Sammy Creek, just below RDA	1994-1996
S-102	Sammy Creek, appx. 1/3 mile below RDA	1994-1996
S-110	Sammy Creek, just above junction with NFHR	1986-current
S-115	Dry Canyon, just above confluence with NFHR	1991-current
S-118	Dry Canyon, midway between the RDA and the NFHR	
S-120	Water Canyon, just above junction with NFHR	1986-current

Fact Sheet, at 7-8; Myers, at 8.

Sammy Creek is the only drainage that has been monitored both above and below the RDA, Fact Sheet, at 7-8; Myers, at 4, and as such, is the only site for which comparative analysis can be conducted, Myers, at 4. Notably and problematically, the renewed permit eliminates S-101, the upstream point in Sammy Creek, as a monitoring point. Fact Sheet, at 7. Data from Sammy Creek indicates a clear increase in TDS in the Creek below the RDA. Above the RDA,

at S-101 all observations were less than 200 mg/L TDS. See Myers, at 4. However, below the RDA 72 of 94 observations exceeded 500 mg/L TDS and all observations showed an increase of more that one-third the level observed on the same day above the RDA. Myers, at 4.[12] Sulfate concentrations in Sammy Creek also show an increase from above the RDA and below the RDA. See Myers, at 7 (Table 1 shows that between 1994 and 1996, both flow and sulfate concentrations increased along the length of Sammy Creek); see also Myers, at 19 (discussing the Schafer and Associates 1994 report which also indicated an increase in sulfates on Sammy creek). As explained by Myers,

> there is a definite step increase in sulfate concentrations between S-101 an S-110. A step increase is a shift in the mean of the data. It often represents the influence of an intervention which causes the shift. Here the intervention is the construction of the mine and waste rock dumps in 1991/92."

Myers, at 6-7.

Dry Canyon and Water Creek Canyon also had elevated levels of TDS with nearly all observations exceeding 500 mg/l. Myers, at 4.[13] Water Canyon has a RDA at its headwaters. Myers, at 10. Prior to 1990 sulfate concentrations at the outlet of Water Canyon (S-120) were less than 30 mg/L. After 1990, however, sulfate levels increased abruptly with concentrations reaching as high as 1500 mg/l on May, 2004. Myers, at 11. As explained by Myers, sulfate levels increase markedly in the spring, indicating that flows increase in response to snowmelt. Sulfate levels in Dry Canyon have likewise increased significantly since 1991 and reached their highest value of 4,000 mg/l in October, 2004. Myers, at 11.

[12] The Class A standard for TDS is 500 mg/l or one-third above background, whichever is less. NAC 445A.124.

[13] At Dry Canyon, 76 of 78 observations exceeded 500 mg/L; and at Water Canyon 86 of 88 exceeded 500 mg/L. Myers, at 4.

In addition, all tributaries also show elevated levels of selenium at their outlet into the NFHR. Specifically, at the outlets 91% of all observations for selenium exceeded the aquatic life standard. See Myers, at 5-6. In addition, as explained in a United States Fish and Wildlife Service (FWS) report, the NFHR and its tributaries did not significantly test for selenium prior to mining. "Conversely from 1994-1998, selenium was detected in more that 90 percent of the samples collected from the site in the tributaries downstream of waste rock dumps (sites S-110, S-115, and S-120) and in about two-third of the samples collected from the NFHR immediately downstream from mining activity (sites S-140 and S-150)." *Preliminary Assessment of Potential Impacts of Drainage Associated with the Big Springs Mine to Aquatic Organisms in the North Fork Humboldt River, Elko County, Nevada, 1998, Final Report EC 34.12.6.*, at 17 (U.S. Fish and Wildlife Service, Tuttle, P.L., D.K. Higgins, and J.S. Foott, 2003). As explained by Myers, this indicates that "selenium is released from the waste rock in a similar fashion as sulfate." Myers, at 21.

The data not only indicates that the RDAs are causing pollutants to enter the tributaries, but that they are, in turn, causing increased pollutant levels in the NFHR. As explained by NDEP "the interaction of meteoric waters with the sulfide minerals in the waste rock is considered at least a significant source of the higher TDS, sulfate, and selenium values as compared to the receiving North Fork of the Humboldt River." Fact Sheet, at 6. Likewise, Myers concludes that, "[t]he majority of the sulfate concentrations in the NFHR results from inflow from the tributaries. Analysis on Sammy Creek shows that most of the concentration increases occur through the waste rock dump that exists within the stream." Myers, at 18. Several other independent studies and reports have likewise acknowledged that the RDAs and the tributaries are responsible for causing water quality problems in the NFHR. See Myers, at

22-25 (discussing the results of several other studies). For example, a study conducted by Schafer and Associates, concluded that "water infiltrating through the waste rock dumps appears to be the primary mechanism for transport of the elevated and dissolved constituents." Schafer and Associates, 30 (1996).

Based on the plethora of data, there is no question that the RDAs are discharging pollutants into waters of the state. The RDAs are identifiable sources and are thus, point sources, within the meaning of the CWA and Nevada's Water Pollution Control Law.[14] See Sierra Club v. Abston Construction Co., 620 F.2d 41, 45-46 (5th Cir. 1980)(holding that a miners spoil pile is a point source, even where gravity flow is responsible for actually carrying the pollutants into waters of the United States); Consolidated Coal v. Costle, 604 F.2d 239, 249 (4th Cir,. 1979)(point sources include refuse piles); Earth Sciences, 599 F.2d 368, 374 (10th Cir. 1979)(rejecting the argument that a point source must be conveyance – "we believe it contravenes the intent of FWPCA and the structure of the statute to exempt from regulation any activity that emits pollution from an identifiable point"); Friends of Santa Fe County v. LAC Minerals, Inc, 892 F.Suppr.1333, 1359 (D.N.M 1995) (holding that overburden piles are point sources; Washington Wilderness Coalition v. Hecla Mining Co., 870 F.Supp.983, ____ (E.D. Wash. 1994) (discharges from refuse pile can be easily traced to their source, thus they are a point source).

It is illegal to discharge pollutants from a point source into any waters of the state without an NPDES permit. NRS 445A.465; 33 USC 1311(a). As such, NDEP is required to issue a discharge permit for the RDAs at the Big Springs Mine. Although NDEP has issued a closure

[14] State discharge permits must at a minimum conform with the requirements of the CWA and EPA's regulations. 40 CFR §§ 122.4(a), 123.25(A); Northern Plains Resource Council v. Fidelity Exploration and Development Co., 325 F.3d 1155, 1165 (9th Cir. 2002).

permit for the mine, this permit does not constitute a discharge permit and does not regulate the discharges as required by Nevada's Water Pollution Control Law and the federal NPDES program. NDEP has otherwise failed to issue a discharge permit for the mine, but has nevertheless allowed the discharge to continue. This patently violates federal and state law and cannot be allowed.

GBMW raised this issue in its comments to NDEP on its draft NEV0087001 permit. In response, NDEP explained that "[f]lows from the RDA's and pit lake are regulated under this Water Pollution Control Permit." NOD, at 18. However, this permit does not constitute a discharge permit as required by State and Federal Law. First and perhaps most importantly, NDEP expressly based the permit on its mining regulations (NAC 445A.350 – 447), not its discharge permit regulations (NAC 445A.228-263). NOD at 1. Second, the permit at issue is in practical effect markedly different from a discharge permit. For example, discharge permits are required to ensure compliance with effluent limitations, standards for pretreatment, and any more stringent limitations, including any necessary to meet or effectuate standards of water quality. NRS 445A.500(1); see also NRS 445A.525(1)("effluent limitations shall be established and enforced for point sources"); NRS 445A.500(2) (discharge permits "must specify average and maximum daily or other appropriate quantitative limitations for the level of pollutants or contaminants in the authorized discharge"); Sierra Club v. North Start Chapter, 843 F.supp 1304, 1306 (D.Minn. 1993) (the terms of an NDPES permit include effluent limitations, restrictions on the quantities, rates, and concentrations of specified substance that may be discharged from point sources). Here, Permit NEV0087001 does not include any of these sorts of limitations and is, thus, clearly not a discharge permit for the mine. The permit nevertheless allows the discharge to continue and, as such, violates the CWA and Nevada's Water Pollution Control Law.

B. <u>The discharge from the pit lakes via the groundwater to surface waters also requires a discharge permit.</u>

The Big Springs Mine is not only discharging pollutants from the RDAs, but is also discharging pollutants into waters of the state from its two pit lakes – the SWX pit lake and the 303 pit lake. As NDEP has explained, both pit lakes are flow-through systems, i.e. water flows into the pits from up-gradient and out of the pits into the adjoining bedrock aquifer. Fact Sheet, at 4. The average outflow from both pits is expected to be between 16 and 38 gallons per minute (gpm). Fact Sheet, at 4. NDEP has explained that "[t]he outflow from the two pit lakes has or will reach the North Fork of the Humboldt River." Fact Sheet, at 4; <u>see also</u> *Big Springs Mine Hydrology Evaluation, prepared for the U.S. Forest Service, Humboldt National Forest,* at 6-2 *(*Exponent, 1998) ("It is highly probable that a substantial component of the groundwater migrating in this bedrock flow system ultimately discharges into the NFHR"); <u>see also</u> Myers, 29-30 (indicating that there is flow from the pits into Sammy Creek and the NFHR).

Like the water emanating from the RDAs, the water seeping from the pits has elevated levels of sulfates, TDS, arsenic and manganese. <u>See</u> Tables 1-5 (appendix). NDEP has indicated that the sulfate values in the pits range between 600 – 1,000 mg/l seasonably, with higher levels in the fall, and will reach a maximum concentration of 1,500 mg/l and 2,200 mg/l within the next several years. Fact Sheet, at 3. These levels are significantly higher than background levels observed in the NFHR, <u>see</u> Myers at 6 (discussing pre-mining versus post-mining sulfate levels in NFHR). The pit lake water also has high manganese levels with concentrations ranging as high as .6 mg/l. Myers, at 29.

Although the Clean Water Act does not regulate discharges to groundwater specifically, it does regulate discharges to groundwater that are hydrologically connected to surface waters. <u>See</u> <u>e.g.</u>, <u>McLellan Ecological Seepage v. Weinberger</u>, 707 F.Supp 1182, 1196 (E.D. Cal. 1988)

("[w]hereas it is clear that Congress did not intend to require permits for discharges to isolated groundwater, it is also clear that Congress did mean to limit discharges of pollutants that could affect surface waters of the United States"), *vacated on other grounds*, 47 F.3d 325 (9th Cir); Friends of Santa Fe County v. LAC Minerals, 892 F.Supp. 1333, 1357-58 (D.N.M. 1995) (expressly rejecting the argument that "the CWA does not protect groundwater with some connection to surface waters"); Washington Wilderness Coalition v. Hecla Mining Co., 870 F.Supp. 983, 989-90 (E.D.Wash.1994)(holding that, although Congress did not intend that the CWA regulate isolated groundwater, it does apply to discharges of pollutants that reach surface waters through groundwater); Sierra Club v. Colorado Refining Co., 838 F.Supp.1428, 1434 (D.Colo 1993)(holding that the CWA prohibits unpermitted discharges that reach navigable surface waters through groundwater). As EPA has explained with regards to its NPDES regulations, "discharges to groundwater are not covered by this rulemaking (unless there is a hydrological connection between the groundwater and a nearby surface water body.)" 55 Fed. Reg47990, 47997 (Nov. 16 1990) (preamble, NPDES permit regulation for storm water discharges)(emphasis added).[15]

[15] This is consistent with the conclusion, repeatedly recognized in the non-groundwater context, that the CWA regulates discharges to all navigable waters, including discharges into non-navigable waters that ultimately connect with navigable waters. See Quivara Mining Co. v. United States Environmental Protection Agency, 765 F.2d 126, 130 (10th Cir. 1985) (requiring a discharge permit for a discharge into dry arroyos because the discharge ultimately affected navigable waters); United States v. Phelps Dodge Corp., 391 F.Supp. 1181, 1187 (D.Ariz. 1975)(holding that under the CWA navigable waters includes "any waterway within the Untied States also including normally dry arroyos through which water may flow, where such water will ultimately end up in public waters"); Residents Against Industrial Landfill Expansion v. Diversified Systems, Inc., 804 F.Supp. 1036 (E.D.Tenn 1992)(tributary of creeks can be considered navigable waters under the CWA); United States v. Texas Pipeline Co., 611 F.2d 345, 347 (10th Cir. 1979)("the intent of the Act was to cover all tributaries . . [i]t makes no difference that a stream was or was not at the time of the spill discharging water continuously into a river navigable in the traditional sense").

Likewise, Nevada's Water Pollution Control Law prohibits unpermitted discharges into any waters of the state. Waters of the state are defined to include any and all waters within the state, including underground waters. NRS 445A.415. Nevada primarily regulates discharge to underground waters via its underground injection control program. NAC 445A.810 et seq. The injection control program, on its face, however only applies to the discharge of water via injection wells. Here, the seepage from the pit lakes does not constitute a discharge from an injection well. See NAC 445A.827 (injection wells defined as "wells used for the subsurface emplacement of fluids") and is, thus, not governed by NDEP's underground injection control program.

Although the seepage does not fall within the gambit of NDEP's underground injection control program, NDEP nevertheless has a statutory duty to regulate the discharge via a discharge permit. NRS 445A.465. Under state law, NDEP is required to issue a discharge permit for any discharge of pollutants into any waters of the state, including discharges into groundwater. NRS 445A.465; NRS 445A.415. In addition, under federal law, NDEP has a duty to regulate the discharge of pollutants into groundwater if the groundwater is hydrologically connected to surface waters. See supra 16-17. Here, as explained the wastewater from the pit is flowing out of the pit, into the groundwater, and into the NFHR and its tributaries. As such, NDEP is required to issue a discharge permit for the discharge from the pits as required by federal and state law. Again, for the reasons set forth above, Permit NEV0087001 does not constitute a discharge permit and does not relieve NDEP of its duty to issue a discharge permit for the seepage as required by federal and state law. See supra 14.

C. NDEP is required to issue a discharge permit for the groundwater diversion program.

In order to minimize outflow from the pit, the Mine, in 2003, constructed two ground water interceptor wells up gradient of the pit lakes. Fact Sheet, at 4. The wells, MW-2 and MW-2a, are designed to intercept groundwater that might otherwise flow into the pits and, using artesian pressure, divert the water to an infiltration trench. Id. The trench is located adjacent to Sammy Creek. The water is designed to infiltrate from the trench into the shallow alluvial aquifer, thus, according to NDEP, "precluding a surface expression." Id. Despite the system's design, there is in fact a surface expression of the diverted water. Specifically, the water infiltrates into the shallow alluvial aquifer in the Sammy Creek drainage and from there enters Sammy Creek. As explained by Myers,

> Because Sammy Creek is occasionally a gaining stream and occasionally a losing stream (see the mass balance analysis for Sammy Creek above), there is a groundwater flux between the alluvium and the stream. Additionally, water in the Sammy Creek alluvium which does not enter Sammy Creek would enter the NFHR alluvium and eventually the river.

Myers, at 32. Importantly, the groundwater being diverted has elevated levels of arsenic that far exceed the applicable water quality standards for arsenic in the NFHR and its tributaries, including Sammy Creek. See NAC 445A.144; Myers, at 30. For example, its values are consistently more than the municipal/domestic supply standard of .05 mg/l. See Table 6 (appendix); NAC 445A.144.

As with the water seeping out of the pits into Sammy Creek and the NFHR, the water being diverted from above the pits and discharged to the shallow alluvial aquifer adjacent to Sammy Creek, constitutes a discharge from a point source into waters of the state. Again, under both Nevada law and the CWA the fact that the discharge is to groundwater is irrelevant (under the CWA, it is irrelevant so long as the discharge ultimately reaches surface waters as it does

here). See supra 15-16. The current permit, as explained above, does not constitute a discharge permit as required by federal and state law. See supra 15. The permit, while allowing the discharge to continue, does nothing to regulate or control the quality of the water being discharged to the shallow aquifer in the Sammy Creek drainage and, thus, violates state and federal law.

II. THE DISCHARGES FROM THE MINE ARE CAUSING EXCEEDANCES OF APPLICABLE WATER QUALITY STANDARDS IN THE NFHR AND ITS TRIBUTARIES IN VIOLATION OF STATE AND FEDERAL LAW.

NDEP, as required by federal and state law, has established water quality standards for the NFHR and its tributaries. See NRS 445A.530 (requiring the establishment of water quality standards); 33 USC 1313(a)-(c) (same); NAC 445A.124 (class A standards); NAC 445A.124(4)(listing the NFHR and its tributaries as class A waters). Discharges are required by federal and state law to comply with water quality standards and it is unlawful to allow a discharge that does not comply with water quality standards. See NRS 445A.525(1)("[e]ffluent limitations shall be established and enforced for point sources"); NRS 445A.530 ("[i]f more stringent limitations are needed, including those necessary to meet water quality standards . . .such limitations shall be established and enforced"); NRS 445A.490 (No permit may be issued which authorizes any discharge . . . in to any waters of the state . . . which the director determines is inconsistent with the regulations or guidelines adopted by the commission pursuant to NRS 445A.300 to 445A.730, including those relating to standards of water quality."); NRS 445A.500 (Each permit issued by the department must ensure compliance with "effluent limitations" and "any more stringent limitation including any necessary to meet or effectuate standards of water quality").

Here, the discharges from the Big Springs Mine are causing exceedances of water quality standards in the NFHR and its tributaries in violation of state and federal law. Water quality is monitored in the NFHR at several stations as shown in the following table:

Monitoring Station	**Location**	**Years**
S-95	Up gradient of any mining activities and impacts	1986-2005
S-100	Just upstream from confluence of Sammy Creek, up gradient of almost all mining activities	1986-current
S-140	Down gradient from mining activity	1986-current, but only for aquatic life
S-150	2 miles Down gradient of all mining activity	1986-current

Fact Sheet, at 7. As explained by NDEP, "[i]n the upper reach, the NFHR meets all water quality standards and designated beneficial uses." Fact Sheet, at 7. Below the mine, at S-140 and S-150, however, the discharges are causing exceedances of several constituents, including selenium, TDS, arsenic and manganese. See Tables 7-11 (appendix).

The NFHR and its tributaries are Class A waters. NAC 445A.124.4. The designated beneficial uses for class A waters are municipal/domestic supply, aquatic life, propagation of wildlife, irrigation, watering of livestock and recreation. NAC 445A.124(2). The water quality standards for class A waters are set forth at NAC 445A.124(c). The standards for the individual parameters being exceeded by the Big Springs Mine will be discussed below, as will the exceedances.

A. The discharge has caused exceedances of water quality standards for selenium in the NFHR.

Although no specific toxic standards have been developed for Class A waters, the general toxic standards, which include selenium, applies to class A waters. See NAC 445A.144 ("the following standards for toxic materials are applicable to the waters specified in NAC 445A.123 to NAC 445A.127 [including Class A waters]"). The water quality standards for selenium are:

.05 mg/l for municipal or domestic supply; .02 and .005 mg/l for aquatic life, 1 hour (acute) and 96 hour (chronic) average respectively; .02 mg/l for irrigation; and .05 mg/l for the watering of livestock. NAC 445A.144.[16]

In the NFHR and its tributaries these standards are regularly exceeded. As NDEP explained in its Fact Sheet with regards to the selenium aquatic life standard,

> [e]levated levels (most present in the dissolved form) above the chronic, and occasionally acute, standard are continuing to be recorded in all three tributaries (S-110, S-115, and S-120) and in the NFHR. Neither standard was ever exceeded in the two NFHR monitoring stations above the mine (S-95 and S-100).

Fact Sheet, at 11; see also NOD at 8 ("[r]elatively consistent exceedances of the selenium, beneficial use 'aquatic life' chronic standards have been an ongoing concern to all parties"). These findings have been corroborated by Myers. See Myers at 5-6.

While the aquatic life standard for selenium has historically not been exceeded in the NFHR above the mine, the standard has consistently been exceeded in the NFHR downstream from the mine. See Myers, at 5-6 (indicating that in the NFHR upstream from the mine there have rarely been exceedances, but at S-140, downstream from the mine, there was a 46% exceedance rate); Fact Sheet at 11 (indicating that the aquatic life standard for selenium was never exceeded at S-95 and S-100, but has been exceeded at S-140). This increase in selenium in the NFHR is due, primarily, to the inflow of the tributaries. See Fact Sheet, at 11 ("Tributary input is considered the selenium source responsible for the NFHR chronic standard exceedances as recorded at S-140"); Myers, at 21 ("Dry Canyon appears to be the largest source, but all tributaries contribute significant selenium").

[16] Although NAC 445A.144 states the values in micrograms per liter, the values have been converted here to milligrams per liter.

Although NDEP acknowledges the repeated violations of the aquatic life standard for selenium, NDEP argued, in its response to GBMW's comments, that the exceedances are irrelevant because aquatic life in the NFHR has not, allegedly, been affected. NOD, at 8-9. Specifically, NDEP points to NAC 445A.121(8), which provides that "[i]f toxic materials are known or suspected by the department to be present in a water, testing for toxicity may be required to determine compliance with the provisions of this section and effluent limitations." NDEP argues that, pursuant to that section, tests have been conduced annually since 1986 to determine the effect, if any, of selenium on aquatic life in the NFHR. Id. NDEP argues that those tests have shown that selenium is not adversely affecting aquatic life, such that the mine's exceedances of the aquatic life standard in the NFHR and its tributaries should be ignored . Id.

However, despite the results of these tests and NAC 445A.121(5)'s provision for toxicity testing, NDEP cannot ignore the numeric water quality standards that exist for selenium in all waters. NDEP is required, without question, to enforce water quality standards that have been established for a body of water. See NRS 445A.520(2) ("[t]he commission shall base its water quality standards on water quality criteria which numerically or descriptively define the condition necessary to making the designate beneficial use or uses of the water"); NRS 445A.490(5) (no discharge shall be made which is inconsistent with the regulations adopted by the commission, including those in relation to standards of water quality). The fact that the tests have not yet shown lethal effects to aquatic life from the discharges, even if this remains the case, does not excuse the admitted violations of the water quality standards.

NDEP's regulations, including water quality standards, have the force of law and must be enforced. NRS 233B.040(1)(a); Nevada Tax Commissioners v. Saveway Super Service Stations, Inc., 99 Nev. 626, 630 (1983)("Rules adopted by an agency are binding on the agency until the

agency repeals them or a court declares them invalid."). Thus, NDEP cannot, as it otherwise argues, ignore the mandated water quality standards for a particular water body.[17]

In addition, it is questionable whether NAC 445A.121 has the meaning NDEP attempts to ascribe to it. NDEP suggests that under NAC 445A.121(5) it can test for the effects of toxics on aquatic life, and that those tests can be used to excuse exceedances of the applicable aquatic life standard. First, that reading does not comport with the plain language of the regulation. NAC 445A.121(5) merely provides that "[i]f toxic materials are known or suspected by the department to be present in a water, testing for toxicity may be required to determine compliance with the provision of this section and effluent limitations." Here, testing for toxicity has been done and has shown that water quality in the NFHR and its tributaries exceed the applicable toxicity standard. NAC 445A.121(5) in no way provides that NDEP can ignore those testing results because it has also conducted additional tests regarding the impacts on aquatic life. Second, NDEP's argument does not comport with an overall reading of the statutory and regulatory framework. As explained, it is plainly established by the regulatory and statutory framework that NDEP must enforce water quality standards. See supra 23-24.

In addition, it is well accepted that if two regulatory provisions are in conflict or apply to the same topic, the more specific of the two should apply. See Mineral County v. State, Bd. of Equalization, 2005 WL 2233558, *4 (Nev.) (2005) (discussing and applying the "canon of statutory construction that requires statutes to be read in harmony but promotes the use of a specific statute over that of a general statute where they pertain to the same topic"); Western Realty Co. v. City of Reno, 63 Nev. 330, 337, 172 P.2d 158, 161 (1946) ("[i]t is a well settled

[17] Notably, BMRR is not responsible for establishing Nevada's water quality standards, and cannot legally change those standards on a case-by-case basis. NRS 445A.425(1)(a), NRS 233B.010 et seq. (outlining the procedures agencies must follow in adopting new regulations).

rule of statutory construction that a special provision, dealing expressly and in detail with a particular subject, is controlling, in preference to a general provision relating only in general terms to the same subject"). Here, the numeric standards for selenium contained in NAC 445A.144, are more specific than the requirements contained in NAC 445A.121, which simply sets forth general standards "applicable to all surface waters." As such, if in doubt, application of the numeric provision in NAC 445A.144 should override application of the more general NAC 445A.121 section.[18]

B. The discharge has caused exceedances of water quality standards for TDS in the NFHR.

The TDS standard for class A waters is "500 mg/l or one-third above the characteristics of natural conditions (whichever is less)." NAC445A.124(3)(j). As NDEP has explained, "[t]he Class A total dissolved solids standard has been exceeded, at times, in all sampling sites around and downstream of the mined areas." Fact Sheet, 10. Exceedances have been reported in the NFHR and all of the relevant tributaries. See Fact Sheet at 11(indicating TDS levels of 570 mg/l at S-110, 2,500 mg/l at S-115, and 1,300 mg/l at S-120); Myers, at 3-4 (indicating that 19 of 31 observations at S-140 exceeded 500 mg/L and all were one-third higher than concurrent upstream background observations).[19] Importantly, the TDS exceedances do not appear upstream, above the mine. See Fact Sheet, at 11(showing S-95 with 50 mg/L TDS, and S-100

[18] Notably, NDEP ignores the provision of NAC 445A.121(7) that requires that sources of selenium that are reasonably amenable to treatment or control must not be discharged untreated or uncontrolled. Here, NDEP has done nothing to treat the selenium. As shown in *Reduction of Sulfate Concentrations in Neutral Mine Effluent* (Glenn C. Miller, Ph.D., Department of Natural Resources and Environmental Science University of Nevada, Reno, September 27, 2005) (attached), selenium is amenable to treatment.

[19] In contrast to S-140, S-150 has shown few exceedances, Myers at 2, Fact Sheet at 11. S-150, however, is located 2 miles downstream in the NFHR and is therefore, subject to significant dilution. See Myers, at 4. Notably, the renewed permit discontinues use of S-140 as a monitoring point except for a few parameters. Fact Sheet, at 7.

with 75 mg/l TDS). Likewise, the exceedances do not appear at the upstream, above RDA, monitoring point in Sammy Creek. Id. (showing S-101 with 110 mg/l TDS). As such, it is clear that the mine is causing the TDS violations in the NFHR and it tributaries. See Myers, at 3-4.

As explained by NDEP, "[s]ulfate is a major component of the TDS calculation and is the constituent that has caused the overall TDS increases." Fact Sheet, at 10. Myers has also explained that "[s]ulfate is a constituent of TDS and is more directly related to mine drainage conditions than total TDS. This is because sulfate results from the oxidation of sulfides in the rock and ore followed by neutralization by the alkalinity also in the rock." Myers, at 6. Sulfate levels have increased markedly in the NFHR and its tributaries since 1991, Myers, at 6, thus, further indicating the impact of the mine's discharges on the waters in the area. Notably, sulfate, like selenium, is rather amenable to treatment. See *Reduction of Sulfate Concentrations in Neutral Mine Effluent* (attached).

NDEP, in its response to GBMW's comment on the draft permit, acknowledged the TDS violations, but again suggested that they are irrelevant. NOD, at 11. The Class A water quality standard for TDS consists of two components – the 500 mg/L portion and the "or one third above background, whichever is less" portion. NDEP argues that the one-third portion should be disregarded because it does not relate to any of the applicable beneficial uses for class A waters. Id. This assertion is not supported by any credible reading of Nevada law and can quickly be rejected.

NRS 445A.520 directs NDEP to set water quality standards to protect beneficial uses. If NDEP somehow failed to comply with that statutory requirement in setting the class A water quality standards that is unfortunate, but does not in anyway render the class A water quality standard inapplicable. Regulations have the force of law and NDEP has a duty to enforce all

regulations. NRS 233B.040(1)(a); Nevada Tax Commissioners v. Saveway Super Service Stations, Inc., 99 Nev. 626, 630 (1983)("Rules adopted by an agency are binding on the agency until the agency repeals them or a court declares them invalid."). If NDEP wants to challenge its own regulations it can initiate a regulatory proceeding, but cannot, as it suggests, just ignore the regulations.

NDEP similarly, and with as little success, argues that the 500 mg/l portion of the regulation relates only to Nevada's public water systems regulation, such that the public water system regulation, not the class A standard should apply here. NOD, at 11-12. This is a completely unsupportable argument that belies the plain regulatory framework NDEP has established to regulate water quality. First, whether the 500 mg/l portion of the regulation relates only to the drinking water standard is entirely factually unsupported. Second, even if true, the public water systems regulations NDEP refers to specifically apply only to public water systems. NAC 445A.451. A public water system is defined as "a system, regardless of ownership, that provides the public with water for human consumption through pipes or other constructed conveyances, if the system has 15 or more service connections, as defined in NRS 445A.843, or regularly serves 25 or more persons." NRS 445A.235. The NFHR and its tributaries are in no way a public water system. The public water system regulations are, therefore, completely and entirely irrelevant to determining whether or not the Big Springs Mine is causing an exceedance of water quality standards in the NFHR and its tributaries. It is entirely erroneous to suggest, as NDEP does, that the public water system regulations, and their water quality standards, apply here to the NFHR and its tributaries.

Contrary to NDEP's argument, it is irrelevant as to why the class A TDS water quality standard was set at the level that it was. The regulations have the force of law and NDEP has a

duty to enforce them. See supra 6-275. NDEP cannot as it otherwise suggests ignore the applicable surface water quality standards and instead, look to the public water system regulations, which plainly do not apply, to determine whether or not the Big Springs Mine is causing an exceedance of water quality standards in the NFHR and its tributaries. NDEP's attempt to do so completely misconstrues the regulatory framework NDEP has established to regulate Nevada's water quality. NAC 445A.118-125 establishes the surface water quality standards, in contrast to NAC 445A.450-492, which establishes the standards for public water systems. NDEP's attempt to confuse those two sets of standards is disingenuous, erroneous, and must be rejected.

C. The discharge has caused exceedances of water quality standards for manganese and arsenic in the NFHR.

In addition to causing exceedances of water quality standards for TDS and selenium in the NFHR, the discharges have also caused exceedances, although less frequent, of water quality standards for manganese and arsenic. See Tables 8, 10 (appendix). Specifically, the class A arsenic standard for municipal/domestic supply (.05 mg/l), NAC 445A.144, has been exceeded downstream from the mine in the NFHR, at the mouth of Water Canyon, and at the mouth of Sammy Creek. See Table 8. Likewise, the manganese class A water quality standard for irrigation has been exceeded on several occasions at all points downstream form mining activity, including the NFHR and all tributaries, with the exception of S-150. See Table 10. As explained by Myers, S-150 (the downstream monitoring point primarily relied upon by the renewed permit) is not an effective monitoring point because, by virtue of its location two miles down gradient from the site, it is subject to significant dilution. See Myers, 6, 16.

III. NDEP'S RENEWAL OF THE PERMIT VIOLATES THE CWA'S 303(D) PROVISION.

The CWA requires states to establish water quality standards for each body of water within the state. 33 U.S.C. § 1313(a)-(c). The CWA also requires states to identify water bodies that cannot meet standards. 33 U.S.C. § 1313(d)(1)(A). These waters are then listed on the State's 303(d) list of impaired waters as water quality limited streams, or WQLS. Once waters have been listed on the 303(d) list the state is required to formulate a total maximum daily load (TMDL) for the water body. 33 U.S.C. § 1311(d)(1)(c); Friends of the Wild Swan v. United States Environmental Protection Agency, 130 F.Supp.2d 1199, 1200 (2000). The TMDL represents the water's capacity to tolerate combined sources of pollution while meeting establish water quality standards. 33 U.S.C. § 1313(d)(1)(c).

A. NDEP has failed as required by the CWA to establish TMDLs for the NFHR and its tributaries, which are listed as impaired waters on the 303(d) list.

The CWA requires that TMDLs be established "as expeditiously as practicable." 40 CFR 130.28(a); Friends of the Wild Swan, 130 F.Supp at 1201 ("A TMDL must be developed quickly if it is to be useful in 'implement[ing] the applicable water quality standards.'") (*citing* 33 USC 1313(d)(1)(c)). As the United States Court of Appeals for the Ninth Circuit has explained:

> The CWA declares as a national goal the elimination of pollutant discharges into navigable waters by the year 1985. *See* 33U.S.C. § 1251(a)(1). To meet this goal, the CWA required states to promptly submit TMDLs for all WQLSs, with initial lists of TMDLs due in 1979. *See* 33 U.S.C. § 1313(d)(2). The tight deadline for submission of the TMDLs emphasizes an obvious congressional mandate that TMDLs be established in a matter of years, not decades. *See Idaho Sportsmen's Coalition v. Browner,* 951 F.Supp. 962, 967 (W.D.Wa.1996)… TMDLs must be developed quickly if they are to serve their intended purpose. *See* 33 U.S.C. § 1313(d)(1)(A); *Browner, supra,* 951 F.Supp. at 967.

Friends of the Wild Swan v. United Sates EPA, 2003 WL 21751849, *3 (9th Cir. 2003) (upholding the district court's order imposing a schedule on the state of Montana for the establishment of TMDLs) (attached).

Here, the NFHR, Sammy Creek, Dry Canyon and Water Canyon have all been listed on Nevada's 303(d) list for TDS and selenium. Nevada's 2002 303(d) Impaired Waters List (NDEP 2002). In addition, Sammy Creek is also listed for arsenic. Id. NDEP has failed, however, to set TMDLs for the NFHR and its tributaries. NDEP's failure to establish TMDLs for the NFHR and its tributaries violates the CWA. The SEC should, therefore, require NDEP to establish the required TMDLs within a specified reasonable timeframe. See Friends of Wild Swan, 130 F.Supp.2d at 1202-03 (establishing a schedule for the establishment of TMDLS); Friends of the Wild Swan, 2003 WL 21751849, *3 (9th Cir. 2003)(upholding the district court's order imposing a schedule for the establishment of TMDLs); Alaska Center for the Environment v. Browner, 20 F.3d 981, 984 (9th Cir. 1994) (approving the district court's order imposing a schedule for the establishment of TMDLs).

B. The CWA prohibits any additional discharges into any impaired waters for which TMDLS have not yet been developed.

The CWA not only requires the establishment of TMDLs, but prohibits any discharges into an impaired water until all necessary TMDLS have been established. In Friends of the Wild Swan, the district court held that "[u]ntil all necessary TMDLs are established for a particular WQLS, the EPA shall not issue any new permits or increase permitted discharge for any permit under the National Pollution Discharge Elimination System permitting program." 130 F. Supp at 1203. On appeal, the United States Court of Appeals for the Ninth Circuit affirmed that conclusion, explaining that

> The district court's order . . restricts that issuance of new permits or increased discharges for WQLS, which are already in violation of state water quality standard[s]. This comports with the regulatory requirement precluding issuance of new permits for new sources that will cause or contribute to a violation of water quality standard.

Friends of the Wild Swan, 2003 WL 31751849, *4.

Here, accordingly, NDEP cannot allow for any discharges into the NFHR, Sammy Creek, Water Canyon or Dry Canyon until it establishes TMDLS for those waters. Id. As such, NDEP's renewal of Permit NEV0087001, which provides for discharges into the NFHR, Sammy Creek, Water Canyon, and Dry Canyon cannot be upheld. The permit should be reversed and remanded to NDEP with instructions to establish the required TMDLs for the receiving waters before taking action on AngloGold's request for permit renewal.

IV. THE DISCHARGES ARE ADVERSELY AFFECTING LAHONTAN CUTTHROAT TROUT SPECIES IN THE NFHR IN VIOLATION OF THE FEDERAL ENDANGERED SPECIES ACT.

The federal Endangered Species Act (ESA), in relevant part, provides that it is unlawful for any person to take an endangered species of fish or wildlife. 16 U.S.C. 1536(a)(2). The Fish and Wildlife Service's regulations apply the take prohibition to both endangered and threatened species of fish and wildlife. 50 CFR 17.31(a); see also Great Oregon v. Babbitt, 1 F.3d 1 (D.C. Cir. 1993) (rejecting challenge to the FWS's regulation). Take is defined broadly as meaning "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct." 16 USC 1532(19). Harass, in turn, is defined as "an intentional or negligent act or omission which creates the likelihood on injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include but are not limited to breeding, feeding or sheltering." 50 CFR 17.3. Harm, in turn, has been defined as "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns,

including breeding, feeding or sheltering." 50 CFR 17.3. Congress plainly intended that the take prohibition be interpreted broadly. See S. Rep. No. 307, 93d Congr., 1st Sess. 7 (1973) ("'take' is defined in the broadest possible manner to include every conceivable way in which a person can 'take' or attempt to 'take' any fish and wildlife").

Here, there is no question that the Big Springs Mine is causing elevated levels of selenium to occur in the NFHR and its tributaries. See supra 21-25. The NFHR is home to Lahontan Cutthroat Trout, a federally recognized threatened species that is protected by the ESA. Fact Sheet, at 12. Nevada's aquatic life standard for selenium is .02 milligrams/l (acute) and .005 milligrams/liter (chronic). NAC 445A.441. Here, data from S-140, just below the mine in the NFHR, shows exceedances of the chronic standard forty-six percent of the time. Myers, at 6. In addition, the tributaries, at their outlets to the NFHR, show exceedances of this standard ninety-one percent of the time. Id.

Selenium is recognized by the state as a toxic material. See NAC 445A.144. Toxic materials have been defined by NDEP as,

> [a]ny pollutants . . . which will, on the basis of information available to the administrator, cause an organism or its offspring to die or to suffer any: (1) disease; (B) behavior abnormality; (c) cancer; (d) genetic mutation; (e) physiological malfunction, including a malfunction in reproduction (f) or physical deformation, if that pollutant . . . is discharged and exposed to or assimilated by the organism, whether directly from the environmental or indirectly through food chains.

NAC 445A.110. EPA has specifically explained that selenium can be toxic to aquatic life (such as fish and invertebrates) where concentrations are excessive and that,

> [f]or aquatic life, the toxic effects with the lowest thresholds are effects on the growth and survival of juvenile fish and effects on larval offspring of the adult fish that were exposed to excessive selenium. In the latter case, besides reducing survival, selenium causes skeletal deformities.

See EPA, *Groundwater and Drinking Water, Consumer Fact Sheet: Selenium* (visited September 27, 2005) http://www.epa.gov/safewater/contaminants/dw_contamfs/selenium.html. Here, because the mine is consistently causing exceedances of the aquatic life standards in the NFHR it is causing selenium, a toxic material, to be present at a level that, by NDEP's own definition, harasses and harms LCT. As such, NDEP's renewal of the permit, which does not take adequate steps to prevent the exceedances, or otherwise regulate the discharge, violates the Endangered Species Act and cannot be upheld.

As evidenced by the United States Fish and Wildlife Service (FWS) study recently published, LCT in the NFHR have, in fact, shown elevated levels of selenium in their tissues. *Preliminary Assessment of Potential Impacts of Drainage Associated with the Big Springs Mine to Aquatic Organisms in the North Fork Humboldt River, Elko County, Nevada, 1998, Final Report EC 34.12.6.,* at 17 (U.S. Fish and Wildlife Service, Tuttle, P.L., D.K. Higgins, and J.S. Foott, 2003). On average, according to the report, the selenium levels in the fish sampled range from 1.7 to 2.9 micrograms/grams. Id.; NOD, at 5. EPA has proposed a new criteria for "whole body" tissue that, as explained by NDEP, is equal to 1.8 micrograms/gram. All of the fish tissues tested by the USFWS exceed this toxic level. See NOD, at 5.

GBMW raised this issue in its comments to NDEP on the draft permit. In response, NDEP attempted to minimize the results of the USFWS report by focusing on another study, funded by AngloGold, conducted in 1999. NOD at 4. That study found that selenium levels in LCT tissue were between .58 and 1.5 microgram/gram and, thus, below the proposed EPA standard for toxic selenium tissue levels in aquatic life. Id. While the AngloGold funded study suggests that the LCT in the NFHR are not being as affected by the selenium discharged by the mine, as otherwise concluded by the USFWS study, it nevertheless concluded that selenium is

appearing at elevated levels in the LCT. The results of the AngloGold funded study do not in anyway render the results of the USFWS study meaningless. To the contrary, the AngloGold study, nor NDEP, does nothing to reconcile the conflicting results of the two studies. Instead, NDEP merely suggests that the earlier study was preliminary and limited in scope. NOD, at 4. However, the study was finalized and published by its authors in 2003, after the AngloGold study was released, suggesting, despite the results from the AngloGold study, that the USFWS study is, nevertheless, valid.

Regardless of the results of the two studies it is without question that, as explained: (a) the Big Springs Mine is causing elevated levels of selenium in the NFHR in violation of aquatic life standards for the river; (2) selenium at elevated levels is toxic to fish, i.e., "reducing survival" and causing reproductive problems and deformities,; (3) the NFHR is home to LCT, a threatened species protected under the ESA; and (4) LCT have shown elevated tissue levels, although how high is in dispute, of selenium.

As explained, the ESA prohibits the taking of threatened species. Take is defined broadly to include any action that harms or harasses a threatened species, including indirect injuries form land use activities. Here, the discharge of waste has elevated levels of selenium. See supra, 21-25. As recognized by EPA and NDEP, selenium at these elevated levels can cause birth defects, survival issues, and deformities in aquatic life. As such, the discharge constitutes a prohibited take under the ESA. See supra 31-32. It is therefore, unlawful, arbitrary and capricious, and in violation of federal law for NDEP to renew permit NEV0087001, which does not adequately regulate the discharge's ongoing exceedances of selenium in the NFHR and fails to adequately protect the NFHR's LCT population.

V. THE PITS ARE DEGRADING GROUNDWATER IN VIOLATION OF STATE LAW.

As explained above, the SWX and 303 pits are flow-through pits that have elevated levels of manganese, sulfates and TDS. See supra 16. Because the pits are flow though systems, water flows out of the pits into the surrounding bedrock and ultimately into the NFHR and its tributaries. See supra 16. It is undisputed that water is flowing from the pits into the surrounding groundwater. See supra 16. NDEP had previously established groundwater monitoring wells approximately 100 feet down-gradient from the pits (MW-1 and MW-3). Fact Sheet, at 4. Although both wells have since been closed, during their use NDEP explained that the surrounding groundwater quality had evolved to mirror the quality of water found in the pit lakes. Id.

Nevada law provides that

> Bodies of water which are a result of mine pits penetrating the water table must not create an impoundment which: (a) has the potential to degrade the groundwater of the state; or (b)has the potential to affect adversely the health of human, terrestrial or avian life.

NAC 445A.429(3). In its response to GBMW's comments on the draft permit, NDEP only addressed section (b) of this regulation. NOD, at 3. However, section (a) is actually the more relevant provision. Degrade is defined in the regulations, in part, as: (1) lowering the quality of surface water below that allowed by NRS 445A.565 (antidegradation); or (2) lowering the quality of groundwater below drinking water standards. NAC 445A.357 (defining degrade as causing a violation of NAC 445A.424); NAC 445A.424 (prohibiting degradation of surface and groundwater as described).

Here, the pit lakes contain water quality that violates the drinking water standards as shown in the table below:

Constituent	**Number of violations of Drinking Water standards in the pits 1997-2004 (violations/total number of samples)**		**Drinking Water Standards**[20]
	SWX	*303*	
TDS	20/23	18/23	500 – 1,000 mg/l (secondary)
Sulfate	20/23	21/23	250 – 500 mg/l (secondary)
Selenium	0	0	.05 mg/l (primary)
Manganese	17/23	3/23	.05 - .1 mg/l (secondary)
Arsenic	7/23	14/23	.010 mg/l (primary)

See Tables 1-5 (appendix).

As acknowledged by NDEP the water in the pit lakes is flowing into the groundwater surrounding the pit, and the groundwater has shown the same water quality as contained in the pits. Fact Sheet, at 4. As such, the pit lake water is likely causing groundwater levels to exceed drinking water standards for several constituents including sulfate, TDS, selenium manganese and arsenic, and is, therefore, degrading waters in violation of state law.

VI. THE WATER DIVERSION PROGRAM IMPLEMENTED BY ANGLOGOLD IS DEGRADING WATERS OF THE STATE IN VIOLATION OF STATE LAW.

As explained above, the mine is diverting groundwater from up gradient of the pit lakes to the shallow alluvial aquifer adjacent to Sammy Creek. See supra, 19-20. NDEP's regulations provide that no mining facility may degrade waters of the state. NAC 445A.424. Degrade, again is defined in relevant part as lowering the quality of groundwater below drinking water standards. NAC 445A.424. Here, the diverted water consistently exceeds Nevada's drinking water standard for arsenic. See Table 6 (appendix) (18/18 violations exceeding both the .01 mg/l

[20] Nevada has adopted EPA's national primary drinking water standards. See NAC 445A.453. The Secondary standards are set forth at NAC 445A.4555. Where the secondary standard includes a range, the maximum value has been used to determine the number of violations.

and .05 mg/l arsenic standard).[21] Because this water is being discharged into the alluvial aquifer on Sammy Creek it is obviously causing an exceedance in the aquifer of arsenic.

CONCLUSION

For the foregoing reasons, GBMW requests that the SEC reverse and remand Permit NEV0087001 to NDEP with instructions to comply with all legal requirements. Specifically, the SEC should Order NDEP to:

(1) issue a discharge permit for the mine's three groups of sources: the RDA's, the two pit lakes, and the groundwater diversion;

(2) regulate the discharge as required by federal and state law, including but not limited to, establishing effluent limitations for the discharges in accordance with established water quality standards;

(3) prior to issuing the required discharge permit, establish TMDLs for the impaired receiving waters within a specified reasonable timeframe;

(4) restrict the discharges into the NFHR so that the discharges are not harming, harassing, or otherwise taking Lahontan Cutthroat Trout in violation of the ESA;

(5) regulate the discharge from the pits into groundwater so that the discharge is not degrading groundwater;

(6) regulate the discharge from the groundwater diversion wells so that the discharge is not degrading the shallow groundwater in the Sammy Creek Drainage;

(7) prohibit any discharges until and unless all of the above requirements are met.

[21] The primary drinking water standard for arsenic is currently .05 mg/l. However, as of January 13, 2006, the standard is changing to .01 mg/l. 66 Fed. Reg. 6975 (January 22, 2001).

Respectfully submitted this ____ day of September, 2005,

_____

Nicole U. Rinke
Nevada Bar No. 7884
Western Mining Action Project
505 S. Arlington Ave., Suite 110
Reno, Nevada 89509
(Phone) 775.337.2977
(Fax) 775.337.2980

Attorney for Appellant GBMW

APPENDIX

Table 1: TDS violations of class A and drinking water standards in the pit lakes

TDS	Total No. Observations	Class A violations 500 or 1/3	Drinking water violations 1,000 mg/l
SWX	23	22	20
303	23	23	18

Table 2: Arsenic violations of class A and drinking water standards in the pit lakes

Arsenic	Total No. Observations	Class A municipal Supply .05 mg/l	Drinking water .05 mg/l	Drinking water .01 mg/l
SXW	23	0	0	7
303	23	1	1	14

Table 3: Selenium violations of class A and drinking water standards in the pit lakes

Selenium	Total No. Observations	Class A aquatic life .005 mg/l
SXW	23	13
303	23	21

Table 4: Manganese violations of class A and drinking water standards in the pit lakes

Manganese	Total No. Observations	Class A irrigation .2 mg/l	Drinking water .1 mg/l
SWX	23	7	17
303	23	2	3

Table 5: Sulfate violations of class A and drinking water standards in the pit lakes

Sulfate	Total No. Observations	Drinking water 500 mg/l
SWX	23	20
303	23	21

Table 6: Violations of the class A and drinking water arsenic standards in MW2

	Total No. Observations	Class A arsenic municipal supply violations	.05 mg/l arsenic drinking water violations	.01 mg/l arsenic drinking water violations
MW-2	18	18	18	18

* Tables 1-6 are based on data from the Myers Report.

Table 7: Violations in the NFHR and tributaries of class A and drinking water standards for TDS

TDS	Total No. Observations	Class A standard 500 mg/l or plus 1/3	Drinking Water Standard 1000 mg/l
S-140	32	32	0
S-150	96	96	0
S-110	100	99	2
S-115	78	76	54
S-120	133	90	76

Table 8: Violations in the NFHR and tributaries of class A and drinking water standards for arsenic

Arsenic	Total No. Observations	Class A municipal Supply 0.05 mg/l	Drinking Water 0.05 mg/l	Drinking Water (1/23/06) 0.01 mg/l
S-140	143	8	8	71
S-150	103	1	1	10
S-110	98	4	4	85
S-115	36	0	0	4
S-120	86	4	4	76

Table 9: Violations in the NFHR and tributaries of class A and drinking water standards for selenium

Selenium	Total No. Observations	Class A Municipal Supply 0.05	Class A Irrigation 0.02	Class A Livestock 0.05	Class A chronic aquatic life 0.005	Drinking Water 0.05
S-140	88	1	4	1	32	1
S-150	48	0	0	0	6	0
S-110	54	0	6	0	48	0
S-115	33	2	16	2	30	2
S-120	44	0	1	0	41	0

Table 10: Violations in the NFHR and tributaries of class A and drinking water standards for manganese

Manganese	Observations	Class A Irrigation 0.2 mg/l	Drinking Water 0.1 mg/l
S-140	60	3	10
S-150	48	0	0
S-110	53	7	10
S-115	33	4	12
S-120	44	2	7

Table 11: Violations in the NFHR and tributaries of class A and drinking water standards for sulfate

Sulfate	Observations	Drinking Water 500 mg/l
S-140	117	1
S-150	150	0
S-110	145	11
S115	82	69
S-120	133	76

*Tables 7-11 based on data in the Myers Report.

CERTIFICATE OF SERVICE

I, Nicole Rinke, hereby certify that I served the foregoing Appellant's Memorandum in Support of Appeal upon the following individuals via USPS or hand delivery, this _____ day of September, 2005:

Dave Gaskin
Bureau of Mining Regulation and Reclamation
Nevada Division of Environmental Protection
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249

Bill Frey
Deputy Attorney General
100 North Carson Street
Carson City, NV 89701-4717

Eugene J. Riordan
Vranesh and Raisch, LLP
1720 14th Street, Suite 200
PO Box 871
Boulder, CO 80306-0871

Jim Butler
Parsons, Behle and Latimer
One East Liberty Street, 6th Floor
Reno, NV 89504

_____
Nicole U. Rinke