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UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

TOWN OF FLORENCE and
SWVP-GTIS MR, LLC,

Petitioners,

v.

U.S. ENVIRONMENTAL
PROTECTION AGENCY, et al.

Respondents,

and

FLORENCE COPPER, INC.

Respondent-Intervenor

No. 17-73170

FLORENCE COPPER, INC.
MOTION FOR ORDER TO
SHOW CAUSE

Pursuant to Federal Rule of Appellate Procedure 27 and Circuit Rule 27-1, Florence Copper, Inc. ("**FCI**") respectfully moves this Court to order the Petitioners to show cause that their Petition is within the Court's subject matter jurisdiction. The grounds for this motion are twofold: (1) the Petition challenges an agency action decades after the expiration of the statute of limitations that governs such challenges; and (2) there is good reason to believe that the Petitioners cannot satisfy the "grounds arising after" exception to the limitation period.[1]

I. BACKGROUND

The Petition challenges an action taken by the U.S. Environmental Protection Agency ("**EPA**") over two decades ago, on May 1, 1997, to exempt a portion of a groundwater aquifer in Pinal County, Arizona from the operation of EPA's rules that govern underground sources of drinking water ("**USDW**"). EPA's decision (the "**Exemption**") was made pursuant to Section 1421 of the Safe Drinking Water Act ("**SDWA**"), 42 U.S.C. § 300h, and EPA's implementing rules at 40 C.F.R. §§ 146.4 and 144.7(b)-(c). Under the Exemption, the exempt portion of the aquifer is no longer considered a USDW as defined at 40 C.F.R. § 144.3. The Exemption was

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[1] In the event that the Court denies this motion, FCI would beg leave to reassert the arguments raised herein in FCI's response brief on the Petition. *See National Indus., Inc. v. Republic Nat'l Life Ins. Co.*, 677 F.2d 1258, 1262 (9th Cir. 1982) (stating merits panel may consider question of jurisdiction despite earlier denial by motion panel); *accord United States v. Humphries*, 636 F.2d 1172, 1174 n.2 (9th Cir. 1980); *United States v. Emens,* 565 F.2d 1142, 1144 n.2 (9th Cir. 1977).

based on EPA's determination that the exempt portion of the aquifer "does not currently serve as a source of drinking water" within the meaning of 40 C.F.R. § 146.4(a) and "contain[s] minerals . . . that considering their quantity and location are expected to be commercially producible" within the meaning of 40 C.F.R. § 146.4(b)(1). *See In re Florence Copper, Inc.*, 17 E.A.D. 406, *413 (EPA Environmental Appeals Board ("**EAB**") Order Denying Review in Case No. 17-03, September 22, 2017) (attached hereto as **Exhibit 1**); 1997 Aquifer Exemption (Doc. No. 33 in Administrative Record Index) (attached hereto as **Exhibit 2**).

By establishing the Exemption, EPA cleared the way for in-situ solution mining of copper deposits within the lateral and vertical limits of the Exemption using underground injection wells and associated recovery wells, provided that the construction and operation of the wells occur according to underground injection control ("**UIC**") permit conditions. Such permit conditions protect USDW that remain outside the limits of the Exemption from adverse impacts from in-situ solution mining that occurs within the limits of the Exemption. See 40 C.F.R. §§ 144.51-144.55, 146.7-146.10, 146.31-146.34. EPA's issuance of a UIC permit to FCI to conduct such operations was the subject of the Petitioners' unsuccessful appeal to the EAB in Case No. 17-03 cited above and is the subject of a separate petition for judicial review that has been filed by the Petitioners. *See* Petition for Review, Docket No. 17-73168 (attached hereto as **Exhibit 3**).

II. ARGUMENT

Any petition for judicial review of EPA's determination to issue the Exemption in 1997 was and remains subject to the 45-day limitation period of 42 U.S.C. § 300j-7(a)(2):

> A petition for review of . . . any other final action of the Administrator under this Act may be filed in the circuit in which the petitioner resides or transacts business which is directly affected by the action. Any such petition shall be filed within the 45-day period beginning on the date of the . . . final Agency action with respect to which review is sought or on the date of the determination with respect to which review is sought, and may be filed after the expiration of such 45-day period if the petition is based solely on grounds arising after the expiration of such period.

(Emphasis added.)

The Petitioners have alleged that grounds arising after the 45-day limitation period of 42 U.S.C. § 300j-7(a)(2) necessitate a finding by this Court or EPA that 40 C.F.R. § 146.4(a), which states a portion of an aquifer may be exempted under § 144.7 if, in pertinent part, it "does not currently serve as a source of drinking water," is no longer satisfied as to all or part of the Exemption. *See* Petition for Review, Docket No. 17-73170 (attached hereto as **Exhibit 4**); Petitioners' Petition for Review to EAB in Case No. 17-03 (January 19, 2017) (attached hereto without its attachments as **Exhibit 5**), at 13 (stating the aquifer within which the Exemption lies "currently serves as a source of drinking water"); *id.* at 14 ("The 1997 Aquifer Exemption is based on circumstances that no longer exist."). Petitioners' clear implication is that a portion of the aquifer covered by the Exemption currently serves as a source of

drinking water even if it did not serve as a source of drinking water prior to the expiration in 1997 of the 45-day limitation period of 42 U.S.C. § 300j-7(a)(2).

According to EPA, however, a portion of an aquifer can be deemed to currently serve as a source of drinking water under 40 C.F.R. § 146.4(a) only if:

i. A drinking water well that is presently in existence is currently extracting groundwater from that portion of the aquifer; or

ii. There is reason to believe that a drinking water well that is presently in existence will in the future extract groundwater from that portion of the aquifer.

See EPA Region 6 Letter to New Mexico Environmental Law Center (June 27, 2012) (attached hereto as **Exhibit 6**) at 2 ("The primary criterion at 40 CFR § 146.4(a) requires [that] all exemptions must demonstrate that the aquifer does not currently serve as a source of drinking water. Generally, an aquifer serves as a current source of drinking water if that water is within the capture zone of an existing water well used for human consumption."); EPA Headquarters Memorandum to Water Division Directors Regions 1 – 10 (July 24, 2014) (attached hereto without its attachments as **Exhibit 7**) ("**EPA's Memorandum**") at 3 ("EPA has determined that water that currently serves as a source of drinking water includes water that is being withdrawn

in the present moment as well as water that will be withdrawn in the future by wells that are currently in existence").[2]

The Petitioners, in their petition for review to the EAB and in earlier administrative proceedings related to the Exemption, have never asserted let alone demonstrated that either condition (i) or condition (ii) stated above actually exists for a portion of the aquifer that is covered by the Exemption. FCI, for its part, is unaware that either condition (i) or condition (ii) exists for a portion of the aquifer that is covered by the Exemption. *See* Affidavit of Daniel M. Johnson (April 20, 2018) (attached hereto as **Exhibit 8**)

The Petitioners' historic failure to assert, let alone demonstrate, specifically that condition (i) or condition (ii) above exists for a portion of the aquifer covered by the Exemption provides a reasonable basis to believe that neither condition exists; i.e., that the "grounds arising after" exception to the 45-day limitation period of 42 U.S.C. § 300j-7(a)(2) is not satisfied. This warrants a Court order to the Petitioners to show cause that their Petition is within the Court's subject matter jurisdiction by pointing to

[2] FCI adopts the second prong—condition (ii)—of EPA's Memorandum only for purposes of this motion. FCI reserves the right to argue in merits briefing to this Court or any other proceeding that condition (ii), as stated in EPA's Memorandum, reflects an overly expansive view of the meaning of "currently serve[s] as a source of drinking water" in 40 C.F.R. § 146.4(a) and is contrary to applicable canons of regulatory construction and the SDWA and its implementing rules; and that condition (i) is the only lawful test of whether a portion of an aquifer "currently serve[s] as a source of drinking water."

evidence that condition (i) or condition (ii) has arisen for a portion of the aquifer covered by the Exemption since the expiration of the 45-day limitation period; or, at the very least, warrants an order requiring the Petitioners to file with the Court a sworn affidavit that condition (i) or condition (ii) has arisen for a portion of the aquifer covered by the Exemption and that Petitioners will demonstrate as much in exhibits to their opening brief on the merits of their Petition.

By way of reference, the Petitioners would utterly fail to show cause if all they are able to proffer in response to an order to show cause are statements similar to those made in their petition for review to the EAB, which were unsupported or speculative and, most importantly, do not satisfy either condition (i) or condition (ii) for demonstrating (or even asserting) that a portion of the aquifer covered by the Exemption currently serves as a source of drinking water. *See, e.g.,* Petitioners' Petition for Review to EAB (Exhibit 5 hereto) at 9 (stating existing drinking water wells are presently screened in the aquifer within which the Exemption lies, without stating that those wells currently extract or will in the future extract groundwater from within the limits of the Exemption); *id.* at 13 ("The area at and around FCI's project is planned for production drinking water wells in the future."); *id.* at 16 (mentioning "reasonably foreseeable development of new drinking water wells in the area surrounding [FCI's] project site"); *id.* at 34 (mentioning "foreseeable future uses" of groundwater and "future planned drinking water wells" without reference to the boundaries of the Exemption).

In the unlikely event that the Petitioners *are* able to demonstrate that condition (i) or condition (ii) has arisen for a portion of the aquifer covered by the Exemption, it would be appropriate to require the Petitioners to demonstrate that they did not know or have reason to know that the condition arose prior to 45 days before they filed their Petition. *See Ludovsky v. City & County of San Francisco*, 535 F.3d 1044, 1048 (9th Cir. 2008) ("Accrual is the date on which the statute of limitations begins to run."); *TwoRivers v. Lewis*, 174 F.3d 987, 991 (9th Cir. 1999) (stating that, under federal law, a claim accrues when the plaintiff knows or has reason to know of the underlying cause of action); *see also HRI, Inc. v. EPA*, 198 F.3d 1224, 1240, n. 9 (10th Cir. 2000) ("It is an unreasonable construction of 42 U.S.C. § 300j-7(a) to suggest that grounds arising subsequent to a final decision furnish aggrieved parties with an indefinite period of time to initiate a petition for review. Rather, <u>grounds arising subsequent to the expiration of the initial 45-day period for review . . . initiate an additional 45-day period.</u>") (emphasis added); *American Wood Preservers Inst. v. EPA*, 2002 U.S. App. LEXIS 13965, *5 (D.C. Cir. 2002) (stating "the 45-day period for seeking judicial review . . . may be made to run anew if the petition is based solely on grounds arising after the expiration of such period" and dismissing as over-late a petition filed more than 45 days after the occurrence of the alleged new grounds); *Coal River Energy, LLC v. Jewell*, 751 F. 3d 659, 663 (D.C. Cir. 2014) (rejecting petitioner's argument that a statute of limitations' failure to impose the same time limit on "after-arising claims" means the time limit does not apply once the after-arising claim ripens because

accepting that argument would "nullify" the limitation period under the statute "or any similar statute"); *c.f. Sierra Club De P.R. v. EPA*, 815 F.3d 22, (D.C. Cir. 2016) (explaining an exception for "after-arising grounds" "encompasses the occurrence of an event that ripens a claim").

III. CONCLUSION

For the foregoing reasons, FCI moves this Court to order the Petitioners to show cause that the Petition is within the Court's subject matter jurisdiction by pointing to evidence that, since the expiration in 1997 of the 45-day limitation period of 42 U.S.C. § 300j-7(a)(2)—i.e., since June 15, 1997 which was 45 days after the date that EPA issued the Exemption—either of the following two conditions has arisen; or, at the very least, to file with the Court a sworn affidavit that since the expiration of the 45-day limitation period either of the following two conditions has arisen and that the Petitioners will demonstrate as much in exhibits to their opening brief on the merits of their Petition.

i. A drinking water well that is presently in existence is currently extracting groundwater from within the limits of the Exemption; or

ii. There is reason to believe that a drinking water well that is presently in existence will in the future extract groundwater from within the limits of the Exemption.

To the extent that it would be appropriate, FCI moves the Court to require the Petitioners to demonstrate that they did not know or have reason to know that condition (i) or condition (ii), above, arose prior to 45 days before they filed their Petition.

FCI moves the Court to require the Petitioners to show cause in the manner stated above before the Court requires the parties to file appellate and response briefs on the Petition. Circuit Rule 27-11 (Motions; Effect on Schedule).

FCI also moves the Court to dismiss the Petition with prejudice for lack of subject matter jurisdiction in the event that the Petitioners are unable to show cause in the manner stated above. *See Western Nebraska Resources Council v. EPA*, 793 F.2d 194, 198 (8th Cir. 1986) (stating the 45-day limitation period in 42 U.S.C. § 300j-7(a)(2) "defines the duration of this court's jurisdiction" and reflects "a deliberate congressional choice to impose statutory finality on agency [action], a choice we may not second-guess") (quoting *Eagle-Picher Indus., Inc. v. EPA*, 759 F.2d 905, 911 (D.C. Cir. 1985)); *see also Mesa Airlines v. United States*, 951 F.2d 1186, 1187 (10th Cir. 1991) (stating a statutory time limit for review of administrative agency action is "jurisdictional and not discretionary").[3]

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[3] This motion is without prejudice to FCI's position that: **(i)** any determination that the installation or operation of a drinking water well, more than 45 days after the issuance of an aquifer exemption that was based specifically on the criteria of 40 C.F.R. § 146.4(a)-(b)(1), justifies a re-examination of whether those criteria are met would render § 146.4(b)(1) mere surplusage in violation of applicable canons of

DATED: April 20, 2018

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Exhibits in Support of This Motion (Attached Hereto)

1 – EAB Order Denying Review in Case No. 17-03 (September 22, 2017)
2 – 1997 Aquifer Exemption (Doc. No. 33 in Administrative Record Index)
3 – Petition for Review, Docket No. 17-73168 (Separately Pending before the Court)
4 – Petition for Review, Docket No. 17-73170 (this Case)
5 – Petitioners' Petition for Review to EAB in Case No. 17-03 (January 19, 2017)
6 – EPA Region 6 Letter to New Mexico Environmental Law Center (June 27, 2012)
7 – EPA Memorandum to Water Division Directors Regions 1 – 10 (July 24, 2014)
8 – Affidavit of Daniel M. Johnson (April 20, 2018)

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regulatory construction (notwithstanding FCI's reliance, above, on exhibits 6 and 7 hereto, which is only for purposes of this motion); **(ii)** any reduction by the federal government of the dimensions of the Exemption would be unauthorized by law and violate 40 C.F.R. § 146.4(b)(1), the SDWA, and the Fifth and Tenth Amendments of the United States Constitution; and **(iii)** the Petitioners do not have Article III or zone of interest standing to support the Petition. Some of these arguments may pertain to the Court's subject matter jurisdiction over the Petition, but FCI has elected not to raise them at the present time. FCI would respectfully make these arguments in its response brief on the Petition in the event that this motion is denied.

CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing FLORENCE COPPER, INC. MOTION FOR ORDER TO SHOW CAUSE including the eight (8) exhibits thereto which follow this Certificate with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system on April 20, 2018.

Participants in the case who are registered CM/ECF users will be served by the appellate CM/ECF system.

Dated: April 20, 2018

/s/ George A. Tsiolis
George A. Tsiolis

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

Docket No. 17-73170

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FLORENCE COPPER, INC. MOTION FOR ORDER TO SHOW CAUSE
April 20, 2018

EXHIBIT 1

EAB Order Denying Review in Case No. 17-03 (September 22, 2017)

IN RE FLORENCE COPPER, INC.

UIC Appeal Nos. 17-01 & 17-03

ORDER DENYING REVIEW

Decided September 22, 2017

Syllabus

The U.S. Environmental Protection Agency ("EPA") Region 9 ("Region") issued an Underground Injection Control ("UIC") permit to Florence Copper, Inc., authorizing the company to construct and operate a Production Test Facility in Pinal County, Arizona. The Permit, issued under the Safe Drinking Water Act ("SDWA"), authorizes Florence Copper to engage in in-situ copper mining at the Production Test Facility, which involves drilling wells and injecting acid into copper ore deposits for the purpose of copper recovery and production testing.

The Production Test Facility's well field is located within the boundary of a UIC permit that the Region issued in 1997 to BHP Copper Inc. ("BHP"), authorizing BHP to operate an in-situ copper recovery facility. At the same time the Region issued BHP the 1997 permit, the Region also granted an aquifer exemption pursuant to 40 C.F.R. § 146.4.

The Town of Florence and SWVP-GTIS MR, LLC (collectively, "Town of Florence" or "Town") (UIC Appeal No. 17-03) and Mr. John L. Anderson (UIC Appeal No. 17-01) timely filed with the Board petitions for review of the Region's permit decision.

The Town's Petition is based on one overarching contention: namely, that the Region clearly erred, abused its discretion, or made inappropriate policy choices when the Region relied on the 1997 aquifer exemption in issuing the Permit. The Town maintains that land uses and local zoning regulations have "changed dramatically" since issuance of the 1997 aquifer exemption and, as a consequence, the contours of the Exemption are "based on circumstances that no longer exist." The Town contends that the Region should have rescinded or revoked the 1997 aquifer exemption and prepared a new aquifer exemption specifically tailored to the small scope of Florence Copper's Production Test Facility.

Mr. Anderson's Petition essentially raises three general concerns: (1) sources of drinking water will not be adequately protected from migrating mining-related fluids; (2) aquifers cannot be successfully restored after in-situ mining activities; and (3) any one of the "cons" identified in an article published by the Arizona Geological Survey summarizing the use of solution mining for copper extraction justify denying the Permit.

Held: The Board denies both petitions for review.

Town of Florence Petition (UIC Appeal No. 17-03)

The Board holds that it is not the proper forum to resolve the Town's aquifer exemption-related arguments because aquifer exemption decisions are discrete final agency actions that are not themselves UIC permitting decisions or elements thereof within the meaning of 40 C.F.R. § 124.19(a), are separately operable from any UIC permit, and, under the SDWA, must be challenged in the appropriate federal circuit court of appeals within forty-five days or later if based solely on grounds arising after that deadline. The Board therefore denies review of the Town's Petition.

Mr. Anderson Petition (UIC Appeal No. 17-01)

The Board observes that it appreciates Mr. Anderson's concerns about potential impacts to drinking water sources, but holds that Mr. Anderson's Petition does not satisfy threshold procedural requirements necessary to support Board review. The Board finds that, as to each of the three general concerns expressed by Mr. Anderson, the Petition fails to indicate whether or how these concerns apply to, or are not addressed by, the Permit, the Region's response to comments, or the Administrative Record. The Board therefore concludes that Mr. Anderson's Petition fails to provide a sufficient basis on which to consider whether review is warranted. The Board further explains why, even if it were to consider Mr. Anderson's three general concerns on the merits, it would conclude that Mr. Anderson's Petition fails to demonstrate any clearly erroneous finding of fact or conclusion of law, abuse of discretion, or other issue warranting review.

Before Environmental Appeals Judges Aaron P. Avila, Mary Kay Lynch, and Mary Beth Ward.

Opinion of the Board by Judge Avila:

I. *STATEMENT OF THE CASE*

The U.S. Environmental Protection Agency ("EPA" or "Agency") Region 9 ("Region") issued an Underground Injection Control ("UIC") permit to Florence Copper, Inc., authorizing the company to construct and operate a Class III injection well Production Test Facility in Pinal County, Arizona. *See* EPA Region 9, *Underground Injection Control Program Area Permit, Class III In-Situ Production of Copper, Permit No. R9UIC-AZ3-FY11-1, Florence Copper Project* (Dec. 20, 2016) (Administrative Record ("A.R.") #596) ("Permit" or "Final Permit").[1] The Permit authorizes Florence Copper to engage in in-situ copper mining at the Production Test Facility, which involves drilling wells and injecting acid into

[1] The Region filed a Certified Index to the Administrative Record, along with portions of the Administrative Record itself. In this Order, the Environmental Appeals Board refers to documents in the Administrative Record by their title and the document number assigned to them in the Region's Certified Index.

copper ore deposits for the purpose of copper recovery and production testing. *Id*. at 6. The Region issued the Permit and authorized Florence Copper to construct, test, and inject for a period to include the Production Test Facility's approximate two-year operational life and five-year post-closure monitoring period. *Id*. at 6-7. The Region included in the Permit conditions addressing, among other things, pre-drilling requirements, well construction, operation, maintenance, monitoring, reporting, aquifer restoration, closure, abandonment, and financial responsibility. *See* EPA Region 9, *Statement of Basis, Draft Class III Underground Injection Control Area Permit for Florence Copper, Inc., Permit Number R9UIC-AZ3-FY11-1*, at 7-12 (Dec. 7, 2014) (A.R. #18) ("Statement of Basis"); Permit conds. II-III, at 8-46.

Mr. John L. Anderson (UIC Appeal No. 17-01) and the Town of Florence and SWVP-GTIS MR, LLC (collectively, "Town of Florence" or "Town") (UIC Appeal No. 17-03) timely filed with the Environmental Appeals Board ("Board") petitions for review of the Region's permit decision.[2] The Board held oral

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[2] The Board previously disposed of two other petitions for review filed with the Board challenging the Region's permit decision. Ms. Karen J. Wall (UIC Appeal No. 17-04) filed a petition for review with the Board on February 7, 2017. On February 10, 2017, Florence Copper filed a motion for "denial" of Ms. Wall's petition on the ground that it was untimely. Two weeks later, Florence Copper filed a document entitled "Completion of Florence Copper, Inc.'s Service of Motion to Dismiss Upon Karen J. Wall" in which Florence Copper represented that Ms. Wall was served a copy of Florence Copper's motion "no later than February 16, 2017." To avoid any confusion as to the deadline for responding to Florence Copper's motion, the Board issued an order providing that any party intending to file a response to Florence Copper's motion had to do so on or before March 14, 2017. *In re Florence Copper, Inc.*, UIC Appeal No. 17-04, at 2-3 (EAB Mar. 3, 2017) (Order Setting Deadline for Response to Motion, Staying Response to Petition, and Denying Motion for Extension of Time to File Response). Ms. Wall did not file any response to Florence Copper's motion, and the Board dismissed Ms. Wall's petition as untimely. *In re Florence Copper, Inc.*, UIC Appeal No. 17-04, at 2-3 (EAB Mar. 22, 2017) (Order Dismissing Petition for Review as Untimely).

The Gila River Indian Community ("Community") (UIC Appeal No. 17-02) filed a petition for review on January 19, 2017. On July 25, 2017, the Community filed a motion to dismiss its appeal pursuant to 40 C.F.R. § 124.19(k) because the Community had reached a settlement with Florence Copper. The Board granted the Community's motion and dismissed the petition with prejudice. *In re Florence Copper, Inc.*, UIC Appeal No. 17-02 (EAB July 26, 2017) (Order Dismissing Petition for Review).

argument on the two petitions on July 27, 2017. For the reasons stated below, the Board denies the petitions for review.

II. *PRINCIPLES GOVERNING BOARD REVIEW*

Section 124.19 of Title 40 of the Code of Federal Regulations governs Board review of a UIC permit.[3] In considering any petition filed under 40 C.F.R. § 124.19(a), the Board first evaluates whether the petitioner has met threshold procedural requirements such as timeliness, standing, issue preservation, and specificity. 40 C.F.R. § 124.19(a)(2)-(4); *see also In re Seneca Res. Corp.*, 16 E.A.D. 411, 412 (EAB 2014). If the Board concludes that a petitioner satisfies those threshold pleading obligations, then the Board evaluates the merits of the petition for review. *See Seneca Res.*, 16 E.A.D. at 412. If a petitioner fails to meet a threshold requirement, the Board typically denies or dismisses the petition for review. *See, e.g.*, *id.* at 413-16.

In any appeal from a permit decision issued under part 124, the petitioner bears the burden of demonstrating that review is warranted. *See* 40 C.F.R. § 124.19(a)(4). Under 40 C.F.R. § 124.19, the Board has discretion to grant or deny review of a permit decision. *See In re Archer Daniels Midland Co.*, 17 E.A.D. 380, 383 (EAB 2017). The Board ordinarily denies review of a permit decision (and thus does not remand it) unless the petitioner demonstrates that the permit decision is based on a clearly erroneous finding of fact or conclusion of law, or involves a matter of policy or exercise of discretion that warrants review. 40 C.F.R. § 124.19(a)(4)(i)(A)-(B); *see, e.g.*, *In re La Paloma Energy Ctr., LLC*, 16 E.A.D. 267, 269 (EAB 2014). To meet that standard, it is not enough for a petitioner to rely on previous statements of its objections during the administrative process leading up to the issuance of the permit, such as comments on a draft permit. A petitioner must demonstrate why the permit issuer's response to those objections

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[3] EPA revised the rules governing appeals from permit decisions, effective May 22, 2017. *See* Procedures for Decisionmaking, 82 Fed. Reg. 2230, 2236-37 (Jan. 9, 2017) (revising 40 C.F.R. §§ 124.19-.20); *see also* Further Delay of Effective Dates for Five Final Regulations Published by the Environmental Protection Agency Between December 12, 2016 and January 17, 2017, 82 Fed. Reg. 14,324, 14,324-25 (Mar. 20, 2017) (extending effective date of rule revision to May 22, 2017). These amendments are procedural in nature and do not substantively alter the Agency's review of permit appeals. *See* 82 Fed. Reg. at 2230-31. Additionally, the revised rules apply only to filings submitted after the effective date of the rule, May 22, 2017, and thus do not apply to any relevant filings in this matter.

(the permit issuer's basis for its decision) is clearly erroneous or otherwise warrants review. *See In re Beeland Grp., LLC*, 14 E.A.D. 189, 196 (EAB 2008). A petitioner bears that burden even when not represented by legal counsel, as is the case here with Mr. Anderson. *See Archer Daniels Midland*, 17 E.A.D. at 383. And while the Board does not expect petitions filed by those unrepresented by legal counsel "to contain sophisticated legal arguments or to employ precise technical or legal terms," the Board nevertheless "does expect such petitions to provide sufficient specificity to apprise the Board of the issues being raised." *In re Sutter Power Plant*, 8 E.A.D. 680, 687-88 (EAB 1999). The Board also expects such petitions "to articulate some supportable reason or reasons as to why the permitting authority erred or why review is otherwise warranted." *Id.* at 688. With those principles in mind, the Board next summarizes the relevant legal and factual background and then considers the two petitions for review.

III. *LEGAL AND FACTUAL BACKGROUND*

A. *The UIC Program*

In the Safe Drinking Water Act ("SDWA"), Congress required the EPA Administrator to promulgate regulations for state underground injection control programs to protect underground sources of drinking water ("USDWs"). SDWA § 1421, 42 U.S.C. § 300h. EPA promulgated such regulations at 40 C.F.R. parts 144 through 148, including minimum requirements for UIC permits. *See* 40 C.F.R. pt. 145. EPA administers the UIC program in those states that, like Arizona, are not yet authorized to administer their own programs. *See id.* §§ 144.1(e), 147.151.[4]

The UIC program focuses on protection of underground water that "supplies or can reasonably be expected to supply any public water system." SDWA § 1421(d)(2), 42 U.S.C. § 300h(d)(2); *see also In re Envtl. Disp. Sys., Inc.*, 14 E.A.D. 96, 99 n.4 (EAB 2008). The purpose of the UIC regulations is to prevent the movement of fluids containing contaminants into USDWs if the presence of those contaminants may cause a violation of a primary drinking water regulation or

[4] The UIC regulations use the term "Director" to describe the permitting authority. 40 C.F.R. § 146.3 (defining "Director"). The permitting authority here is EPA's Regional Administrator for Region 9. The Board will therefore refer to the "permitting authority," "permit issuer," or the Region, as appropriate, in places where the regulations use the term "Director." *See id.* ("When there is no approved State * * * program, and there is an EPA administered program, 'Director' means the Regional Administrator.").

otherwise adversely affect human health. *See* 40 C.F.R. § 144.12(a). "[A]ll injection activities including construction of an injection well are prohibited until the owner or operator is authorized by permit." *Id.* § 144.31(a). Injection wells fall into six classes. *Id.* § 144.6. Class III wells, which are at issue here, are used to inject fluids for extraction of minerals, including "[i]n situ production of uranium or other metals * * * from ore bodies which have not been conventionally mined." *Id.* § 144.6(c)(2).

As part of analyzing the movement of fluids containing containments and protecting USDWs, the Agency identifies an "area of review" (also known as the "zone of endangering influence"). As relevant here, the area of review denotes the area surrounding injection wells in which the pressures in the injection zone may cause migration of the injection or geological formation fluids out of the injection zone and into a USDW. *See id.* § 146.6(a)(1)(ii).

A USDW is "an aquifer or its portion" that: (1) supplies or contains a sufficient quantity of groundwater to supply a public water system; (2) contains less than 10,000 milligrams per liter of total dissolved solids; and (3) is not an "exempted aquifer." *Id.* §§ 144.3, 146.3. An "aquifer" is a "geological 'formation,' group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring." *Id.* §§ 144.3, 146.3. An aquifer or a portion thereof that meets the regulatory criteria for a USDW may be determined to be an "exempted aquifer" (and therefore no longer considered a USDW within the meaning of the SDWA) if:

> (a) It does not currently serve as a source of drinking water; and
>
> (b) It cannot now and will not in the future serve as a source of drinking water because: * * * [i]t * * * can be demonstrated by a permit applicant as part of a permit application for a Class * * * III operation to contain minerals * * * that[,] considering their quantity and location[,] are expected to be commercially producible.

Id. § 146.4(a)-(b)(1).

B. *Factual Background*

To better understand the concerns underlying the petitions for review pending with the Board, some background regarding the Production Test Facility's location – and in particular, the underlying water-saturated geologic formations – is helpful.

1. *Geologic Formations Underlying the Production Test Facility*

Florence Copper's Production Test Facility includes a 2.2-acre field of wells that will inject a dilute sulfuric acid-based solution into a saturated ore body referred to as the Oxide Bedrock Zone for the purpose of copper recovery and production testing. Permit at 6 & app. A fig.S-2; Statement of Basis at 6. The Oxide Bedrock Zone is located between 450 and 1,200 feet below ground surface. Statement of Basis at 6. Two additional water-saturated geologic formations are located between the Oxide Bedrock Zone and the ground's surface – the Lower Basin Fill Unit and the Upper Basin Fill Unit. The Lower Basin Fill Unit is located immediately above the Oxide Bedrock Zone, and the two are directly connected hydrologically, with no impermeable barrier between them. *See id.* at 6, 12; EPA Region 9, *Florence Copper Production Test Facility (PTF) Class III In-Situ Production of Copper Permit No. R9UIC-AZ3-FY11-1, Response to Comments* ¶ 17, at 7 (Dec. 20, 2016) (A.R. #581) ("Response to Comments"). The Upper Basin Fill Unit is located above the Lower Basin Fill Unit, and those two units are separated by the Middle Fine-Grained Unit, a thin clay layer that restricts water flow between the two units. *See* Statement of Basis at 6.

2. *The Production Test Facility and Its Relationship to a Prior UIC Permit*

The Production Test Facility's 2.2-acre well field is located within the more than 200-acre mining boundary of a Class III UIC permit previously issued by the Region to an entity called BHP Copper Inc. ("BHP"). EPA Region 9, *Statement of Basis for a Draft Permit and Proposed Aquifer Exemption, BHP Florence Project* 5, 7 (Feb. 1997) (A.R. #238) ("BHP Permit Statement of Basis"); Statement of Basis at 12-13; *see* EPA Region 9, *Underground Injection Control Program Area Permit, BHP Copper Florence Project, Permit No. AZ396000001* (May 1, 1997) (A.R. #23) ("BHP Permit").

Specifically, in 1997, the Region issued a UIC permit to BHP authorizing BHP to operate an in-situ copper recovery facility, with an over 200-acre mining boundary. *See* BHP Permit Statement of Basis at 5, 7; Statement of Basis at 2, 12-13; *see generally* BHP Permit. At the same time the Region issued BHP the 1997 permit, the Region also granted an aquifer exemption. EPA Region 9, *Underground Injection Control Aquifer Exemption for EPA Permit #AZ396000001* (May 1, 1997) (A.R. #24) ("1997 Aquifer Exemption" or "Exemption"). The Region specified the upper boundary of the Exemption as 200 feet above the Oxide Bedrock Zone, or the base of the Middle Fine-Grained Unit, whichever is further below the ground's surface. 1997 Aquifer Exemption at 1; Statement of Basis at

12. The lower boundary of the Exemption is defined as "the base of the reactive interval amenable to copper leach solutions, encompassing the oxide zone, which contains an economical amount of copper, and copper in the [underlying] sulfide zone that is leachable." 1997 Aquifer Exemption at 1. The outer lateral boundary of the Exemption is a 500-foot circumscribed area around the mining boundary of BHP's 1997 permit. *See id*. at 1-3; Statement of Basis at 12-13.

The Region determined that the subsurface area within the Exemption's boundaries met the factual criteria for designation as an exempted aquifer because the area did not currently serve as a source of drinking water and would not serve as a drinking water source in the future because it contained commercially producible quantities of copper. *See* Statement of Basis at 12-13; *see also* 40 C.F.R. § 146.4(a), (b)(1). The 1997 Aquifer Exemption specifies that "[t]his aquifer exemption has no expiration date." 1997 Aquifer Exemption at 3.

Under the 1997 permit, BHP drilled into the oxide ore deposits four Class III injection wells, nine recovery wells, and seven observation wells. Statement of Basis at 2. BHP then conducted a 105-day pilot project to demonstrate hydraulic control and gather copper recovery and other technical data for its final feasibility analysis. *Id*.; Response to Comments ¶ 1, at 6; M3 Eng'g & Tech. Corp., *Florence Copper Project: NI 43-101 Technical Report Pre-Feasibility Study* 7 (Apr. 4, 2013) (A.R. #8) ("2013 Pre-Feasibility Study"); *see* BHP Permit cond. II.F.7, at 19 (requiring minimum 90-day hydraulic control demonstration). Based in part on the pilot project results, BHP decided in 1998 to defer developing a full-scale copper recovery facility. *See* Statement of Basis at 2; 2013 Pre-Feasibility Study at 7. The Agency approved closure of the BHP well field in 2005 after rinsing operations were concluded in 2004. Response to Comments ¶ 46, at 33.

3. *Florence Copper's Permit for the Production Test Facility*

In March 2011, after acquiring portions of former BHP lands, including the Production Test Facility property at issue in this matter, Florence Copper submitted to the Region an application for a Class III UIC permit to amend and transfer to Florence Copper the 1997 permit issued to BHP. *See* Statement of Basis at 2. The Region declined to transfer the existing permit given the lengthy time period between issuance of the 1997 permit and Florence Copper's 2011 application. *Id.* The Region instead determined that it was appropriate to revoke the 1997 permit

and require Florence Copper to submit an application for reissuance.[5] *Id.* In response, Florence Copper submitted a revised permit application seeking authorization to construct and operate a pilot-scale in-situ copper recovery facility, i.e., the Production Test Facility. *Id.*; *see* Florence Copper, Inc., *Florence Copper Project: Underground Injection Control Permit Application* (rev. Oct. 6, 2014) (A.R. #2) ("Permit Appl.").

The Region issued a draft permit in December 2014, authorizing Florence Copper to construct, test, and inject at the site for a period of up to seven years, including a two-year Production Test Facility operational life and a five-year post-closure monitoring period. EPA Region 9, *Underground Injection Control Program Draft Area Permit, Class III In-Situ Production of Copper, Permit No. R9UIC-AZ3-FY11-1, Florence Copper Project* 7 (Dec. 2014) (A.R. # 17) ("Draft Permit"); Statement of Basis at 2-3. The Region held a public hearing on January 22, 2015, pursuant to 40 C.F.R. § 124.12, and allowed approximately four months for public comment (through April 13, 2015) because of significant public interest. *See generally* EPA Region 9, *Amended Public Notice of Intent to Issue a Class III Underground Injection Control Area Permit for Florence Copper, Inc.* (Jan. 13, 2015) (A.R. #21) (extending public comment period through March 16, 2015); EPA Region 9, *Amended Public Notice of Intent to Issue a Class III Underground Injection Control Area Permit for Florence Copper, Inc.* (Mar. 12, 2015) (A.R. #22) (further extending public comment period through April 13, 2015).

The Region issued the Final Permit on December 20, 2016, along with its response to public comments. *See generally* Permit; Response to Comments. The Permit authorizes Florence Copper to inject a dilute sulfuric acid-based solution into the copper ore deposits underlying the Production Test Facility at depths greater than forty feet below the top of the Oxide Bedrock Zone. Permit cond. II.C.7, at 14; Statement of Basis at 6. The acid will solubilize copper oxide minerals in the bedrock, and the copper-laden solution will be pumped back to the surface, where copper will be extracted using a solvent extraction/electrowinning process. Statement of Basis at 6. Under the Permit, the Production Test Facility's 2.2-acre well field includes four injection wells, nine recovery wells, seven observation wells, and four multi-level sampling wells. *Id.*; Permit app. A fig.P-1. Those wells

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[5] UIC permits may be "modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the [Region's] initiative" for specified reasons. 40 C.F.R. § 124.5(a); *see also id.* § 144.39.

are arranged as follows: the four injection wells are surrounded by eight recovery wells (the ninth recovery well is located in the middle of the four injection wells); the four multi-level sampling wells are surrounded by the four injection wells; and the seven observations are aligned along the perimeter of the 2.2-acre well field. In addition to the earlier-mentioned wells, the Permit also requires eight water quality monitoring wells to detect any degradation of water quality and ensure that water quality is maintained at the required levels during the post-closure monitoring period. Statement of Basis at 6; *see* Permit cond. II.F.1, at 23.

The Region concluded that Florence Copper had demonstrated, and the Region adopted, an area of review comprised of the Production Test Facility's 2.2-acre well field plus a 500-foot-wide area circumscribing the well field. *See* Response to Comments ¶ 18, at 18; Permit cond. I, at 6; Statement of Basis at 6-7. The Region determined that the area of review is conservative with respect to protecting USDWs because the 500-foot buffer is 7.5 times the actual lateral distance injection fluids may migrate during the maximum permissible loss of hydraulic control of forty-eight hours. Response to Comments ¶ 18, at 18. The Region also determined that the 500-foot buffer provides a safety factor of 2.5-to-4 times the actual distance that fluids may migrate under a worst-case thirty-day loss of hydraulic control. *Id.*

The Region noted that the Production Test Facility's area of review is a "relatively small lateral area well within the boundaries of the existing [i.e., 1997] aquifer exemption." Statement of Basis at 13. In addition, the Region found that Florence Copper had demonstrated that "the injection and in-situ copper recovery fluids [for Production Test Facility] operations will remain within the [area of review], and thus well within the previously approved aquifer exemption." *Id.* Even though the 1997 Aquifer Exemption remains in effect, the Region also reviewed whether the portion of the exempted aquifer that would be affected by operation of the Production Test Facility continues to meet the factual criteria for granting an aquifer exemption. *Id.* The Region concluded that the portion of the exempted aquifer that would be affected by operation of the Production Test Facility continues to meet the factual criteria for an aquifer exemption because: (1) it does not currently serve as a source of drinking water and (2) it cannot and will not in the future serve as a source of drinking water because it contains minerals that are expected to be commercially producible. *Id.* at 13-14.

Notably, the Permit contains a number of terms and conditions designed to ensure that injected fluids do not migrate (i.e., that hydraulic control is maintained) beyond the Production Test Facility's well field (which is considerably smaller than

the 1997 Aquifer Exemption) or into the Lower Basin Fill Unit. *See, e.g.*, Response to Comments ¶ 4, at 9 ("fluids will not migrate beyond the Production Test Facility's well field as long as hydraulic control is maintained"). For example, the placement of the injection and recovery wells as well as the pump and extraction rates for the wells required by the Permit are designed to maintain an inward hydraulic gradient, thereby preventing migration of injected fluids outside the Production Test Facility's well field. *See* Statement of Basis at 7, 9; Response to Comments ¶ 6, at 11; Permit conds. II.E.1.a, .d, at 16-17. In addition, the Permit requires that Florence Copper monitor hydraulic control by comparing groundwater levels in the recovery wells and the observation wells that are located around the perimeter of the well field to ensure that an inward gradient is maintained and hence injected fluids remain within the Production Test Facility's well field. Statement of Basis at 7, 9; *see also* Response to Comments ¶ 27, at 24; Permit conds. II.E.1.b, .d, at 17. The Permit also requires that Florence Copper monitor groundwater electrical conductivity as another means of verifying that hydraulic control is maintained and fluid migration to the Lower Basin Fill Unit does not occur. Specifically, if acid and sulfate levels increase at an observation well, electrical conductivity readings will increase, thus indicating the presence of injected fluids (and a loss of hydraulic control) and triggering contingency actions to prevent migration of fluids. Statement of Basis at 7, 9; Response to Comments at 3 & ¶¶ 7-10, 24, at 11-13, 22; Permit conds. II.C.6.d, II.E.1.c, .d, at 14, 17. Lastly, the Permit excludes the uppermost forty feet of the Oxide Bedrock Zone from injection as an additional means of preventing vertical migration of injected fluids. Permit cond. II.C.7, at 14; Statement of Basis at 7.

The water quality monitoring wells required by the Permit provide additional protection that injected fluids will not migrate outside the area of review or into the Lower Basin Fill Unit. Specifically, under the Permit, eight monitoring wells located outside the Production Test Facility's well field, but within the area of review, will measure water quality in the Oxide Bedrock Zone, the Lower Basin Fill Unit, and the Upper Basin Fill Unit. *See* Permit cond. II.F.1, at 23; Permit Appl. attach. P fig.P-1 & tbl.P-2. Those monitoring wells provide an additional means of ensuring that fluids remain where envisioned by the Permit – within the area of review, if not within the Production Test Facility's well field itself.[6]

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[6] The Permit includes actions that Florence Copper must take in the event that indicators show hydraulic control has been lost or monitoring wells reveal an exceedance of water quality parameters established under the Permit. *See* Permit conds. II.H.1-.2, at 34-37; *see infra* Part IV.B.3.a.

After Florence Copper completes its injection activities and before the Agency will authorize closure of the well field, the Permit requires rinsing and aquifer restoration to ensure compliance with maximum contaminant levels ("MCLs") under the SDWA, 42 U.S.C. §§ 300f to 300j-26,[7] or with preoperational background levels for all constituents (whichever is more stringent). *See* Permit cond. II.I, at 27-39; *see also* Response to Comments ¶¶ 5, 19-20, at 10, 19. The Permit also requires five years of post-closure monitoring, which may be extended beyond five years if EPA deems it necessary to ensure adequate protection of USDWs. *See* Permit cond. II.I, at 7; *see also* Response to Comments ¶ 20, at 19.

Finally, the Permit specifies that Florence Copper must "ensure that there is no migration of injection fluids, process by-products, or formation fluids beyond the exempted zone described at Part II, Section B.1 [of the Permit] and delineated in the existing Aquifer Exemption in Appendix A" of the Permit during the expected two-year life of the Production Test Facility and five-year closure period. Permit cond. II.B.2, at 9. That is, Florence Copper must ensure that no migration of fluids occurs beyond the boundaries of the 1997 Aquifer Exemption, thereby protecting USDWs. *See* Permit conds. II.B.1.a-.b, at 8-9. Thus, while Florence Copper's primary obligation under the Permit is to ensure that fluids do not migrate outside the area of review, the Permit includes the additional proviso that Florence Copper ensure that no migration of injection fluids, process by-products, or formation fluids occurs beyond the boundaries of the 1997 Aquifer Exemption (thereby ensuring no impacts to USDWs).

IV. *ANALYSIS*

As previously noted, two petitions for review are currently pending before the Board challenging the Region's permit decision in this matter – one filed by Mr. Anderson and one filed by the Town of Florence and SWVP-GTIS MR, LLC. The Board will first address the petition for review filed by the Town of Florence and SWVP-GTIS MR, LLC because that petition raises issues that go to the scope of the Board's jurisdiction and what the Board may consider in this matter. The Board will then address Mr. Anderson's petition.

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[7] The SDWA requires public water systems to adopt MCLs for contaminants that may have an adverse impact on human health. MCLs are to be set as close as "feasible" to a maximum "level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety." SDWA § 1412(b)(4)(A)-(B), 42 U.S.C. § 300g-1(b)(4)(A)-(B).

A. *Town of Florence and SWVP-GTIS MR, LLC Petition for Review (UIC Appeal No. 17-03)*

The petition filed by the Town of Florence and SWVP-GTIS MR, LLC (collectively, "Town of Florence" or "Town") is limited in the scope of review that it seeks. The petition is based on one overarching contention that the Region clearly erred, abused its discretion, or made inappropriate policy choices when the Region relied on the 1997 Aquifer Exemption in issuing the Permit. *See* Town of Florence & SWVP-GTIS MR, LLC, *Petition for Review of Underground Injection Control Permit Issued by USEPA Region 9 for the Florence Copper Project*, UIC Appeal No. 17-03,21 (Jan. 19, 2017) ("Town Petition"); Oral Arg. Tr. at 77, 105. In support of its argument, the Town maintains that land uses and local zoning regulations have "changed dramatically" since issuance of the 1997 Aquifer Exemption and, as a consequence, the contours of the Exemption are "based on circumstances that no longer exist." Town Petition at 13-14. The Town claims that the Exemption's large size is not commensurate with the small Production Test Facility authorized by the Permit. *Id*. at 28-34. The Town also argues that the bottom 200 feet of the Lower Basin Fill Unit, exempted from USDW status as part of the 1997 Aquifer Exemption, do not contain commercially producible copper, and therefore are not properly so exempted. *Id*. at 22-28.

Given those factors, the Town contends that the Region should have rescinded or revoked the 1997 Aquifer Exemption and prepared a new aquifer exemption specifically tailored to the small scope of the Production Test Facility. *Id*. at 34-38. That small scope, the Town argues, should have encompassed just the portion of the Production Test Facility area of review that extends downward from the bottom of the Lower Basin Fill Unit into the Oxide Bedrock Zone and excludes the entirety (including the deepest 200 feet) of the Lower Basin Fill Unit. *Id*. at 21, 28, 37. Based on that argument, the Town asks the Board to remand the Permit to the Region "with direction to require a new aquifer exemption application and revocation of the 1997 Aquifer Exemption." *Id.* at 38. Thus, the Town's argument is limited to the 1997 Aquifer Exemption. Indeed, the Town confirmed at oral argument that it challenges only the areal extent of the 1997 Aquifer Exemption and that the Exemption includes a portion of the Lower Basin Fill Unit. Oral Arg. Tr. at 81. The Town does not challenge any Permit term or condition (except to the extent the Town argues that the Region incorporated the 1997 Aquifer Exemption's details into Part II.B of the Permit), nor does the Town challenge the Region's conclusion that the portion of the exempted aquifer that would be affected by operation of Florence Copper's Production Test Facility continues to meet the

factual criteria to be designated an exempted aquifer. *Id*. For the reasons that follow, the Board denies the Town's Petition for review.

As noted in Part II above, the Board has jurisdiction over petitions for review appealing a UIC permit decision issued under the Agency's permitting regulations. *See* 40 C.F.R. § 124.19(a). The Board's authority to review UIC-related permitting disputes, however, is not unbounded. *In re Envtl. Disp. Sys., Inc.*, 12 E.A.D. 254, 266-67 (EAB 2005) (collecting cases). Generally, the Board's jurisdiction in these kinds of cases is limited to evaluating specific UIC permit provisions and permit issuer compliance with the SDWA and UIC permitting regulations. *See id*.

Aquifer exemption decisions, though made using criteria set forth in the UIC implementing regulations at 40 C.F.R. § 146.4, are not themselves UIC permitting decisions or elements thereof within the meaning of 40 C.F.R. § 124.19(a). Aquifer exemption decisions are, instead, discrete "final agency actions" that delineate the boundaries of USDWs, are subject to public notice, and must be challenged in the appropriate federal circuit court of appeals within forty-five days or later if based solely on grounds arising after that deadline. *See* SDWA § 1448(a)(2), 42 U.S.C. § 300j-7(a)(2) (petition for review of "any other final action of the Administrator * * * may be filed in the circuit in which the petitioner resides or transacts business [that] is directly affected by the action"); 40 C.F.R. § 144.7(b)(2)-(3); Memorandum from Peter Grevatt, Dir., Ofc. Ground Water & Drinking Water, EPA, to Water Div. Dirs., EPA Regions 1-10, at 1-2 (July 24, 2014) ("Grevatt Memo") (explaining aquifer exemption approval process and noting that where states or tribes administer the UIC program they must "provide for public participation" and where EPA directly implements UIC program, regional offices are responsible for "issuing public notices"); *see, e.g.*, *W. Neb. Res. Council v. EPA*, 793 F.2d 194, 200-01 (8th Cir. 1986) (exercising jurisdiction under 42 U.S.C. § 300j-7(a) and resolving petition for review challenging EPA's limited approval of a proposed aquifer exemption submitted by Nebraska, which EPA treated as a proposed modification to Nebraska's approved UIC program).[8]

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[8] In *Western Nebraska Resources Council*, the Eighth Circuit reviewed EPA's limited approval of an aquifer exemption submitted by Nebraska and by the time EPA acted on the state's proposed aquifer exemption Nebraska had an approved UIC program. 793 F.2d at 197. Thus, EPA reviewed Nebraska's aquifer exemption request as a proposed revision to Nebraska's UIC program. Here, EPA processed and granted the 1997 Aquifer Exemption because Arizona is not authorized to administer its own UIC program. The Board sees no reason why the Region's issuance of the 1997 Aquifer Exemption is not

Advocacy for the limited aquifer exemption that the Town contends should have been available here directly challenges the 1997 Aquifer Exemption and its boundaries. The Board, therefore, is not the proper forum to resolve the Town's part 146 aquifer exemption-related arguments because aquifer exemption decisions are discrete final agency actions that are not part of UIC permitting decisions, are separately operable from any UIC permit, and are subject to challenge in a different forum under the SDWA. *See, e.g.*, *In re Mesabi Nugget Del., LLC*, 15 E.A.D. 812, 814-16 (EAB 2013) (dismissing petitions for lack of jurisdiction to review state-issued Clean Water Act § 303(c) water quality standard variance approved by EPA Region 5); *In re City of Moscow*, 10 E.A.D. 135, 160-61 (EAB 2001) (declining to review EPA-approved Idaho Total Daily Maximum Load for phosphorus on ground that Board ordinarily does not decide validity of "prior, predicate regulatory decisions that are reviewable in other fora"); *In re Suckla Farms, Inc.*, 4 E.A.D. 686, 698-99 (EAB 1993) (declining to adjudicate validity of UIC regulations or underlying policy judgments, which are reviewable in other fora).

To the extent the Town of Florence argues that the Board nevertheless may review the substance of the 1997 Aquifer Exemption because the Region incorporated the Exemption's details into Part II.B of the Permit, that argument fails for at least two reasons. First, nothing in the Agency's regulations and policies suggest that aquifer exemptions expire, and the Town has not identified any legal requirements or policy documents (and the Board is not otherwise aware of any)

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subject to judicial review under the language SDWA § 1448(a)(2), 42 U.S.C. § 300j-7(a)(2), just as EPA's approval of an aquifer exemption as a revision to a state's UIC program is, particularly in light of the Region's representation in its brief and the judicial review anomalies that may result were the rule otherwise. *Region 9 Response to Petition for Review*, UIC Appeal No. 17-03, at 15 n.3 (Apr. 7, 2017) (stating that "plain language of SDWA is clear that the Region's approval of the 1997 aquifer exemption is final agency action reviewable in federal [c]ircuit [c]ourts," and quoting and citing SDWA § 1448(a)(2), 42 U.S.C. § 300j-7(a)(2)). The Board also notes that, to the extent subordinates to the Administrator make decisions with respect to proposed aquifer exemptions, that is done pursuant to authority delegated by the Administrator. *See* EPA Region 9, *Statement of Basis for a Draft Permit and Proposed Aquifer Exemption, BHP Florence Project* 3 (Feb. 1997) (A.R. #238); *see also* SDWA § 1450(a), 42 U.S.C. § 300j-9(a) (authorizing Administrator to prescribe such regulations as necessary or appropriate to carry out his functions under SDWA and providing that Administrator may delegate any of his functions under SDWA (other than prescribing regulations) to any officer or employee of the Agency).

that direct Agency permit issuers to revisit existing aquifer exemptions at particular intervals or before issuing a UIC permit. In fact, the 1997 Aquifer Exemption explicitly states it "has no expiration date." 1997 Aquifer Exemption at 3. Accordingly, once an area is designated an exempted aquifer, that area loses its status as a USDW under the SDWA and is subject to various potential uses. *See* Grevatt Memo at 3 ("without aquifer exemptions, certain types of energy production, solution mining, or waste disposal would be severely limited"). Moreover, regardless of whether or not a previously approved aquifer exemption is incorporated into a UIC permit, that aquifer exemption continues to exist as a free-standing determination and the area covered by the aquifer exemption continues not to be a USDW. As such, an aquifer exemption serves as a background legal condition that must be considered by an Agency permit writer when processing UIC permit applications and the public generally when making decisions that may affect or involve USDWs.

Second, an aquifer exemption is, as noted above, a designation of all or part of an aquifer as a non-USDW, using metes and bounds, latitude and longitude, and/or other spatial measurement tools to describe the three dimensions of the exempted area. *See* 40 C.F.R. § 144.7(b)(1). Permit issuers can appropriately incorporate exemption measurements as UIC permit conditions without necessarily opening the door to challenges to the underlying exemption decisions themselves.[9] As is the case with permit conditions that incorporate predicate, preexisting legal requirements that are subject to review through other channels (such as Clean Water Act water quality standards or SDWA maximum contaminant levels), the Board ordinarily will not adjudicate the validity or legality of such requirements in permit appeals. *See, e.g.*, *Mesabi Nugget*, 15 E.A.D. at 814-16; *City of Moscow*, 10 E.A.D. at 160-61; *Suckla Farms*, 4 E.A.D. at 698-99. Under those principles, the Board lacks jurisdiction over the arguments raised in the Town's petition. Thus, while the Region did not clearly err by incorporating the 1997 Aquifer Exemption into the Permit, the incorporation of the Exemption into the Permit does not give the Board the authority to review the substance of the 1997 Aquifer Exemption as the Town seeks.

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[9] Rather than "incorporating" the 1997 Aquifer Exemption "into" the Permit, Part II.B of the Permit may also be viewed as simply incorporating the metes and bounds of the 1997 Aquifer Exemption merely to delineate where USDWs protected by the SDWA begin and prohibiting any migration of injection fluids into those USDWs.

Given the Board's conclusion that it lacks jurisdiction over the Town's part 146 aquifer exemption-related arguments, the question arises whether the Town of Florence has any other avenue currently available to raise those arguments and potentially obtain the relief it seeks. The Board inquired into that question at oral argument. *See* Oral Arg. Tr. at 92-93, 113-15, 124, 136. The Region (though not speaking on behalf of the Department of Justice and what the Department might argue in federal court litigation) posited that the Town could petition the Agency to review the 1997 Aquifer Exemption and if the Agency denied the petition the Town could seek to have the Court of Appeals for the Ninth Circuit review the adequacy of the Agency's decision. *Id*. at 112-14. In contrast, Florence Copper took the position that once an aquifer exemption is issued it cannot be revoked or reduced and, as such, any petition to the Agency must be denied. *Id*. at 136-39. As those issues are beyond the scope of the pending petitions for review and resolving them is not necessary to dispose of the pending petitions, the Board does not address them here. The Town, however, remains free to pursue those issues for resolution by the proper entity in other fora.[10]

B. *Mr. Anderson's Petition for Review*

1. *Summary of Mr. Anderson's Contentions*

In his petition for review, Mr. Anderson expresses general concerns that the Region and Arizona[11] approved the Permit for an in-situ mining facility "in or near an aquifer used for drinking water and farming" that he contends will "pollut[e] the same aquifer that supplies drinking water to [his] community." Letter from John L. Anderson to Clerk, Envtl. Appeals Bd. 1 (Jan. 12, 2017) ("Anderson Petition"). Mr. Anderson also asserts that he was told by an EPA engineer that modeling

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[10] Florence Copper filed a motion for leave to file a surreply (with an attached surreply) to respond to what Florence Copper maintains is "a misleading description, in the [Town's Reply Brief], of the nature of the permit proceeding in this matter relative to the applicable rules." *Permittee Florence Copper, Inc.'s Motion for Leave to File Surreply*, UIC Appeal No. 17-03, at 1 (May 1, 2017) . Having disposed of the Town's Petition without needing to consider Florence Copper's tendered surreply, the Board denies Florence Copper's motion for leave to file a surreply as moot.

[11] Although EPA is the permitting authority in Arizona for UIC permits, any state or local approvals necessary for construction or operation of a UIC facility are outside the scope of the Board's jurisdiction in UIC permit appeals. *See In re Sammy-Mar*, 17 E.A.D. 88, 97-98 (EAB 2016). The Board's review is therefore limited to the federally issued permit.

showed migration from the proposed mine would not reach a well servicing his community for twenty years, and from there contends that the Agency has "openly admitted that [its] model showed migration" from the Production Test Facility. *Id.* at 2. Citing data compiled by the U.S. Geological Survey from studies of in-situ uranium mining in Texas,[12] Mr. Anderson maintains that contaminants will be released into surrounding groundwater and "there has never been an in-situ mine where the aquifer was recovered to drinking water standards during or after the mine was abandoned." *Id.* Mr. Anderson also cites to an article published by the Arizona Geological Survey summarizing the use of solution mining for copper extraction. *Id.* at 1-2; *see id.* attach. 3 (David F. Briggs, Ariz. Geol. Survey, Cont. Rep. CR-15-A, *Recovery of Copper by Solution Mining Methods* (Aug. 2015)) ("Briggs Article"). The Briggs Article includes a table listing the "pros and cons" of solution mining.[13] Mr. Anderson maintains that "[a]ny one of" those "cons" justifies not approving the Permit. *Id.* at 1. The "cons" Mr. Anderson relies on are:

- Loss of leach solutions can result in groundwater contamination, reduced metal recovery, and loss of reagents.
- Planning and development of solution mining projects require considerable field testing, which sometimes proves to be difficult and costly.

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[12] While Mr. Anderson's petition states that the U.S. Geological Survey has data on uranium and coal mines, Anderson Petition at 1, the U.S. Geological Survey document attached to his petition seemingly only addresses uranium mining in Texas.

[13] The Briggs Article explains that there are two types of solution mining, in-situ mining and in-place mining:

> In-place solution mining employs permeability enhancement techniques such as blasting or previous mining activities (i.e., block-caving) to fragment or increase the permeability of the rock prior to applying a leaching solution to liberate a desired commodity from the ore. In-situ methods [the method used in the current permit] rely solely on the naturally occurring permeability of the ores.

Briggs Article at 1. While it is not clear whether the list of pros and cons in the article apply equally to both types of solution mining, that lack of clarity ultimately is not material to the Board's analysis.

- Both physical and chemical constraints limit its application to a few sites, where conditions are favorable.

- Total copper recoveries are generally less than conventional methods.

- Time required for metal extraction is generally greater than conventional mining and processing.

- Like conventional heap leach operations, in-situ methods only recover copper. They are unable to recover byproduct metals (i.e., molybdenum, gold, or silver).

- By its very nature, solution mining technology relies on hydrological models and predictions. It is generally very difficult to observe what is really happening below the earth's surface.

- Solution flow patterns are very difficult to accurately quantify, engineer and control.

- Solution mining works best under saturated conditions, but leachable deposits are not always located below the water table.

- Environmental management works best when the ore body can be isolated from adjacent aquifers.

Anderson Petition at 1-2; Briggs Article tbl.2, at 6. Mr. Anderson's Petition does not sufficiently tie any of those general concerns to the Region's permit decision here or any of the Permit's terms or conditions.

To summarize, Mr. Anderson's Petition essentially raises three general concerns: (1) sources of drinking water will not be adequately protected from migrating mining-related fluids; (2) aquifers cannot be successfully restored after in-situ mining activities; and (3) the "cons" identified in the Briggs Article justify denying the Permit. While the Board appreciates and does not discount Mr. Anderson's concerns about potential impacts to drinking water sources, Mr. Anderson's Petition does not satisfy threshold procedural requirements necessary to support Board review. And even if the Board were to consider the Petition on the merits, the Board would conclude that Mr. Anderson has not met his burden under applicable regulations and Board precedent to demonstrate that review of the Permit is warranted.

2. *Procedural Requirements Not Met*

As a procedural matter, a petition for review must, among other things, demonstrate, with factual and legal support, why a permit condition or other challenge warrants Board review, including an explanation as to why the Region's response to comments on the issue raised, if any, was clearly erroneous or otherwise warrants review. *See* 40 C.F.R. § 124.19(a)(4). Again, the Board recognizes and does not discount Mr. Anderson's concerns, but his petition fails to comply with that procedural requirement. While Mr. Anderson's Petition provides the Board with general concerns about: (1) migration of fluids from the Florence Copper Production Test Facility; (2) the effectiveness of aquifer restoration efforts after in-situ mining; and (3) the possible effects of solution mining generally, his Petition fails to indicate whether or how these concerns apply to, or are not addressed by, the Permit, the Region's response to comments, and the Administrative Record.[14] As such, his petition fails to provide a sufficient basis on which to consider whether review is warranted. *See In re Windfall Oil & Gas, Inc.*, 16 E.A.D. 769, 797-98 (EAB 2015) (denying review where petitioners failed to substantively confront Region's responses to comments or adequately explain why Region's responses were clearly erroneous or otherwise warranted review); *In re Genesee Power Station*, 4 E.A.D. 832, 867 (EAB 1993) (holding that petition providing only list of general objections to permit lacks specificity necessary to support Board review under 40 C.F.R. § 124.19).[15]

That pleading deficiency provides a sufficient basis standing alone to deny Mr. Anderson's Petition. But, as explained below, even considering

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[14] Mr. Anderson also asserts that the Region failed to respond to his specific concerns and comments made at the public hearing. Mr. Anderson does not, however, identify any particular concern or comment that he allegedly raised at the hearing to which the Region did not respond. *See* Anderson Petition at 1; Oral Arg. Tr. at 24-25. His generic assertion is insufficient to provide a basis on which to consider whether review is warranted. *See In re Pio Pico Energy Ctr.*, 16 E.A.D. 56, 76-77 (EAB 2013) (holding that conclusory assertions regarding alleged inadequacy of Region's response to comments are insufficient to justify Board review).

[15] The Board also notes that the Briggs Article that Mr. Anderson appended to his petition, and on which his petition relies, is dated after the public comment period on the Draft Permit closed and is not in the Administrative Record. The Board generally will not supplement an administrative record with, or consider, materials that were not before the

Mr. Anderson's arguments on the merits, upon a thorough examination of the record, the Board would conclude that Mr. Anderson's Petition fails to demonstrate any clearly erroneous finding of fact or conclusion of law, abuse of discretion, or other issue warranting review.

3. *The Petition Fails to Establish Any Clearly Erroneous Finding of Fact or Conclusion of Law, Abuse of Discretion, or Other Issue Warranting Review*

a. *Protection from Fluid Migration*

With respect to potential migration of injected fluids, the Board notes that the Region reasonably responded to concerns regarding that issue. Not only does the Permit protect USDWs, but the Permit's terms and conditions are all designed so that fluids will not migrate outside the Production Test Facility's well field, let alone the area of review. To start, it bears noting that the aquifer portion in the Production Test Facility's area of review is not a USDW for purposes of the SDWA because of the 1997 Aquifer Exemption, and the Region confirmed that no drinking water or other producing water wells exist within the area of review. *See supra* Part IV.A (disposing of Town of Florence's challenge to 1997 Aquifer Exemption); Statement of Basis at 13; Response to Comments ¶ 15, at 15. Moreover, the permitting process reflects that the Region was aware of, and responded to, concerns regarding the migration from the Production Test Facility's well field and potential impacts on any adjacent USDW. The Region undertook a careful review of the record, including fully evaluating the impacts on any USDWs, accepting and reviewing comments during an extended public comment period, revising the Draft Permit in response to comments, and ensuring that the Final Permit's conditions complied with the SDWA and applicable regulations.

The Permit includes conditions requiring maintenance of hydraulic control of injected fluids (*see* Permit conds. II.E.1, .F.5, .H, at 16-17, 28, 34-37); a limit on injection pressure to prevent fractures (Permit cond. II.E.4, at 20-21); testing, monitoring, and reporting requirements designed to ensure well integrity (Permit cond. II.E.3, at 17-20); and detailed construction and operating requirements (Permit conds. II.C, .E, at 9-15, 16-23). All of those provisions are designed to ensure that injected fluids do not migrate outside the area of review or into the Lower Basin Fill Unit. *See* Response to Comments ¶ 18, at 18. Notably, the Permit

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permit issuer at the time of the permitting decision. *See In re Dominion Energy Brayton Point, LLC*, 12 E.A.D. 490, 516-19 (EAB 2006).

includes detailed contingency plans with respect to maintaining hydraulic control. In particular, the Permit requires that within twenty-four hours of becoming aware that the volume of fluids recovered from the injection and recovery zone is less than 110 percent of the amount of fluid injected during the same twenty-four-hour period, Florence Copper must:

- adjust the flow rate for recovery and/or injection to restore the percent of recovered fluid volume to at least 110 percent of injected volume;
- inspect the facility;
- initiate pressure testing if fluid loss is not caused by surface facility failure; and
- conduct necessary repairs.

Permit conds. II.H.1.a, .c, at 34-35. The Permit then includes detailed actions that Florence Copper must take in the event that an actual loss of hydraulic control occurs, as defined by the Permit. Permit conds. II.H.1.b, .c, at 35. (Under the Permit, a loss of hydraulic control is deemed to occur when – during a forty-eight-hour period – the amount of fluid recovered is less than 110 percent of the amount of fluid injected during the same time period, an inward gradient of less than one foot or an outward gradient is observed in any pair of observation/recovery wells, or an action level in electrical conductivity values[16] above statistical noise levels in observation wells is reached.[17] Permit cond. II.H.1.b, at 35; *see id*. cond. II.F.6.b.ii, at 29.)

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[16] As explained in Part III.B.3 above, if acid and sulfate levels increase at an observation well, electrical conductivity readings will increase, thus indicating the presence of injected fluids (and a loss of hydraulic control) and triggering contingency actions to prevent migration of fluids. Statement of Basis at 7, 9; Response to Comments at 3 & ¶¶ 7-10, 24, at 11-13, 22.

[17] The Region also included in the Final Permit specific procedures that Florence Copper must conduct, prior to injection, to establish background electrical conductivity levels at the observation wells and to identify a statistically significant increase in electrical conductivity values at the observation wells that would signal a loss of hydraulic control and possible fluid migration requiring contingency actions. *See* Permit cond. II.F.6.b, at 29; Response to Comments at 3 & ¶ 24, at 22 ("EPA modified permit language for requirements of [electrical conductivity] monitoring and reporting to clarify that the [electrical conductivity] standards will be based on a statistically significant increase above

In response to comments on the Draft Permit expressing concern about the possible vertical migration of injected fluid into the Lower Basin Fill Unit, the Region included additional conductivity monitoring in the Final Permit. *See* Response to Comments ¶ 6, at 10-11. In particular, the Region added to the Final Permit a requirement that Florence Copper install electrical conductivity sensors on observation wells through the Lower Basin Fill Unit/oxide interface, which wells will be located at the perimeter of the well field. *Id.* ¶ 6, at 11; *see* Permit conds. II.C.6.d, .F.6, at 14, 28-31; *see also* Permit app. B figs.M-6, M-7 (proposed well construction diagrams). The Region explained that monitoring of electrical conductivity at those sensors will provide additional protection by allowing detection of any fluid migration into the Lower Basin Fill Unit and trigger contingency actions to restore hydraulic control or reverse vertical migration as needed. Response to Comments at 1 & ¶ 6, at 11; Permit conds. II.F.6.b.ii, .H.1.b, at 29, 35.

The Permit also includes a robust water quality monitoring program to detect and address any fluid movement outside the Production Test Facility's well field before the fluid can migrate outside the area of review, let alone reach any surrounding USDW. *See* Permit cond. II.F, at 23-31. As discussed previously, under the Permit, eight water quality monitoring wells will be located outside the Production Test Facility's well field, but within the area of review, that will measure water quality in the Oxide Bedrock Zone, the Lower Basin Fill Unit, and the Upper Basin Fill Unit. *See* Permit cond. II.F.1, at 23; Permit Appl. attach. P fig.P-1 & tbl.P-2. The Permit includes actions that must be taken by Florence Copper in the event that monitoring wells show an exceedance of water quality parameters established under the Permit, termed Alert Levels or Aquifer Quality Limits.[18] Permit cond. II.H.2, at 35-37. Thus, the Permit's provisions with respect

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measured ambient and noise levels at each observation well rather than [electrical conductivity] differentials between observation and recovery wells.").

[18] Permit Condition II.F requires that Florence Copper establish "Alert Levels" for certain "Level 1 Parameters" that include constituents in the injected fluids most likely to provide an early indication of groundwater impacts associated with operation of the Production Test Facility, subject to EPA review and approval. Permit cond. II.F.2.a., c. Level 1 Parameters are listed in Table I on page 24 of the Permit. Similarly, the Permit requires that Florence Copper establish "Aquifer Quality Limits" for certain "Level 2 Parameters" that include constituents for which maximum contaminant levels have been established and "other relatively probable constituents" that are likely to appear in greater concentrations in groundwater affected by injected fluids from the Production Test Facility,

to monitoring wells provide additional protection to ensure that fluids remain where envisioned by the Permit – within the area of review, if not within the well field itself.

Notwithstanding the Permit's protective measures, Mr. Anderson maintains that he was told by an EPA engineer that modeling showed migration from the proposed mine would not reach a well servicing his community for twenty years and therefore EPA "openly admitted that [its] model showed migration." Anderson Petition at 2. Mr. Anderson does not provide a citation to the record regarding the specific comment, and the Board has not been able to otherwise locate it. The Board is therefore unable to determine the content or context of the comment. Nonetheless, the Board notes, and as the above discussion makes clear, the Permit's terms and conditions are all designed to maintain hydraulic control and ensure that fluids are contained within the area of review (if not the smaller Production Test Facility's well field) and that they do not migrate vertically to the Lower Basin Fill Unit.

The Region also explained that it did not believe that vertical migration of in-situ copper recovery fluids into the lowermost portion of the Lower Basin Fill Unit during Production Test Facility operations was likely to occur. Response to Comments ¶ 12, at 13. For the former BHP site (which operated under a less stringent permit than the present Permit),[19] movement of in-situ copper recovery fluids into the Lower Basin Fill Unit was predicted to be twenty to forty feet. *Id.* With respect to the Production Test Facility, under a worst-case scenario of a loss of hydraulic control for up to thirty days, modeling indicated no more than fifty-

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subject to EPA review and approval. *Id.* conds. II.F.2.b., .d.; *see supra* note 7. Level 2 Parameters are listed in Table 2 on page 25 of the Permit.

[19] *See* Response to Comments ¶ 1, at 7 ("[T]he UIC [P]ermit for the [Production Test Facility] is significantly different from the BHP permit in that it requires five supplemental monitoring wells to be placed at the perimeter of the [Production Test Facility] well field to detect potential lateral excursions of [] fluids. The [P]ermit also requires two monitoring wells placed above the orebody (one in the Lower Basin Fill Unit * * * and one in the Upper Basin Fill Unit * * *), slightly downgradient of the well field, to detect potential vertical excursions [i.e., migration] from the oxide bedrock unit orebody. In contrast, no monitoring wells were installed near the BHP well field for the earlier BHP Pilot Test.").

four feet of vertical migration into the Lower Basin Fill Unit, which is part of the exempted aquifer in any event. *Id.*[20]

In addition, as the Region pointed out during the permitting process, after Florence Copper completes its injection activities and before closure of the well field is authorized, the Permit requires rinsing and aquifer restoration to ensure that it complies with MCLs under the SDWA or with preoperational background levels for all constituents (whichever is more stringent). *See* Permit cond. II.I, at 27-39; *see also* Response to Comments ¶¶ 5, 19-20, at 10, 19. The Permit also requires five years of post-closure monitoring, which may be extended beyond five years if EPA deems it necessary to ensure adequate protection of USDWs. *See* Permit cond. II.I, at 7; *see also* Response to Comments ¶ 20, at 19. In short, the Permit's terms and conditions are consistent with the requirements of the SDWA and the applicable regulations, and are designed to detect and address fluid movement outside the Production Test Facility's well field before any fluid can migrate outside the area of review, let alone reach any surrounding USDW.

b. *Aquifer Recovery After In-situ Mining*

Next, Mr. Anderson asserts, based on information regarding aquifer recovery at uranium in-situ mines, that no aquifer has successfully been recovered during or after in-situ mining. Anderson Petition at 1. The Region responded to

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[20] The Region also confirmed that no drinking water or other producing water wells exist within the area of review, and all of the Town of Florence's existing public water supply wells to the east and southeast of the Florence Copper property boundary are *upgradient* of Florence Copper's property. Statement of Basis at 13; *see also* Response to Comments ¶ 15, at 15. The nearest *downgradient* public water supply wells exist about two to three miles west to northwest of the Production Test Facility at the Anthem at Merrill Ranch residential development, and those wells draw from the Lower Basin Fill Unit. Statement of Basis at 14. The Region confirmed, based on "groundwater flow model simulations presented in the application and other calculations," that groundwater migration from the Lower Basin Fill Unit above the Production Test Facility mine zone "has a travel time to the location of the closest Merrill Ranch well in excess of 200 years, which would exceed the reasonable lifetime of any public drinking water wells." Statement of Basis at 14; *see* Response to Comments ¶ 15, at 15-16. Put another way, absent operation of the Production Test Facility and any of the Permit's protective terms and conditions, it would take over 200 years for a molecule to travel in groundwater from the Production Test Facility to the closest Merrill Ranch well. Mr. Anderson has pointed to nothing concrete in the record to dispute that 200-year figure, and the Board is not otherwise aware of any contrary information.

those concerns during the permitting process, acknowledging that restoration results at uranium mines have had documented challenges. Response to Comments ¶ 46, at 33. Nonetheless, the Region noted that aquifer restoration success was demonstrated for in-situ recovery copper mining at the BHP Pilot Test site (which involved in-situ copper mining and was located in the same general area as Florence Copper's Production Test Facility) within six years of cessation of operations. *Id.* The Agency approved closure of the BHP well field in 2005 after rinsing operations were concluded in 2004. *Id.* The Region further noted that no exceedances related to in-situ copper recovery operations have been reported in quarterly monitoring of point-of-compliance wells since the initiation of the BHP Pilot Test in 1997. *Id.* The Region explained that the BHP project is much more relevant and applicable to Florence Copper's Production Test Facility than the restoration at the in-situ uranium mining operations cited by commenters. *Id.* The Region also observed that restoration results at uranium in-situ mines are not directly comparable to expected restoration results for in-situ copper recovery mining operations because of differences in, for example, geological settings, geochemical reactions, and mobilizing solutions used to recover copper versus uranium. *Id.* ¶ 55, at 38. The Region noted that uranium in-situ recovery mines in the United States are typically located in sedimentary deposits, while copper deposits usually occur (as is the case at the Production Test Facility) in igneous rock. *Id.* Mr. Anderson provides no explanation as to why the Region's discussion and conclusions on these matters are clearly erroneous or are otherwise deficient.

c. *The Briggs Article's "Cons" of Solution Mining*

The Board now turns to the list of "cons" in the Briggs Article on which Mr. Anderson relies. As noted above, Mr. Anderson fails to indicate how the Briggs Article's "cons" apply to, or are not addressed by, the Permit, and therefore his arguments fail to confront the Region's rationale for issuing the Permit and lack the degree of specificity necessary to support a petition for review. In addition, many of the "cons" in the Briggs Article address the differences between, and the relative effectiveness of, solution mining as compared to conventional mining (e.g., physical and chemical constraints limit application of in-situ copper recovery to a few sites that have favorable conditions; copper recoveries are generally less than using conventional methods; the time required for extraction is generally greater than conventional mining and processing; and in-situ methods recover only copper and do not recover other byproduct metals). While each type of mining may have

"pros" and "cons",[21] those issues are beyond the scope of the UIC permitting process and the Board's review here. The UIC permitting process is narrow in its focus, limited to the protection of USDWs, and the Board's review of UIC permit decisions extends only to the boundaries of the UIC permitting program. *See In re Bear Lake Props., LLC*, 15 E.A.D. 630, 643-44 (EAB 2012); *In re Envtl. Disp. Sys., Inc.*, 12 E.A.D. 254, 266 (EAB 2005); *In re Am. Soda, LLP*, 9 E.A.D. 280, 286 (EAB 2000) ("'the SDWA * * * and the UIC regulations * * * establish the *only* criteria that EPA may use in deciding whether to grant or deny an application for a UIC permit'") (quoting *In re Envotech, LP*, 6 E.A.D. 260, 264 (EAB 1996)). Where, as here, a petitioner raises concerns outside the scope of the UIC program, the Board denies review. *See, e.g.*, *In re Archer Daniels Midland Co.*, 17 E.A.D. 380, 402 (EAB 2017) (denying review of property issues as beyond the scope of UIC permitting process). And to the extent the Briggs Article's "cons" include general concerns about the safety of solution mining of copper, as detailed above, the Permit complies with the UIC program.

In sum, as discussed above, Mr. Anderson's Petition is procedurally deficient in that it fails to indicate how Mr. Anderson's general concerns about in-situ mining apply to, or are not addressed by, the Permit, the Region's response to comments, and the Administrative Record. Further, even considering Mr. Anderson's arguments on the merits, the Board would conclude that the Region, in response to concerns expressed during the public comment period, provided a thorough and reasoned response and explained why the Permit complies with the SDWA and applicable regulations. Mr. Anderson's Petition fails to

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[21] Among the "pros" listed in the Briggs Article for the use of solution mining for copper extraction are the following:

- Smaller, ephemeral, environmental footprint with less surface disturbance (waste dumps, tailings ponds, etc.) and less water and air pollution than conventional mining projects;
- Total energy consumption is less than conventional mining methods; and
- Total water consumption is less than conventional methods as a result of reduced evaporation and elimination of water contained within conventional tailings impoundments.

Briggs Article tbl.2, at 6.

demonstrate that the Region clearly erred or that review is otherwise warranted. Accordingly, the Board denies Mr. Anderson's Petition.

V. *CONCLUSION*

For the foregoing reasons, the Board denies the petitions for review filed by Mr. John L. Anderson (UIC Appeal No. 17-01) and jointly by the Town of Florence and SWVP-GTIS MR, LLC (UIC Appeal No. 17-03).

So ordered.

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

Docket No. 17-73170

*** * * ***

FLORENCE COPPER, INC. MOTION FOR ORDER TO SHOW CAUSE
April 20, 2018

EXHIBIT 2

1997 Aquifer Exemption (Doc. No. 33 in Administrative Record Index)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

UNDERGROUND INJECTION CONTROL AQUIFER EXEMPTION

FOR

EPA PERMIT #AZ396000001

In compliance with provisions of the Safe Drinking Water Act, as amended, (42 USC 300f-300j-9, commonly known as the SDWA) and attendant regulations incorporated by the U.S. Environmental Protection Agency under Title 40 of the Code of Federal Regulations (CFR), the zone located:

(1) in the subsurface interval of approximately 400 feet to 1600 feet below ground surface (bgs); and

(2) below the upper aquifer exemption boundary which is 200 feet above the oxide zone, or the base of the Middle Fine-Grained Unit (MFGU), whichever is further below ground surface; and

(3) above the lower aquifer exemption boundary which is the base of the reactive interval amenable to copper leach solutions, encompassing the oxide zone, which contains an economical amount of copper, and copper in the sulfide zone that is leachable; and

(4) laterally within 500 feet of the mine zone boundary delineated in Appendix A of EPA Permit #AZ396000001, and within the line connecting the following coordinate system points:

From a point (point 1) in the southwest of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 748028.6 and easting 646937.7

To a point (point 2) in the southeast of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 748042.1 and easting 648619.5

To a point (point 3) in the southeast of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona

Coordinate system Northing 747656.9 and easting 648617.4

To a point (point 4) in the southeast of the northeast of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747675.3 and easting 650811.6

To a point (point 5) in the southeast of the northeast of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747216.3 easting 650662.8

To a point (point 6) in the southeast of the northeast of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747230.7 and easting 651548.8

To a point (point 7) in the southeast of the southeast of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 745379.4 and easting 651309.7

To a point (point 8) in the southeast of the southeast of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 745369.4 and easting 651019.1

To a point (point 9) in the northeast of the northeast of Section 33, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 743926.7 and easting 650758.8

To a point (point 10) in the northwest of the northeast of Section 33, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 743922.9 and easting 649898.8

To a point (point 11) in the northwest of the northeast of Section 33, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 743543.9 and easting 649897.6

To a point (point 12) in the northwest of the northwest of Section 33, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 743520.7 and easting 647281.7

To a point (point 13) in the southwest of the southwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 744512.8 and easting 649939.6

To a point (point 14) in the southwest of the southwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 745392.3 and easting 646862.4

To a point (point 15) in the southwest of the southwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 745391.8 and easting 646552.4

To a point (point 16) in the southwest of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747466.7 and easting 646824.3

To a point (point 17) in the southwest of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747468.8 and easting 646938.8

is exempted as an underground source of drinking water (USDW).

This aquifer exemption is granted in conjunction with the Class III Underground Injection Control permit issued to BHP Copper, for the injection of an acidic solution for the purpose of copper production at the Florence In-Situ Project, Pinal County, Arizona.

This aquifer exemption has no expiration date.

Signed this 1st day of May, 1997.

Alexis Strauss, Acting Director
Water Division, EPA Region 9

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

Docket No. 17-73170

*** * * ***

FLORENCE COPPER, INC. MOTION FOR ORDER TO SHOW CAUSE
April 20, 2018

EXHIBIT 3

Petition for Review, No. 17-73168 (Separately Pending before the Court)

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

TOWN OF FLORENCE, a political subdivision of the State of Arizona; SWVP-GTIS MR, LLC, a Delaware Limited Liability Company, Petitioners, vs. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, SCOTT PRUITT, administrator, United States Environmental Protection Agency, ALEXIS STRAUSS, Acting Regional Administrator, United States Environmental Protection Agency Region 9, Respondents.	Docket No. _____

PETITION FOR REVIEW

Pursuant to 42 U.S.C. § 300j-7(a), 5 U.S.C. § 704, and Rule 15 of the Federal Rules of Appellate Procedure, Petitioners, the Town of Florence and SWVP-GTIS MR, LLC (collectively "Petitioners") hereby petition the Court for review of the U.S. Environmental Protection Agency's final agency action regarding a Class III Underground Injection Control ("UIC") Permit, No. R9UIC-AZ3-FY11-1 ("Permit"), originally issued by EPA Region 9 to Florence Copper Inc. on December 20, 2016 for an In-Situ Copper Production Test Facility ("PTF"), and appealed by the Petitioners. On September 22, 2017, the Environmental Appeals Board rejected Petitioners' petition for review of the Permit. By letter dated September 29, 2017, with an issuance date of October 13, 2017, Region 9 issued its Notice of Final Permit Decision, a copy of which is attached as Exhibit 1.

DATED: November 22, 2017

s/ Jessica L. Beckwith

Ronnie P. Hawks
James L. Csontos
Jessica L. Beckwith
JENNINGS, HAUG &
CUNNINGHAN, L.L.P.
Attorneys for Petitioner SWVP-GTIS
MR, LLC

s/ Barbara U. Rodriguez-Pashkowski

Barbara U. Rodriguez-Pashkowski
GUST ROSENFELD, P.L.C.
Attorneys for the Petitioner Town of
Florence

CERTIFICATE OF SERVICE

On November 22, 2017, pursuant to Rules 3(d) and 15(c)(1) of the Federal Rules of Appellate Procedure, a copy of the foregoing was mailed by First Class Mail, postage prepaid to the following persons who were admitted to participate in the agency proceedings:

Bradley J. Glass
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Counsel for Gila River Indian Community

Pursuant to Rule 15(c) of the Federal Rules of Appellate Procedure, the Circuit Clerk will cause, on November 22, 2017 a copy of the Petition for Review to be served on each of the following:

Alexa Engelman
Office of Regional Counsel
U.S. EPA Region 9
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San Francisco, CA 94105

Dustin Minor
Office of Regional Counsel
U.S. EPA Region 9
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s/ Jessica L. Beckwith
_____
Ronnie P. Hawks
James L. Csontos
Jessica L. Beckwith
JENNINGS, HAUG &
CUNNINGHAN, L.L.P.
Attorneys for Petitioner SWVP-GTIS
MR, LLC

EXHIBIT 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OFFICE OF THE
REGIONAL ADMINISTRATOR

NOTICE OF FINAL PERMIT DECISION
Final Permit Decision for Class III In-Situ Production of Copper
Permit No. R9UIC-AZ3-FY11-1
For the Florence Copper Production Test Facility

Issuance Date: October 13, 2017

In accordance with the requirements of the Code of Federal Regulations (C.F.R.), Title 40 § 124.19(l), the United States Environmental Protection Agency, Region 9 (EPA) is issuing the final Class III Underground Injection Control (UIC) Permit, No. R9UIC-AZ3-FY11-l, to Florence Copper, Inc. for an In-Situ Copper Production Test Facility (PTF). The final UIC Permit and a copy of this notice is available on EPA's web page at https://www.epa.gov/uic/uic-permit-materials-florence-copper-inc.

This Permit was originally issued on December 20, 2016, and was subsequently appealed to the Environmental Appeals Board (EAB) for review under 40 C.F.R. § 124.19. The Permit was stayed pending review by the EAB. After review of briefs filed in the appeal and oral argument, the EAB issued an order denying the petitions for review of the Permit on September 22, 2017.

The issuance date of the final UIC Permit is two weeks after the date this notice is signed, per 40 C.F.R. § 23.7. This issuance date operates as the final agency action for purposes of judicial review under 42 U.S.C. § 300j–7 and 5 U.S.C. § 704. Pursuant to 40 C.F.R. § 144.39, EPA is concurrently revoking the existing Class III Permit no. AZ396000001.

Signed,

Alexis Strauss

29 September 2017

Alexis Strauss
Acting Regional Administrator

Date

Printed on 100% Postconsumer Recycled Paper - Process Chlorine Free

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

Docket No. 17-73170

*** * * ***

FLORENCE COPPER, INC. MOTION FOR ORDER TO SHOW CAUSE
April 20, 2018

EXHIBIT 4

Petition for Review, No. 17-73170 (this Case)

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

TOWN OF FLORENCE, a political subdivision of the State of Arizona; SWVP-GTIS MR, LLC, a Delaware Limited Liability Company, Petitioners, vs. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, SCOTT PRUITT, Administrator, United States Environmental Protection Agency, ALEXIS STRAUSS, Acting Regional Administrator, United States Environmental Protection Agency Region 9, Respondents.	Docket No. _____

PETITION FOR REVIEW

Pursuant to 42 U.S.C. § 300j-7(a) and Rule 15 of the Federal Rules of Appellate Procedure, Petitioners, the Town of Florence and SWVP-GTIS MR, LLC (collectively "Petitioners") hereby petition the Court for review of an Underground Injection Control Aquifer Exemption (the "Aquifer Exemption") issued on May 1, 1997 by EPA Region 9 for EPA Permit No. AZ396000001, a copy of which is attached as Exhibit 1, based upon grounds arising after the expiration of the 45-day period. (Section 300j-7.)

DATED: November 22, 2017

s/ Jessica L. Beckwith

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CERTIFICATE OF SERVICE

On November 22, 2017, pursuant to Rules 3(d) and 15(c)(1) of the Federal Rules of Appellate Procedure, a copy of the foregoing was mailed by First Class Mail, postage prepaid to the following persons who were admitted to participate in the agency proceedings:

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Pursuant to Rule 15(c) of the Federal Rules of Appellate Procedure, the Circuit Clerk will cause, on November 22, 2017 a copy of the Petition for Review to be served on each of the following:

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EXHIBIT 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

ORIG PERMIT COPY Aquifer Permit

UNDERGROUND INJECTION CONTROL AQUIFER EXEMPTION

FOR

EPA PERMIT #AZ396000001

In compliance with provisions of the Safe Drinking Water Act, as amended, (42 USC 300f-300j-9, commonly known as the SDWA) and attendant regulations incorporated by the U.S. Environmental Protection Agency under Title 40 of the Code of Federal Regulations (CFR), the zone located:

(1) in the subsurface interval of approximately 400 feet to 1600 feet below ground surface (bgs); and

(2) below the upper aquifer exemption boundary which is 200 feet above the oxide zone, or the base of the Middle Fine-Grained Unit (MFGU), whichever is further below ground surface; and

(3) above the lower aquifer exemption boundary which is the base of the reactive interval amenable to copper leach solutions, encompassing the oxide zone, which contains an economical amount of copper, and copper in the sulfide zone that is leachable; and

(4) laterally within 500 feet of the mine zone boundary delineated in Appendix A of EPA Permit #AZ396000001, and within the line connecting the following coordinate system points:

From a point (point 1) in the southwest of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 748028.6 and easting 646937.7

To a point (point 2) in the southeast of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 748042.1 and easting 648619.5

To a point (point 3) in the southeast of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona

Coordinate system Northing 747656.9 and easting 648617.4

To a point (point 4) in the southeast of the northeast of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747675.3 and easting 650811.6

To a point (point 5) in the southeast of the northeast of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747216.3 easting 650662.8

To a point (point 6) in the southeast of the northeast of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747230.7 and easting 651548.8

To a point (point 7) in the southeast of the southeast of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 745379.4 and easting 651309.7

To a point (point 8) in the southeast of the southeast of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 745369.4 and easting 651019.1

To a point (point 9) in the northeast of the northeast of Section 33, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 743926.7 and easting 650758.8

To a point (point 10) in the northwest of the northeast of Section 33, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 743922.9 and easting 649898.8

To a point (point 11) in the northwest of the northeast of Section 33, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 743543.9 and easting 649897.6

To a point (point 12) in the northwest of the northwest of Section 33, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 743520.7 and easting 647281.7

To a point (point 13) in the southwest of the southwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 744512.8 and easting 649939.6

To a point (point 14) in the southwest of the southwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 745392.3 and easting 646862.4

To a point (point 15) in the southwest of the southwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 745391.8 and easting 646552.4

To a point (point 16) in the southwest of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747466.7 and easting 646824.3

To a point (point 17) in the southwest of the northwest of Section 28, Range 9 East, Township 4 North of the GS & R meridian at Arizona Coordinate system Northing 747468.8 and easting 646938.8

is exempted as an underground source of drinking water (USDW).

This aquifer exemption is granted in conjunction with the Class III Underground Injection Control permit issued to BHP Copper, for the injection of an acidic solution for the purpose of copper production at the Florence In-Situ Project, Pinal County, Arizona.

This aquifer exemption has no expiration date.

Signed this 1st day of May, 1997.

Alexis Strauss

Alexis Strauss, Acting Director
Water Division, EPA Region 9

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

Docket No. 17-73170

*** * * ***

FLORENCE COPPER, INC. MOTION FOR ORDER TO SHOW CAUSE
April 20, 2018

EXHIBIT 5

Petitioners' Petition for Review to EAB in Case No. 17-03 (January 19, 2017)

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Before the Environmental Appeals Board
United States Environmental Protection Agency
Washington, D.C.

In the Matter Of Florence Copper, Inc. Florence Copper Project Underground Injection Control Program Permit No. R9UIC-AZ3-FY11-1	UIC Appeal No. _____ **Petition for Review of Underground Injection Control Permit Issued by USEPA Region 9 for the Florence Copper Project**

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Attachment 36 - 2014-06-17 USEPA Ltr re Goliad Aquifer Exemption Decision

Attachment 37 – 2017-01-18 Affidavit of Dr. Lee Wilson

Attachment 38 – 2017-01-18 Affidavit of Justin Merritt

Attachment 39 – 2017-01-19 Affidavit of Kevin D. Hebert, R.G.

Attachment 40 - Affidavit of Phil Turner

Attachment 41 - 2012-09-13 SWVP Ltr to Region 9

I. Introduction

The Underground Injection Control (UIC) permit that USEPA Region 9 has issued to Florence Copper Inc. (FCI) authorizes a small Production Test Facility (PTF) intended to determine whether in-situ leach copper recovery is feasible and environmentally defensible at a site located in the center of the Town of Florence, Arizona. To Petitioners' knowledge, no similar project has ever been approved for an in-situ leach copper project, much less one in the middle of a growing town that expects to number its residents in the hundreds of thousands in the next few decades.

Petitioners' appeal of Region 9's permit is limited to the decision to leave in place a 20-year old aquifer exemption issued for a now-abandoned commercial copper in-situ leach copper recovery project that involved a much larger area than is encompassed by the PTF. That exemption covers a lateral area of over 400 acres, while the PTF well field consists of just 2.2 acres and purportedly will impact, at most, just a few acres outside the well field. Furthermore, that 20-year old exemption includes an aquifer that contains no producible minerals but that is a current and future drinking water source for the Town of Florence and its growing population. The decision to leave this exemption in place cannot be justified in light of the significant changes in the surrounding area since the exemption was approved. Region 9 found those changes sufficient to justify revocation of the 20-year old UIC permit for commercial operations and submittal of a new application for a new UIC permit covering only the 2.2-acre PTF well field. Region 9 has not explained why conditions supporting revocation of the UIC permit don't equally support reevaluation of the aquifer exemption. Indeed, in its UIC application, FCI explicitly acknowledged that an appropriate exemption area would be scaled down to the area of the actual project.

In other respects, we find that Region 9 has been responsive to Petitioner's prior comments to at least some degree. While we did not appreciate the deprecatory tone in Region 9's response to comments (i.e. references to public input as "assertions" that are "misleading"), the fact that useful permit changes have been made is noteworthy. We particularly applaud the requirement for

tracer tests prior to project start-up, the expanded monitoring requirements, and the clear limitation of EPA's approval as only applying to the PTF—and only then when substantial preconditions are met.

With this appeal, Petitioners are requesting that the Board remand the UIC permit back to Region 9 with direction to require a new application for an aquifer exemption that is focused on the impacts of the PTF, just as the UIC Permit focused exclusively on the PTF. With the proper analysis on remand, we believe that Region 9 has no choice but to approve an aquifer exemption that (1) is laterally limited to the PTF well field and a small buffer zone beyond that ends at the compliance monitoring wells already provided for in the UIC permit; and (2) is vertically limited to the Oxide Bedrock Zone, the only geologic unit for which an exemption can be justified. With these changes, Petitioners acknowledge that the remaining flaws in the UIC permit do not preclude its issuance.

II. Standing and Jurisdiction

The Town of Florence and SWVP both filed written comments with Region 9 during the public comment period on the draft UIC permit for this project.[1] In their comments, each Petitioner joined in the comments of the other. The issues raised in this Petition were raised with Region 9 in Petitioners' written comments or are directly related to Region 9's response to public comments (and therefore were not reasonably ascertainable during the comment period).[2] Where applicable, Petitioners have cited in this document to specific pages of their written comments in which the legal and factual arguments supporting this Petition were originally raised.[3]

As certified in Section VIII below, this Petition is being served on the Clerk of the Environmental Appeals Board within 30 days after December 21, 2016, the date on which Petitioners were served with notice of the issuance of the UIC final

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[1] Attachment 13: Town of Florence, Comments to Region 9 re Draft UIC Permit (April 10, 2015); Attachment 14: SWVP, Comments to Region 9 re Draft UIC Permit (April 10, 2015).

[2] 40 C.F.R. §§ 124.19(a)(2) and (a)(4).

[3] *Id.* § 124.19(a)(4)(ii).

permit.[4] Therefore, Petitioners have met the criteria for filing this Petition and the Board has jurisdiction to hear this appeal.

III. Standard of Review

The Board should grant review of the Final UIC Permit if it appears from this petition that Region 9's decision is based on a "finding of fact or conclusion of law which is clearly erroneous," or involves an "exercise of discretion or an important policy consideration [that] the Board should review in its discretion."[5] A finding is clearly erroneous if it is illogical, implausible, or lacks support in inferences that may be drawn from facts in the record.[6] The Board has held that to warrant review, a petitioner's allegations must be specific, substantiated by probative evidence, and demonstrate that the Region made a clear error of fact or law or abused its discretion.[7]

The Board's power of review "should be only sparingly exercised" and "most permit conditions should be finally decided at the determined at the [permit issuer's] level."[8] Petitioners cannot meet their burden by relying on previous objections or comments, but must demonstrate why Region 9's response to our objections is clearly erroneous or otherwise warrants review.[9] The Board's review is not limited to specific permit terms, but can review Region 9's decision in its entirety, including alleged substantive or procedural defects.[10]

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[4] Attachment 17: Email from Nancy Rumrill, Region 9 (December 21, 2016).

[5] 40 C.F.R. § 124.19(a); 45 Fed. Reg. 33,290, 33,412 (May 19, 1980); *In re Sunoco Partners Marketing & Terminals, LP*, UIC Appeal No. 05-01, slip. op. at 8 (EAB June 2, 2006).

[6] *Ibrahim v. U.S. Dep't of Homeland Security*, 835 F.3d 1048, 1058 (9th Cir. 2016).

[7] *In re Avon Custom Mixing Services, Inc.*, 10 E.A.D. 700, 708 (EAB 2002); *In re New England Planting Co.*, 9 E.A.D. 726, 737 (EAB 2001); *See also City of Pittsfield, Mass v. EPA*, 614 F.3d 7, 11 (1st Cir. 2010).

[8] 45 Fed. Reg. at 33,412; *In re Sunoco Partners Marketing & Terminals*, UIC Appeal No. 05-01, slip. op. at 8.

[9] 40 C.F.R. § 124.19(a); *In re LCP Chems.-NY*, 4 E.A.D. 661, 664 (EAB 1993).

[10] 40 C.F.R. § 124.19(a); USEPA, *Revisions to Procedural Rules to Clarify Practices and Procedures Applicable in Permit Appeals Pending Before the Environmental Appeals Board*, 78 Fed. Reg. 5281,

Based on the arguments outlined below, Petitioners have met their burden of showing that review is warranted and that rescission or remand of the Final UIC Permit is justified.

IV. Procedural and Factual Background

A. The Original UIC Permit and Aquifer Exemption

In 1996, Magma Copper Company (Magma) filed an application for a Type III Underground Injection Control permit and aquifer exemption with Region 9.[11] A UIC permit and aquifer exemption were issued in 1997 to BHP Copper, who had by that time acquired the project site from Magma.[12] The permit allowed BHP Copper to conduct underground injection of an acidic solution for copper extraction at the project site.[13]

Because BHP Copper and other mining entities owned most of the area for miles downgradient of the project site, there was little public interest in the 1997 Aquifer Exemption or UIC permit decision. A public hearing on March 6, 1997 was attended by just 37 people, 14 of whom are known to have been associated with BHP, ASARCO, or regulatory agencies.[14] Only 9 people submitted written

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5284 (January 25, 2013), and cases cited; USEPA, *Environmental Appeals Board Practice Manual*, at 43 n.44, 54, n.56 (August 2013).

[11] Attachment 24: Magma Copper Co., *Underground Injection Control Permit Application and Request for Minor Aquifer Exemption* (January 1996). Petitioners have not attached this five-volume application in its entirety, but have provided relevant excerpts as attachments, which are cited below. Similarly, Petitioners have provided relevant excerpts of other voluminous documents as attachments, rather than submit the entire document. The complete documents are part of the administrative record and Petitioners incorporate the complete documents by reference. Petitioners will be happy to provide the complete documents to the Board upon request.

[12] Attachment 1: Region 9, *Underground Injection Control Program Area Permit No. AZ396000001* (May 1, 1997) (hereinafter referred to as the "1997 UIC Permit"); Attachment 2: Region 9, *Underground Injection Control Aquifer Exemption for EPA Permit #AZ396000001* (May 1, 1997) (hereinafter referred to as the "1997 Aquifer Exemption").

[13] Attachment 1: 1997 UIC Permit, at 5.

[14] Attachment 3: Region 9 Public Hearing Materials (March 6, 1997).

or oral comments, 4 of whom worked for BHP Copper or agencies associated with the project.[15] The final UIC permit and 1997 Aquifer Exemption were issued less than 2 months after the public hearing.

BHP Copper's activities under the permit were limited to an approximately 90-day pilot test involving a single five-spot injection well field.[16] BHP Copper subsequently sold the property and the UIC permit was transferred to the new owner, Merrill Mining, L.L.C., in December 2001.[17] No further pilot testing or mining activities have been conducted at this site since 1998.

In 2001, Merrill decided to forego mining at the site in favor of residential and commercial development. Working with the Town of Florence, the property was annexed into the Town and was zoned for residential and commercial use. The Merrill Ranch Master Plan was approved by the Town Council in December 2003 and thereafter became part of the Town's General Plan. The General Plan was approved in the May 2010 vote by 71% of the Town's residents and development has proceeded in compliance with these plans. Today, the Anthem at Merrill Ranch residential community stands within 1.5 miles downgradient of FCI's proposed project. As of December 31, 2016, Pulte Homes has sold 2,484 homes out of total planned development of 8,040 homes. Pulte has invested approximately $685 million in this development to date, and anticipates a total investment of approximately $1.6 billion. Similar significant additional residential developments are planned for the area surrounding FCI' project north of the Gila River.[18]

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[15] Attachment 4: Region 9 Response to Comments (April 1997).

[16] Attachment 5: BHP Copper letter to ADEQ (April 6, 1998); Attachment 6: Florence Copper Inc., Underground Injection Control Permit Application, Attachment A, Exhibit A-1, at 12 (August 7, 2014) (hereinafter referred to as the "FCI Application").

[17] Attachment 20: Agreement between Florence Copper Inc. and Merrill Mining, L.L.C. (July 25, 2001); Attachment 21: BHP Copper Letter to Region 9 (July 26, 2001).

[18] Attachment 14: SWVP Comments, Appendix H and Figures H-1, H-2 and H-3; Attachment 40: Affidavit of Phil Turner (January 19, 2017); Attachment 38: Affidavit of Justin Merritt (January 18, 2017).

B. The Subject UIC Permit

In 2009, Merrill declared bankruptcy. Late that year, U-1 Resources, a holding company and predecessor to FCI, acquired 1,200 acres of the former BHP Copper property that included the copper ore body, in a foreclosure proceeding. The property included 160 acres owned by the State of Arizona and leased to FCI by the State Land Department. U-1 also acquired the lease for this parcel. U-1 eventually became Curis Resources, which was acquired by Taseko Mines Ltd. in 2014. Curis Resources changed its name to FCI and Taseko is the parent company of FCI.[19]

FCI sought a transfer of the UIC permit in 2010.[20] Region 9 found that a transfer would be inappropriate, concluding that revocation and reissuance of the UIC permit was necessary because:

> In addition to the information submitted by Curis, EPA has also considered the recent residential development (i.e., Anthem at Merrill Ranch) in the near vicinity of the area currently permitted for mining activity and the construction of several nearby drinking water production wells since the permit was issued in 1997. Due to the substantial lapse in time since the existing permit was issued, the absence of any permitted activity at the site over the last ten years, and the new information regarding residential development in the area, EPA has decided that revoking and reissuing the permit is appropriate.[21]

Region 9 required that FCI submit a new UIC permit application. Despite acknowledging the significant changes in the area that merited revocation of the 1997 UIC permit, Region 9 did not rescind, revoke, or reopen the 1997 Aquifer

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[19] Attachment 38: Affidavit of Justin Merritt (January 18, 2017).

[20] Attachment 10: Notification Regarding Transfer of UIC Permit (February 25, 2010); Attachment 11: FCI Letter to Region 9 (May 21, 2010).

[21] Attachment 7: Region 9, *Letter re Response to Request for Modification and Transfer of UIC Permit* (August 5, 2010).

Exemption. Moreover, Region 9 has consistently failed to explain why this reasoning doesn't apply equally to the aquifer exemption. Region 9 has never addressed the merits of a reduced aquifer exemption area, it has only defended its right not to reconsider or reduce the existing exemption.

FCI submitted a new UIC application for Region 9's consideration in March 2011. The application was for full-scale commercial operations of an in-situ leach copper mining facility encompassing approximately 212 acres on FCI's private land and the State Land lease parcel.[22] Meanwhile, FCI sought zoning changes from the Town of Florence that would allow mining on its privately-held lands. Its first request was withdrawn when it became clear that it would not be approved. In 2011, FCI submitted two separate applications for zoning amendments that would allow mining. Several public hearings were held, with the Florence Town Council ultimately rejecting the request in a unanimous vote.[23]

With its zoning changes rejected and proposed mining being illegal on its privately-held property, FCI asked Region 9 to focus solely on its proposed pilot test of in-situ leach operations, which would be conducted on the State Land lease parcel that was not subject to local zoning laws.[24] It submitted a revised application in December 2013[25] and another revised application the following year that were focused on the proposed Pilot Test Facility (PTF).[26]

Region 9 issued a draft UIC permit for the PTF in December 2014.[27] A

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[22] Attachment 8: FCI, *Underground Injection Control Permit Application*, Attachment B, at 2 (March 25, 2011) (excerpt only of full application).

[23] Attachment 14: SWVP Comments, Appendix H, at H-9 and H-10; Attachment 22: Town of Florence Resolution No. 1324-11 (December 19, 2011).

[24] Attachment 9: FCI, *Letter to Region 9 re Application for Modification and Transfer of UIC Permit* (May 24, 2012).

[25] Attachment 23: FCI UIC Application (December 2013).

[26] Attachment 6: FCI UIC Application (August 7, 2014). Petitioners understand that the August 7, 2014 revised UIC application provided as Attachment 6 to this petition is the one relied on by Region 9 for the decision at issue here.

[27] Attachment 12: Region 9, Public Notice, Statement of Basis, and Draft UIC Permit No. R9UIC-

public hearing was held and Petitioners submitted written comments to Region 9 during the public comment period.[28] Region 9 issued the final UIC permit on December 20, 2016,[29] along with its response to public comments.[30]

C. The Petitioners

The Town of Florence is a political subdivision of the State of Arizona located sixty miles southeast of Phoenix. Dating back to 2002, the Town of Florence began the process of annexing approximately 8,000 acres, including FCI's site. The Town passed Ordinance No. 354-03 in 2003, formally extending the Town's corporate limits to include the property where FCI's proposed mining operations would occur. The land was annexed, zoned, and planned for residential and commercial development at the request of FCI's predecessor in interest after it abandoned plans to attempt in situ leach extraction of copper at the site. Thus, FCI's direct predecessor is responsible for zoning and planning changes that made development of this area possible and make the continued reliance on the 1997 Aquifer Exemption untenable. The Town's residents and leaders have since repeatedly rejected mining within the Town's limits because mining is incompatible with the Town's plans for residential and commercial development in this area. FCI's proposed project sits in the geographic center of the Town's municipal boundaries.[31]

SWVP is a Delaware company doing business in Arizona. SWVP is a real estate development company that owns land in and around the Town of Florence, near FCI's property. SWVP purchased this property in two separate transactions in December 2009 and March 2010 and currently owns 4,376 acres in this area. This land is zoned "Planned Use Development" for the Merrill Ranch

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AZ3-FY11-1 (December 2014).

[28] Attachment 13: Town of Florence, Comments to Region 9 re Draft UIC Permit (April 10, 2015); Attachment 14: SWVP, Comments to Region 9 re Draft UIC Permit (April 10, 2015).

[29] Attachment 15: Region 9, Underground Injection Control Program Area Permit No. R9UIC-AZ3-FY11-1 (December 20, 2016) ("Final UIC Permit").

[30] Attachment 16: Region 9, Response to Comments (December 20, 2016).

[31] Attachment 14: SWVP Comments, Appendix H, Figure H-1.

Master Planned Community, zoning that provides for a mixture of residential and commercial uses.[32] SWVP proposes to develop a master-planned community composed of mixed residential and commercial development.[33]

D. Hydrogeology

Hydrogeologic strata in the Florence area can generally be divided into the Upper Basin Fill Unit (UBFU), Middle Fine Grained Unit (MFGU), Lower Basin Fill Unit (LBFU), and bedrock comprised of an Oxide Bedrock Zone and Sulfide Bedrock Zone.[34] The aquifer is saturated into the UBFU, but drinking water wells are not screened in the UBFU due to nitrates, Total Dissolved Solids, and other contaminates. Local drinking water wells are screened in the LBFU, which supplies high-quality groundwater water suitable for drinking water.[35] The LBFU extends over and downgradient of the Oxide Bedrock Zone targeted by FCI and is hydrologically connected to the Oxide Bedrock Zone, with no hydrogeologic barriers between the two. In fact, just downgradient of the PTF well field, the Oxide Bedrock Zone drops off and the LBFU becomes much deeper, forming an ideal location for future drinking water production wells.[36]

The LBFU is the only feasible source of drinking water for the growing Town of Florence. No other safe and economic sources of water are currently available. The aquifer also is the primary source of drinking water for future residents in this rapidly-growing city.[37] Contamination of this aquifer would be

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[32] Attachment 38: Affidavit of Justin Merritt (January 18, 2017).

[33] *Id.*, Figures H-1 and H-7.

[34] Attachment 6: FCI Application, Attach. A-Area of Review, Fig. A-1; *id.* Exhibit A-1, Hydrologic Study Part A, Groundwater Flow Model, at 12.

[35] Attachment 13: Town of Florence Comments, attached Letter from Southwest Ground-water Consultants, Inc. re Summary of Previous Work Completed for the Town of Florence, at 1-2 (April 10, 2015).

[36] Attachment 37: Affidavit of Dr. Lee Wilson, Exhibit D (January 18, 2017); Attachment 6: FCI Application, Attach. D-Maps & Cross Sections of USDWs, Fig. D-1, D-2, and D-3; Attachment 14: SWVP Comments, Attachment F, at F-17, Figure F-4.

[37] Attachment 13: Town of Florence Comments, attached Letter from Southwest Ground-water Consultants, Inc. re Summary of Previous Work Completed for the Town of Florence, at 1-2

devastating to the Town and its residents.

V. Issues Presented for Review

1. Was Region 9 clearly erroneous in its decision to rely on the 20-year old, 400-acre 1997 aquifer exemption issued to BHP Copper for commercial operations in support of a new UIC permit application solely for a 2.2-acre PTF?

   a. Was Region 9 clearly erroneous in its decision not to protect the entirety of the LBFU surrounding the pilot test site and downgradient under the SDWA as a current and future source of drinking water?

   b. Was Region 9 clearly erroneous in its conclusion that the LBFU should be exempted from SDWA protections because it is purportedly mineral producing?

   c. Was Region 9 clearly erroneous in its conclusion that a 400-acre aquifer exemption is appropriate for a 2.2-acre PTF?

2. As a matter of public policy and in light of the goals of the SDWA, is Region 9's decision to leave the 1997 Aquifer Exemption in place justified, given the importance of the LBFU to this desert area as a drinking water source?

(April 10, 2015).

VI. Argument

A. The Aquifer Exemption Standards

Applicable statutes and regulations prohibit any injection into an aquifer that "allows the movement of fluid containing any contaminant into underground sources of drinking water" if the presence of that contaminant will violate primary drinking water standards or adversely affect human health.[38]

There is no dispute that the activities under this UIC permit have the potential to impact the LBFU, which supplies a public water system today and contains a sufficient quantity of ground water to supply a public water system in the future. The LBFU contains fewer than 10,000 mg/l dissolved solids and is, therefore, is an Underground Source of Drinking Water (USDW) that is protected by the water quality standards and other requirements of the Safe Drinking Water Act (SDWA).[39] Indeed water in the LBFU is potable and fully useable for public water supply purposes. SDWA protections include a prohibition on "underground injection which endangers drinking water sources."[40] To issue a Class III UIC permit to inject acid in-situ leach solutions into the aquifer, Region 9 must also issue a defensible exemption from SDWA protections for the aquifer or a portion of the aquifer impacted by the project.[41]

To exempt an aquifer or portion of an aquifer from SDWA protections, Region 9 must determine that:

- the aquifer does not currently serve as a source of drinking water; and
- the aquifer cannot now or will not in the future serve as a source of drinking water because the aquifer:
    - is mineral producing;
    - is situated too deep to make recovery economically or technologically practical;

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[38] 42 U.S.C. § 300h(d)(2); 40 C.F.R. §§ 144.1(g), 144.12(a).

[39] 40 C.F.R. § 146.3.

[40] 42 U.S.C. § 300h(b)(1).

[41] 40 C.F.R. § 146.4.

- is too contaminated to be used for human consumption;
- is located over an area subject to subsidence of collapse; or
- contains totals dissolved solids at proscribed levels and is not reasonably expected to supply a public water system.[42]

B. The UIC Permit relies upon the 1997 Aquifer Exemption as the basis for allowing FCI's acid mining solution to contaminate the LBFU.

The Final UIC Permit authorizes FCI to construct and operate 4 in-situ injection wells, 9 recovery wells, 7 observation wells, and 4 multi-level sampling wells within the PTF well field.[43] Acid mining solutions will be injected into the aquifer through the four injection wells and copper-bearing lixiviant will be extracted through the recovery wells. The well field is approximately 300 feet in diameter and covers approximately 2.2 acres.[44]

FCI is prohibited from injecting acid mining solutions into the top 40 feet of the Oxide Bedrock Zone.[45] Purportedly, this 40-foot buffer between the Oxide Bedrock Zone and LBFU will help prevent vertical migration of mining solutions into the LBFU.[46] Nevertheless, the Final UIC Permit allows injected mining solutions to migrate vertically into the LBFU. The permit establishes compliance points at 8 monitoring wells located beyond the PTF well field's observation wells.[47] It is reasonably foreseeable that solutions injected into the Oxide Bedrock could move vertically into the LBFU before being detected by FCI's observation wells (which are not UIC compliance points) or the UIC compliance monitoring

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[42] *Id.*

[43] Attachment 15: Final UIC Permit, at 9, Section C(1).

[44] *Id.* at 10; Attachment 6: FCI Application, Attachment Q, Exhibit Q-1, at 2.

[45] Attachment 15: Final UIC Permit, at 14, Section C(7).

[46] Attachment 6: Curis Resources (Arizona) Inc., *Application to Amend UIC Permit No. AZ396000001*, Attachment S, Exhibit S-2, *NI-403 Technical Report Pre-Feasibility Study*, at 185 (March 28, 2013).

[47] Attachment 15: Final UIC Permit, at 23, Section F; Attachment 18: Final UIC Permit, Appendix A, Figure P-1 (2014).

wells. This was confirmed by FCI's own groundwater model.[48] Nothing in the Final UIC Permit prohibits such migration.

Region 9 allows this migration into the LBFU only because of the 1997 Aquifer Exemption, which exempted the bottom 200 feet of the LBFU (or the base of the MFGU, whichever is lower) from SDWA requirements.[49] Magma Copper's original UIC application for this site included an application for an aquifer exemption because both approvals were necessary for the Type III injection wells required for this type of mining. The 1997 UIC Permit and 1997 Aquifer Exemption were issued in tandem because the exemption was necessary for the activities allowed in the permit. Similarly, the subject UIC permit for the PTF should have been accompanied by a new aquifer exemption. FCI has not applied for a UIC permit to allow commercial mining across this site, it only applied to operate a 2.2-acre test facility. Region 9's and FCI's reliance on a 20-year old aquifer exemption is unreasonable and technically indefensible because that exemption has nothing to do with FCI's project.

C. The LBFU is a current and future drinking water source that should be excluded from the aquifer exemption for this project.[50]

The LBFU downgradient of and underlying FCI's property is a USDW that cannot be exempted because it currently serves as a source of drinking water and will serve as a drinking water source in the future.[51] Region 9 exempted a portion of the LBFU from SDWA standards in 1997 because the LBFU at the project site and for miles downgradient was not then a source of drinking water and there were no suggestions at the time that it would become a future source. Conditions in the last 20 years have changed dramatically, such that LBFU is now a source of drinking water for a growing city. The area at and around FCI's project is planned for production drinking water wells in the future. Indeed, FCI itself has

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[48] *See generally* Attachment 6: FCI Application, Attachment A, at 9-11.

[49] Attachment 1: 1997 Aquifer Exemption, at 1, ¶ 2.

[50] Petitioners raised this issue in their comments on the draft permit. *See* Attachment 14: SWVP Comments, Appendix F.

[51] 40 C.F.R. § 146.4.

touted the project site as being capable of supporting residential and commercial development, with their attendant drinking water needs, when mining is completed. Under these conditions, the LBFU cannot be exempted under applicable regulatory criteria.

1. The 1997 Aquifer Exemption is based on circumstances that no longer exist.

When Magma Copper submitted its application for the 1997 Aquifer Exemption in January 1996, the site was not within an incorporated municipality and the closest residential development hydrologically downgradient (to the north, northwest, and west) of the project site was approximately 10 miles away. Magma controlled almost 10,000 acres, much of it downgradient of the project site.[52] Within Magma's proposed exemption boundary, there were only 2 private landowners (Magma and ASARCO, Inc., another mining company) and no wells of any type. The State Land Department owned land leased by Magma within the exemption boundary, but there were no wells on that land. An irrigation district operated 2 irrigation wells within the exemption boundary, but those wells were to be moved before operations began.[53] The nearest property not owned by Magma, ASARCO, or the State Land Department was nearly three miles downgradient.[54] Thus Magma could state with confidence that the downgradient area adjoining the project site would not be used as a future drinking water source.[55] And a large exemption area made some degree of sense

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[52] Attachment 24, Magma Copper Company, *Underground Injection Control Permit Application, Form 4 and Request for Minor Aquifer Exemption*, Vol. 1, at 2-2 (January 1996) ("Use of irrigation wells that could potentially interfere with leaching operations will either be closed or relocated to other areas of *Magma's 10,000-acre property*.") (emphasis added).

[53] *Id.* at 2-5.

[54] Attachment 25, Magma Copper Co., Sheet 1.1-1(I), Florence Project Area Map (depicting Magma's then-current landownership).

[55] Attachment 24, Magma Copper Company, *Underground Injection Control Permit Application, Form 4 and Request for Minor Aquifer Exemption*, Vol. 1, at 2-2 (January 1996) ("Magma controls the uses of the water within the proposed boundary. The project site and the few homes associated with Magma's drilling and farming operations use imported bottled water and not well water for drinking due to excessive nitrate levels in the water. The area will not be used for drinking water in the future as Magma owns or controls the land.").

given the then-large scale of the project.

Region 9 relied on these conditions in approving the 1997 Aquifer Exemption. It had no concern about then-current or future drinking water sources because there were no drinking water wells that would be impacted by mining in 1997. Nor could drinking water wells be constructed downgradient during the life of the proposed mine because Magma owned everything for miles downgradient, a fact clearly relied upon by Region 9:

> There are no drinking water wells, public or private, downgradient from the mine site. Future downgradient wells are also controlled as BHP Copper owns about 2-3 miles of land to the north and west (downgradient) of the site. . .. Due to the location of the proposed site and the location of the existing wells, even with no controls, impacts to existing drinking water wells would be highly unlikely."[56]

Today, Region 9's only response to these significant changes was that that the 1997 Aquifer Exemption met regulatory criteria and these changes do not justify review of the exemption. Region 9 then indicated it conducted an informal review of the exemption "out of an abundance of caution" and found nothing to justify revocation or modification of the exemption.[57] Nowhere does Region 9 ever explain why, even if there is no mandate to revise the exemption, doing so would not be good policy and practice. As discussed in more detail below, Region 9's position is untenable.

2. The Regional LBFU is today a drinking water source.

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[56] Attachment 26, Region 9, *Memorandum re Request to issue a UIC permit and aquifer exemption to BHP Copper* (April 30, 1997) ("There are no drinking water wells, public or private, downgradient from the project site. Future downgradient wells are also controlled as BHP Copper owns about 2-3 miles of land to the north and west (downgradient) of the site. . .. Due to the location of the proposed site and the location of the existing wells, even with no controls, impacts to existing drinking water wells would be highly unlikely.").

[57] Attachment 16: Region 9 Response to Comments, at 14-15.

Magma's 10,000 acres were sold off in various parcels years ago. FCI's property is now inside the municipal limits of the Town of Florence, which has annexed most of Magma's former landholdings. FCI owns and leases less than 1,350 acres around its proposed project site, and that land is now zoned for residential and commercial uses, prohibiting mining. Privately-owned land targeted for residential and commercial development is less than one-quarter mile downgradient and a major residential development has already been built about a mile downgradient.

The only practical source of drinking water for all of this existing and planned development is groundwater from the LBFU. Regionally, drinking water wells have already been constructed in the LBFU and within Magma's former landholdings to service homes and business constructed in the last 10 to 15 years. The Town of Florence projects drinking water demand of 33,310 acre-feet per year by 2025.[58] This water will be withdrawn from the Town's four existing wells and 29 new wells proposed for the area. The 29 proposed wells will withdraw water from the LBFU, with several planned for locations immediately adjacent to the project site.[59] The owners of the Merrill Ranch development also plan to construct numerous drinking water wells just to the west and downgradient of FCI's project site.[60]

Region 9's response to the reasonably foreseeable development of new drinking water wells in the area surrounding the project site to reiterate the irrelevant fact that local zoning ordinances don't replace USEPA's responsibilities under the SDWA and that surrounding drinking water sources will be protected "regardless of surface land use and ownership."[61] Neither response explains why Region 9 believes that massive new pumping from new projection wells will have no impact on, or be impacted by, the project's ability to

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[58] Attachment 13: Town of Florence Comments, attached Letter from Southwest Ground-water Consultants, Inc. re Summary of Previous Work Completed for the Town of Florence, at 1 (April 10, 2015).

[59] *Id.* at 2-3, and Figure 2.

[60] Attachment 14: SWVP Comments, Attachment H, Figure H-4.

[61] Attachment 16: Region 9 Response to Comments, at 20.

maintain hydraulic control, contain contaminants, and restore aquifer conditions at closure.

Region 9 also argued that it was justified in exempting such a large area of the aquifer because groundwater in the project's Area of Review "would take at least 127 to 211 years to travel the distance to the nearest potential (inactive) drinking water well" located approximately 1.2 miles downgradient of the PTF well field.[62] This calculation fails to account for the substantial acceleration in the rate of groundwater flow that will occur as drinking wells near the project are developed in the foreseeable future. Nor does it consider the reduced travel times to newly-constructed wells that are reasonably foreseeable in the area surrounding this project.[63]

EPA also argued that its calculation of travel times is conservative because it ignores the tortuosity of pore spaces.[64] In fact, as any competent groundwater hydrologist knows, due to effects of dispersion the velocity distribution in a real-world aquifer includes a substantial component of flow that moves *faster* than the nominal averaged value. In a fractured aquifer such as the Oxide Bedrock Zone, relatively rapid transport rates are a certainty due to short-circuits in the flow system—as demonstrated by observations in the BHP pilot project.[65]

The deep section of LBFU sediments immediately west of FCI's ore body is a prime location for future water supply wells.[66] As Florence and the surrounding areas grow, existing well fields are projected to dry up and demand will outstrip existing well volumes, mandating new pumping in and around FCI's project.[67] These undisputed facts demonstrate that the regional LBFU is a

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[62] Attachment 16: Region 9 Response to Comments, at 15.

[63] Attachment 37: Affidavit of Dr. Lee Wilson (January 18, 2017).

[64] Attachment 16: Region 9 Response to Comments, at 15.

[65] Attachment 37: Affidavit of Dr. Lee Wilson (January 18, 2017).

[66] *See* Attachment 14: SWVP Comments, Attachment F, at F-17, Figure F-4 and Attachment H, Figure H-4.

[67] Attachment 13: Town of Florence Comments, attached Letter from Southwest Ground-water Consultants, Inc. re Summary of Previous Work Completed for the Town of Florence, at 3 (April

current drinking water source and the LBFU directly around the project site is a future drinking water source that cannot be exempted from SDWA protections.

3. FCI's plans indicate that the aquifer directly beneath this site can be used for drinking water in the future.[68]

Even the LBFU immediately below FCI's project site does not satisfy the aquifer exemption requirements. To be exempted, this portion of LBFU cannot currently serve as a source of drinking water and it must not in the future serve as a source of drinking water.[69] But FCI's property will, according to FCI itself, be used for residential and commercial uses once mining is complete. Both Region 9 and FCI have claimed that groundwater quality beneath the PTF well field can and will be restored to MCLs. This necessarily means it also could be used as a source of drinking water in the future.

FCI has given multiple presentations to the public and its shareholders in which it touts post-mining reuse of the property. For example, in 2010 FCI asserted that after mining the site would be returned to "pre-development or better conditions" and that "the land can be used to support agriculture, residential or community amenities."[70] A video produced by FCI and still available on the Internet similarly asserts that the site will be available for use as "ballparks, gardens, hiking trails and any other community assets."[71] If this land

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10, 2015).

[68] This argument was made in SWVP's comments. Attachment

[69] 40 C.F.R. § 146.4. The regulation also allows an exemption if: (1) the aquifer is not currently a source of drinking water and TDS content is more than 3000 mg/l and less than 10,000 mg/l; and (2) the aquifer is not reasonably expected to supply drinking water in the future. There is no dispute that this second standard does not apply to the high-quality water in this aquifer.

[70] Attachment 32: Florence Copper Project, *Community Presentation*, at 7 and 21 (Fall/Winter 2010); *see also* Attachment 33: Florence Copper Project, *A Discussion with the Town of Florence*, at 2 and 15 (August 2, 2010) ("Post operations the land will be used to support agriculture, residential and/or community amenities").

[71] *Curis Resources Ltd. – Changing the Way Copper is Made*, at 2:50+, *available at* https://www.youtube.com/watch?v=a1JtMg6l8Yo&feature=youtu.be (last visited January 14, 2017).

will be absorbed into the master-planned community after closure, then then water beneath this land will be available for public and private uses. Taking FCI at its word, the aquifer beneath FCI's property could serve as a source of drinking water in the future. Therefore, the exemption criteria of 40 C.F.R. § 146.4 cannot be met and no exemption can be given.

Petitioners could not find a response to these undisputed facts in Region 9's response to public comments. This may be because, as discussed in more detail immediately below, Region 9's entire approach to this issue has been to focus on existing wells, rather than the aquifer and future foreseeable uses, and to stress its right to retain the exemption rather than on the common-sense value of changing it. Such a focus is improper under the criteria applicable to aquifer exemptions.

4. The exemption appears to be improperly based upon protecting existing wells, instead of protecting the drinking water aquifer.

The SDWA states that "Underground injection endangers drinking water sources if such injection may result in the presence in underground water which supplies or can reasonably be expected to supply any public water system of any contaminant, and if the presence of such contaminant may result in such system's not complying with any national primary drinking water regulation or may otherwise adversely affect the health of persons."[72] The statute clearly focuses on the impact of underground injection on groundwater in the aquifer, not individual supply wells. This makes perfect sense, because supply wells have a limited lifespan, portions of an aquifer can be pumped dry, and community demand varies temporally and geographically over time.

Courts have interpreted the SDWA broadly to protect aquifers, not just existing wells.[73] To further the intent of the statute, courts have noted that the

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[72] 42 U.S.C. § 300h(d)(2).

[73] *Western Nebraska Res. Council v. EPA*, 793 F.2d 194, 195 (8th Cir. 1986); *Phillips Petroleum Co. v. U.S. Environmental Protection Agency*, 803 F.2d 545, 560 (10th Cir. 1986).

Act's protections extend not only to current underground sources of drinking water, but also potential future sources and USDWs that are adjacent to an exempted aquifer.[74] SDWA standards cannot be relaxed to accommodate mineral production because "the clear and overriding concern" of Congress was to assure the safety of current and future sources of drinking water.[75]

Similarly, the UIC regulations focus on whether "an aquifer or a portion thereof" meets the exemption standards.[76] Nowhere in the SDWA or UIC regulations is the exemption defined by the location of drinking water wells. The definition of a USDW in 40 C.F.R. § 146.3 "does not mandate that the formation currently be used as a producing water source (*i.e.*, it does not have to have drinking water wells completed into it)."[77]

This distinction seems to have been lost in drafting the permit. Region 9 erroneously focused on drinking water well locations rather than the USDW. Most of its response on this issue addresses existing drinking water wells, relying on a 2014 memorandum to support the unremarkable proposition that "current" drinking water sources include water currently being withdrawn and water that will be withdrawn in the future by existing wells.[78] But that memorandum also notes that work is ongoing to better define the criteria relating to future sources of drinking water and states that "EPA Regions will need to document all reasons and factors they considered in a Statement of Basis of decision memo when making the final aquifer exemption decision."[79] Region 9 has not done this with regard to analysis of the entire LBFU as a future drinking water source. Its analysis of the LBFU as a future source was limited to recitation of its untenable

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[74] *Phillips Petroleum Co.*, 803 F.2d at 560; *Western Nebraska Res. Council*, 793 F.2d at 196.

[75] *Phillips Petroleum Co.*, 803 F.2d at 560.

[76] *See, e.g.*, 40 C.F.R. § 146.4.

[77] USEPA, *Introduction to the Underground Injection Control Program*, at 10 (January 2003); *see also* USEPA, *Introduction to UIC Permitting*, at 1-53 (April 2002).

[78] Attachment 16: Region 9 Response to Comments, at 15 (citing Peter Grevatt, Director, EPA Office of Ground Water and Drinking Water, Memorandum (July 24, 2014)).

[79] Attachment 27: Peter Grevatt, Director, EPA Office of Ground Water and Drinking Water, Memorandum, at 3 (July 24, 2014).

position that the LBFU is mineral producing.[80]

As discussed previously, Region 9's focus is to justify its reliance on the 1997 Aquifer Exemption through the purported fact that existing drinking water wells are located further from the PTF project than water is likely to travel during the life of the PTF wells. Such reasoning has no support in the UIC statutes and regulations. The location of existing drinking water wells is irrelevant to determining whether underground injection will impact a underground source of drinking water. Region 9's focus turns the UIC program on its head to favor mineral production over groundwater protection. Such an outcome is clearly erroneous because it lacks legal support, devalues the importance of this aquifer, and is illogical given the conditions existing in this area today.

5. Conclusion

Region 9 has revoked the previous UIC permit issued to BHP Copper in 1997 and issued a new permit to FCI for the PTF only. Region 9 stated that revocation and reissuance were necessitated by changed conditions in the area surrounding the project. But, at FCI's request, Region 9 has let stand the 20-year-old aquifer exemption that supported the now-revoked 1997 UIC permit (the "1997 Aquifer Exemption"). That aquifer exemption was based upon vastly different conditions in the surrounding area and was issued for commercial operations across more than 200 acres. No basis exists for continuing the 1997 Aquifer Exemption with respect to this 2.2-acre pilot test.

Region 9 should have revoked the 1997 Aquifer Exemption. It should have reevaluated the exemption in light of current conditions and limited the exemption to an area required for the PTF, which is the only facility allowed by the UIC Permit. Region 9's failure to do so, and the insistence on leaving the 1997 Aquifer Exemption in place, violates the law and EPA policy and is clearly erroneous.

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[80] Attachment 16: Region 9 Response to Comments, at 15.

D. The LBFU is not mineral producing and is separate from the copper-bearing Oxide Bedrock Zone targeted by FCI.[81]

An aquifer can be exempted if it cannot currently or in the future serve as a drinking water source because it is mineral producing.[82] Region 9 purportedly "documented" that the LBFU is not a potential future drinking water source because of commercially producible minerals.[83] But the LBFU contains no producible minerals, only good-quality groundwater relied upon by the Town of Florence and its residents. Region 9 justifies inclusion of the LBFU only through the tortured logic that the copper-bearing Oxide Bedrock Zone and the LBFU are hydrologically connected, such that both formations are part of the aquifer that it exempted.[84] That hydrologic connection should be considered a strong reason to protect the LBFU, since mining contaminants can easily flow from the Oxide Bedrock Zone into what is now and will be a drinking water source. Using it to support an exemption that eliminates SDWA protections places mining interests over drinking water needs, with no justification for doing so.

Region 9 also seems to find it relevant that plans to use the LBFU for future drinking water use were developed after the 1997 Aquifer Exemption was in place.[85] Paradoxically, Region 9 makes this point in support of its decision to leave the exemption in place, rather than as a reason to reevaluate its 1997 decision. Apparently, Region 9 believes that its aquifer exemption decision trumps local land use decisions forever. Such a position does not comport with the SDWA's emphasis on the protection of drinking water sources or federal deference to state and local water law and water planning. As a matter of policy, Region 9's position should be rejected.

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[81] Petitioners raised this issue in their comments on the draft permit. *See* Attachment 14: SWVP Comments, at 10-11 and Appendix F, at F-2.

[82] 40 C.F.R. § 146.4(b).

[83] Attachment 16: Region 9 Response to Comments, at 16.

[84] *Id.*, at 17.

[85] *Id.*

1. **Region 9 has not justified treating any portion of the LBFU as a "mineral producing" part of the same "aquifer" as the Oxide Bedrock Zone.**

The LBFU does not contain commercially-producible copper and neither FCI nor Region 9 have even attempted to demonstrate otherwise. But to justify including up to 200 feet vertically of the LBFU within the aquifer exemption, Region 9 asserts that this portion of the LBFU and the Oxide Bedrock Zone are part of the same "aquifer" because they are hydrologically connected. Why the hydrologic connection mysteriously stops as 200 feet is never explained. Region 9 then argues that because the Oxide Bedrock Zone contains copper, it determined in 1997 that the criteria in 40 C.F.R. § 146.4(b)(1) were met.[86]

Region 9 has asserted that BHP demonstrated that the entire exempted area, including the LBFU, contains "commercially producible quantities of mineralized copper."[87] Nothing in the record supports this conclusion. In its original 1996 permit application, Magma Copper requested that the aquifer exemption encompass only the "orebody"—the Oxide Bedrock Zone between the bedrock Sulfide Zone and the LBFU.[88] In response to a Region 9 request to depict the vertical extent of the exempted area just months later, BHP Copper proposed exempting everything within 200 feet above the Oxide Bedrock Zone, although nothing in the record explains BHP's justification for doing so.[89] Certainly, Region 9 has pointed to nothing in the record, and Petitioners have found nothing, indicating that BHP demonstrated that the LBFU contained producible copper. In the Statement of Basis for BHP's draft UIC permit, Region 9 accepted BHP's proposal, even though it expressly stated that the UBFU, MFGU and LBFU "do not contain commercially-producible quantities of copper."[90] Nothing

[86] Attachment 16: Region 9 Response to Comments, at 17.

[87] Attachment 12: Region 9, Statement of Basis, at 14 (December 2014).

[88] Attachment 24: Magma Copper Company, *Underground Injection Control Permit Application, Form 4 and Request for Minor Aquifer Exemption*, Vol. 1, at 2-2 and Fig. 2.1-1 (January 1996).

[89] Attachment 28: Brown and Caldwell Letter to Region 9 and ADEQ providing revised responses to agency comments on behalf of BHP Copper, Table 3, Part II, Comment 2 (Sept. 28, 1996).

[90] Attachment 29: Region 9, *Statement of Basis for a Draft Permit and Proposed Aquifer Exemption*, at

in the record explains Region 9's basis for exempting a portion of the LBFU despite this admission.

There can be no dispute that the LBFU is not mineral producing. FCI itself has made no showing that the LBFU is mineral producing. In its UIC application, FCI stated that it was not aware of any change in "aquifer conditions or planned operations" that would require the 1997 Aquifer Exemption to be rescinded or modified (ignoring changes in local land use that merited rescission). FCI cited to its economic assessment of the project for a delineation of the in-situ copper recovery zone.[91] That document stated that the "source of copper for this process is an oxidized copper mineralized body that is covered by 370 to 410 feet of alluvial sediments."[92] The LBFU is part of that alluvial sediment layer—not the oxidized copper mineralized body.[93]

Nor has FCI treated the LBFU and Oxide Bedrock Zone as a single aquifer unit. FCI's groundwater models all treated the LBFU as separate from the Oxide Bedrock Zone.[94] In its hydrogeologic study in support of its UIC application, FCI described the hydrogeology underlying the PTF site as being divided into "three distinct water bearing hydrostratigraphic units referred to as the UBFU, LBFU, and the Bedrock Oxide Unit."[95] And FCI has acknowledged the need for a 40-foot "exclusion zone" in the uppermost part of the Bedrock Oxide Unit to buffer impacts to the LBFU.

Moreover, Arizona agencies who are intimately familiar with this State's

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7 (February 1997).

[91] Attachment 6: FCI, *Application to Amend UIC Permit No. AZ396000001*, Attachment S, at 2 (August 7, 2014).

[92] *Id.*, Attachment S, Exhibit S-2, *NI-403 Technical Report Pre-Feasibility Study*, at 184 (March 28, 2013).

[93] *Id.* at 90-91 and Table 7-1; Attachment 37: Affidavit of Dr. Lee Wilson (January 18, 2017).

[94] Attachment 6: FCI, *Application to Amend UIC Permit No. AZ396000001*, Attachment A, at 4 (August 7, 2014).

[95] *Id.*, Attachment A, Exhibit A-1, *Hydrologic Study Part A, Groundwater Flow Model*, at 12 (March 1, 2012).

hydrogeology treat the LBFU as separate from the copper-bearing bedrock below. The Arizona Department of Water Resources considers the Oxide Bedrock Zone to be hydrologic bedrock, as opposed to the overlying alluvium that is formed in part by the LBFU.[96] And the Arizona Department of Environmental Quality clearly considers the LBFU as a distinct aquifer—and a vital source of drinking water—because the Aquifer Protection Permit issued by ADEQ prohibits FCI from allowing any contaminants into the LBFU, even within the PTF well field.[97]

Although Region 9 claims that it decided in 1997 that 200 vertical feet of the LBFU could be exempted because it was part of a mineral producing aquifer, Region 9 cited to nothing in the administrative record for the 1997 Aquifer Exemption decision to support this statement, and Petitioners have found nothing in the administrative record to support it. In the past, Region 9 has acknowledged, with respect to this same site, that parts of the aquifer outside of the ore body itself cannot be exempted.[98] FCI certainly has not argued that the LBFU should be treated as mineral-producing, as it relied exclusively on the existing record created by Magma and BHP Copper and on a technical study that did nothing to support this argument. And Region 9 has never explained why the lower 200 feet of the LBFU are somehow distinguishable from the remainder of the LBFU such that they should be included in the exempted area.[99] The LBFU is a distinct aquifer unit that contains no commercially producible copper and does not meet the criteria for an aquifer exemption. Region 9 has acknowledged this prerequisite in the past with respect to this site and has provided no reason

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[96] *Id.*, Attachment A, Exhibit A-1, *Hydrologic Study Part A, Groundwater Flow Model*, at 12 (March 1, 2012); *see also id.* at 9-11 (ADWR groundwater models distinguished between LBFU and underlying bedrock).

[97] Attachment 30: Temporary Aquifer Protection Permit No. P-106360, Significant Amendment, at 5, § 2.3.1 (August 3, 2016) ("In-situ solutions shall be injected and contained within the oxide unit.").

[98] Attachment 31: Region 9 Letter to BHP Florence Project re Technical Review of the BHP In-Situ Copper Mining Project, at 6 (June 27, 1996) (stating that the horizontal area beyond the ore body cannot be exempted because "to exempt an aquifer there must be minerals which are commercially producible.").

[99] Attachment 37: Affidavit of Dr. Lee Wilson (January 18, 2017).

to ignore this requirement now with respect to the LBFU.

2. Mining is illegal within most of the existing aquifer exemption.[100]

Beyond the technical issues surrounding exemption of a portion of the LBFU, most of the project site cannot be considered mineral producing because mining is illegal. FCI's private property was annexed by the Town of Florence years before FCI acquired it. That same property also was zoned for commercial and residential uses, prohibiting mining, before FCI acquired it. If mining on this property is illegal, then it defies logic to claim that any portion of the aquifer under that land can be considered mineral producing.

Although Region 9 claims that it has reviewed whether the aquifer still meets the exemption criteria of 40 C.F.R. § 146.4, its response to comments failed to address this issue. Region 9's response consisted of the facile statement that "local ordinances and zoning restrictions do not replace EPA's responsibility to implement the UIC program."[101] That's indisputable, but it misses the point. If mining is illegal on FCI's privately-held land, then the only part of the project site that could possibly qualify for an aquifer exemption premised on commercially producible minerals is limited to the 160 acres of the State Land parcel that are exempt from local zoning restrictions. This alone merits reconsideration of the 1997 Aquifer Exemption.

3. The LBFU cannot be exempted under any other regulatory criteria.[102]

Although other criteria exist for exempting aquifers from the SDWA, none of them apply here and Region 9 has not relied upon them to justify the 1997 Aquifer Exemption. The LBFU is not situated at a depth or location that makes

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[100] Petitioners raised this issue in their comments on the draft permit. *See* Attachment 14: SWVP Comments, at 8 and F-2.

[101] Attachment 16: Region 9 Response to Comments, at 20.

[102] Petitioners raised this issue in their comments on the draft permit. *See* Attachment 14: SWVP Comments, Appendix F, at F-2 and F-3. Region 9 did not address or dispute these criteria in its response to comments.

drinking water production impractical.[103] Drinking water production wells are today withdrawing from the LBFU and more wells in this aquifer layer are planned for the future. It is both practical and necessary to withdraw from the LBFU for the Town's growing water needs. There is no dispute, and Region 9 has not asserted, that it is impractical to construct and operate drinking water wells that withdraw from the LBFU. Nor is the LBFU contaminated.[104] Groundwater quality is excellent in the LBFU. Degradation of this water source from FCI's proposed mining activities should not be allowed. Finally, the LBFU is not located over a mining area subject to subsidence or collapse.[105] FCI has expressly stated that subsidence is not an issue at this site.[106]

The LBFU meets none of these regulatory criteria for an exemption. Region 9's attempt to justify exemption of the LBFU as a mineral-producing aquifer does not bear scrutiny and its decision to leave the exemption in place is clearly erroneous. No portion of the LBFU within the AOR, FCI's PTF well field, or elsewhere should be exempted from the protections of the SDWA.

E. Region 9 has not justified an aquifer exemption that is nearly 200 times larger than FCI's project.[107]

The 1997 Aquifer Exemption was an area-wide exemption for planned commercial operations. Petitioners calculate that the exemption encompasses approximately 400 acres, with the outer boundaries of the exempted area extending more than one-half mile from the PTF well field in many places.[108] This is because the 1997 Aquifer Exemption encompassed the entire ore body for which in-situ mining was practical, with commercial operations planned for 15 to

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[103] 40 C.F.R. § 146.4(b)(2).

[104] 40 C.F.R. §§ 146.4(b)(3), (c).

[105] 40 C.F.R. § 146.4(b)(4).

[106] Attachment 6: FCI UIC Application, Attachment A, Exhibit A-3, at 13-14.

[107] Petitioners raised this issue in their comments on the draft permit. *See* Attachment 14: SWVP Comments, Appendix F, at F-1 and F-2.

[108] Attachment 19: FCI UIC Application, Attachment S, Figure S-1 (May 2014); Attachment 39: Affidavit of Kevin D. Hebert, R.G. (January 19, 2017).

20 years. No similar proposal is currently before Region 9 and the scale of the PTF in no way compares to BHP Copper's commercial mining plans in 1997.

1. FCI's application for a 2.2-acre PTF well field has nothing to do with the commercial operations upon which the 1997 Aquifer Exemption was premised.

FCI's application, and the Final UIC Permit, are limited to authorization of a 2.2-acre PTF well field that will operate for 14 months.[109] Both FCI and Region 9 have asserted that impacts from this project will not extend beyond the observation wells, which form a ring approximately 300 feet around the injection and recovery wells.[110] Neither FCI nor Region 9 have even attempted to justify the need for a 400-acre aquifer exemption area for such a small project.[111]

FCI's application does nothing to explain how a 2.2-acre project requires a 400-acre exemption.[112] Nor does it reference or include any documentation from the Magma-BHP Copper aquifer exemption application to justify the exemption with regard to the small scale of the PTF. The *only* document relied upon in FCI's application to justify the exemption is its Technical Report Pre-Feasibility Study.[113] But that document also addresses full commercial operations, not the PTF. Therefore, no documented basis exists for a proposed aquifer exemption that is specific to the project approved in the Final UIC Permit.

For its part, Region 9 appears to acknowledge the different purpose and scope of the 1997 UIC Permit and Aquifer Exemption, stating that it "defined the aquifer exemption boundaries in 1997, in consideration of the particular characteristics of the permitted project, the mining site, and the specific purpose of in-situ copper recovery."[114] Yet despite the quite different characteristics of

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[109] Attachment 12: Region 9 Statement of Basis, at 2 and 6 (December 2014).

[110] Petitioners question the analysis and hypotheses supporting this assertion.

[111] Attachment 37: Affidavit of Dr. Lee Wilson (January 18, 2017).

[112] Attachment 6: FCI UIC Application, Attachment S.

[113] Attachment 6: FCI UIC Application, Attachment S, Exhibit S-2.

[114] Attachment 16: Region 9 Response to Comments, at 16.

FCI's PTF facility, the much smaller site, and the completely different purpose, Region 9 saw no basis to reexamine the aquifer exemption.

2. FCI itself requested a much smaller aquifer exemption scaled to the small size of the PTF.

As discussed previously, after submitting a UIC application for full commercial operations, FCI decided to focus instead on a permit only for the PTF.[115] In its December 2013 UIC application, FCI proposed an aquifer exemption area based on the *criteria* as the 1997 Aquifer Exemption, but which included a much smaller *area* equivalent to the AOR used in its UIC permit application.[116] FCI described the horizontal extent of its requested aquifer exemption as coinciding with the "horizontal extent of the 500-foot circumscribing AOR around the PTF well field area."[117]

In March 2014, Region 9 instructed FCI to revise its discussion of the aquifer exemption in its application and revise the accompanying figures to mirror the 1997 Aquifer Exemption.[118] Region 9 provided no explanation for its request, aside from the fact that the 1997 Aquifer Exemption was still in place. Importantly, by this time Petitioners had made multiple requests, through informal comments in letters to Region 9, for the aquifer exemption to be reduced to just what FCI had proposed.[119] But despite known public opposition to continued use of the 1997 Aquifer Exempt, USEPA guidance supporting a much smaller exemption, and the applicant's own attempt to reduce the aquifer exemption to something more reasonably proportional to the size and potential impacts of the PTF, Region 9 unilaterally refused to consider adjusting the exemption.

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[115] *See* Section IV(B), *infra*, at 6.

[116] Attachment 23: FCI Revised UIC Application, Attachment S, Figures S-1 and S-2 (December 2013).

[117] *Id.* at 2.

[118] Attachment 34: Region 9 Request for Information to FCI, at 8-9 (March 13, 2014).

[119] Attachment 41: SWVP Letter to Region 9, at 7-12 (September 13, 2012).

3. Region 9 has acknowledged the small scope of the PTF, but has ignored the disconnect between that small project and the expansive 1997 Aquifer Exemption.

Region 9 has acknowledged that the lateral area impacted by the PTF wells is much smaller than the 1997 Aquifer Exemption:

> The targeted copper oxide zone and area of review (AOR) for the proposed PTF is a relatively small lateral area well within the boundaries of the existing aquifer exemption. For the PTF, the AOR is a circumscribed area of 500 feet from the PTF well field and the existing aquifer exemption boundary is an additional 500 feet and more beyond the PTF's AOR.[120]

But Region 9 ignores the relative size of the PTF to the 1997 Aquifer Exemption in attempting to justify continued reliance on the exemption.

In response to Petitioners' argument that the small size of the AOR and PTF facility overall undercut any justification for such a large aquifer exemption, Region 9 asserted that it followed applicable regulations and guidance when it approved the exemption in 1997.[121] That may be the case, although there is little or nothing in the record to explain why Region 9 approved the 1997 Aquifer Exemption. But the basis for the 1997 decision also is totally irrelevant. The salient point is that a 400-acre aquifer exemption is neither reasonably necessary nor justified for FCI's small, short-term project. Pointing to a 20-year old decision does nothing to explain how that decision remains relevant and justified in light of current conditions.

Nor has Region 9 explained why such an expansive aquifer exemption is required from a project whose impacts will purportedly be confined to the PTF

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[120] Attachment 12: Statement of Basis, at 13. This statement is also misleading in indicating that the aquifer exemption boundary is "500 feet and more" beyond the AOR. The aquifer exemption boundary is nowhere closer than approximately 650 feet to the AOR, and in most areas it is much farther away.

[121] Attachment 16: Region 9 Response to Comments, at 16.

well field. In its response to public comments, Region 9 repeatedly described these limited impacts:

- "ISCR fluids will not migrate beyond the PTF well field as long as hydraulic control is maintained."[122]
- "Any possible excursions into the LBFU will be contained to the PTF well field area until they are reversed during aquifer rinsing and restoration operations."[123]
- "The supplemental monitoring wells would not be expected to detect an excursion in the planned two-year duration of ISCR and rinsing operations. . . ."[124]
- "If quarterly Level 1 sampling reveals an exceedance, the maximum distance a contaminant could travel beyond the monitoring well is 10 feet, based on the approximate 40 foot per year groundwater flow velocity. USDWs are adequately protected because the AOR boundary is hundreds of feet beyond the monitoring well ring."[125]

Region 9 also downplayed Petitioners' references to recent USEPA rulemaking activities related to uranium in-situ leach sites, which operate on similar principles as FCI's proposed facility and also require UIC permits.[126] Petitioners pointed to one of Region 9's own presentations and proposed USEPA regulations for the unremarkable proposition that an aquifer exemption should be as small as possible to protect as much of a current or future drinking water source as possible. Region 9 dismissed its own presentation as "one approach" to aquifer exemptions and dismissed the rulemaking as not being appropriate analogues.[127] Region 9 failed to explain what fundamental differences between this project and uranium in-situ leach mining would justify reliance on the 1997 Aquifer Exemption. And it completely ignored Petitioner's point that USEPA, in

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[122] *Id.* at 9.

[123] *Id.* at 11.

[124] *Id.* at 25.

[125] *Id.* at 32.

[126] *Id.* at 16-17; Attachment 14: SWVP Comments, Appendix F, at F-4 to F-6.

[127] Attachment 16: Region 9 Response to Comments, at 16-17 (December 20, 2016).

general, adheres to the principal that "the scope of coverage of an aquifer exemption request is typically the portion of the USDW affected by the activity,"[128] a principal that would mandate a significant reduction in the size of the aquifer exemption for FCI's PTF.

Along these same lines, Region 9 attempted to distinguish uranium ISL mines generally from this project, but its attempt consisted of the following generic, unsupported argument:

> Restoration results at ISR copper operations at the PTF site are not directly comparable to results at uranium ISR mines due to numerous factors, including differences in geological settings, geochemical reactions, and mobilizing solutions applied to recover copper versus uranium. Uranium ISR mines in the United States are typically in sedimentary deposits while copper deposits usually occur in igneous rocks as is the case at the PTF site.[129]

Petitioners do not deny that geologic conditions, different metals, and different chemical reactions are at issue in uranium in-situ leach mines. But that does nothing to distinguish the PTF facility from other in-situ leach projects regarding the appropriate relative size of an aquifer exemption. In both cases, the overriding concern should be to protect as much of current and future drinking water sources as possible. That logically requires the smallest possible aquifer exemption that will reasonably allow for the activities under the UIC permit.

Region 9 has gone to great lengths to demonstrate that it is not expressly required to change the aquifer exemption under existing regulations. But it never addresses Petitioner's contention that, as a matter of policy, good practice, and simple logic, it should revisit the exemption.

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[128] USEPA, *Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings;Proposed Rule*, 80 Fed. Reg. 4156, 4168 (January 26, 2015), cited by Petitioners in Attachment 14: SWVP Comments, Appendix F, at F-5.

[129] Attachment 16: Region 9 Response to Comments, at 38, cited by Region 9 at 16 in response to Petitioner's arguments.

4. It is more likely than not that commercial operations of the scope and areal extent envisioned by BHP Copper in 1997 will never occur at this site.

Region 9 has indicated repeatedly that issuance of this permit does not guarantee commercial operations will be allowed, and has stated clearly that commercial operations, if pursued, will require an entirely new UIC application.[130] Currently, mining is illegal on FCI's private property, limiting future commercial operations to the 160-acre State Land lease parcel, at most. Thus, even if FCI pursues commercial mining at this site in the future, BHP Copper's 1997 commercial plans will never be realized absent significant changes in local zoning or changes in applicable law. Simply put, the 1997 Aquifer Exemption is a relic of an abandoned proposal that is unlikely to ever be revived. PTF operations cannot justify such an expansive exemption. If commercial operations are pursued in the future, new analysis will be needed to develop an aquifer exemption that complies with regulatory criteria, properly incorporates existing conditions and future drinking water needs, and is no larger than necessary for whatever project FCI or its successors might propose.

F. Region 9 had authority to review and should have reviewed the 1997 Aquifer Exemption by requiring FCI to submit a new aquifer exemption application.[131]

Given the significantly changed circumstances, including new and planned drinking water wells in what is now a major residential development, Region 9 should have found ample basis to rescind the 1997 Aquifer Exemption and require FCI to submit a new exemption application, and reevaluate the basis and for and extent of the exemption under applicable regulatory criteria. No reasonable basis exists to leave a 20-year old aquifer exemption in place, especially one that allows contamination in what is clearly an existing and future drinking water source, the LBFU.

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[130] Attachment 16: Region 9 Response to Comments, at 7 and 29.

[131] Petitioners raised this issue in their comments on the draft permit. *See* Attachment 14: SWVP Comments, Appendix F, at F-22 to F-24.

FCI has asserted that the aquifer exemption "is not part of the current proceeding," while Region 9 argues that nothing requires it to rescind, reopen or review the 1997 Aquifer Exemption.[132] Petitioners do not dispute that there is no regulatory requirement to reopen an existing aquifer exemption if an associated UIC permit is revoked. Indeed, it would be surprising if federal regulations were so detailed as to contemplate such an unusual circumstance. Petitioners also do not argue, as Region 9 implies, that the permit and aquifer exemption represent a single agency action, such that revocation of one automatically requires revocation of the other.[133]

Instead, Petitioners' common sense argument is that the 1997 Aquifer Exemption fails to meet the regulatory criteria due to significant changes in the area that impact the technical evaluation Region 9 undertook 20 years ago, and that, as a matter of policy and reason, Region 9 should have required a new exemption application and new analysis of the regulatory criteria in light of the same changed circumstances that prompted revocation of the UIC Permit. Region 9's informal reevaluation of the existing exemption did not properly evaluate regulatory criteria, as discussed previously. Region 9 did not explain why the same changed circumstances justifying revocation of the UIC permit did not apply equally to the aquifer exemption and its informal evaluation focused almost exclusively on existing wells, rather than properly weighting reasonably foreseeable future uses, future planned drinking water wells, and protection of the entire LBFU, as opposed to protection of specific wells.

Public policy underlying the SDWA and USEPA past practice demonstrates that reevaluation of aquifer exemptions due to changed conditions is expected. The SDWA requires protection of underground sources of drinking water from any endangerment generated by underground injection.[134] And

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[132] Attachment 16: Region 9 Response to Comments, at 14 and 47.

[133] *Id.* at 14.

[134] 42 U.S.C. § 300h(b)(3)(C) (nothing "shall be construed to alter or affect the duty to assure that underground sources of drinking water will not be endangered by any underground injection.").

certainly nothing in the UIC regulations prohibits Region 9 from reevaluating the 1997 Aquifer Exemption. In fact, USEPA clearly indicated in promulgating the UIC regulations that changes to aquifer exemptions were expected:

> The Director [of a state UIC program] may exempt aquifers as part of the State program he submits to EPA for approval. Therefore, the designations, by the nature of the process, are subject to public hearing and comment as well as the review and approval of EPA. The Director is free to change the designations or add to them at a later date. Such a change, however, would constitute a major modification of the approved State program and, as a major modification, is subject to public hearing and comment, as well as EPA review and approval.[135]

Furthermore, USEPA has reevaluated aquifer exemptions at other sites to address new issues and concerns. At the Church Rock, New Mexico uranium in-situ leach project owned by Hydro Resources, Inc., EPA Region VI reopened its 1989 approval of an aquifer exemption for the site, seeking additional information on drinking water wells in the area.[136] In Goliad, Texas, EPA Region VI revised a recently-issued aquifer exemption to reduce the area covered by the exemption, in response to arguments and data presented by opponents of a proposed uranium in-situ leach project to be operated by Uranium Energy Corporation.[137]

Region 9's approach directly contradicts the SDWA's purpose because it favors mining over protecting drinking water supplies. Its position holds this important regional aquifer hostage to speculative mining proposals that may never be pursued. Already, an aquifer exemption has been in place for nearly 20

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[135] USEPA, *Final Rule for Part 146 and Amendments to Part 122*, 45 Fed. Reg. 42472, 42481 (June 24, 1980). Although EPA was speaking of changes to State-delegated programs, the same would logically apply to programs managed by EPA itself.

[136] Attachment 34: Letter from William K. Honker, USEPA Region VI, to New Mexico Environmental Law Center (June 27, 2012).

[137] Attachment 35: Letter from William K. Honker to Richard Hyde, Texas Commission on Environmental Quality (June 17, 2014).

years and no commercial mining has ever been conducted. Today, mining is illegal on FCI's private property and there is no proof that commercial mining is viable on the State Land parcel. It is untenable for Region 9 to ignore the drinking water needs of a burgeoning city in reliance on a 20-year old administrative decision that has no justification today.

G. Conclusion and Request for Relief

In their written comments on the draft UIC permit, Petitioners presented numerous reasons that the 1997 Aquifer Exemption should have been revoked in favor of a new exemption application and evaluation. Among those reasons, supported in the record and arising out of applicable regulatory requirements, are the following:

- The 1997 Aquifer Exemption was based in large part on the mining company's ownership of all of the land at the project site and for miles downgradient. That area is now the site of residential and commercial development and new and future drinking water supply wells. If those changed conditions were enough to justify revocation of the UIC permit, they equally support revocation of the 1997 Aquifer Exemption.

- The LBFU should not be exempted from SDWA protection because it is currently, and will be for the foreseeable future, the primary source of drinking water for the growing Town of Florence.

- No part of the LBFU should be included in the exempted area because the LBFU is not mineral producing and does not meet any of the other criteria for exemption.

- A 2.2-acre pilot test facility cannot justify retention of a 20-year old, 400-acre aquifer exemption that was approved for a commercial in-situ leach project that was abandoned long ago.

In its response to comments, Region 9 failed to reasonably rebut Petitioners' arguments or justify its decision. Region 9's decision is clearly erroneous in light

of applicable factual circumstances and regulatory requirements. The decision also implicates important policy considerations at a time when USEPA's UIC program and its procedures and guidelines for issuing aquifer exemptions is under scrutiny. The Board should decide this appeal on the merits to send a signal that this Nation's drinking water supply is a critical resource, aquifer exemptions should not be taken lightly, and at the very least they should be defensible and targeted to protect as much of this country's drinking water resources as possible.

For these and all the others reasons discussed previously, Petitioners request that the Board remand the UIC permit to Region 9 with direction to require a new aquifer exemption application and revocation of the 1997 Aquifer Exemption.

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VII. Statement of Compliance with Word Limitation

This petition complies with 40 C.F.R. §§ 124.19(d)(3). The petition contains 12,339 words, using the word count function in Microsoft Word and excluding the table of contents, table of authorities, table of attachments, this statement of compliance, the certificate of service and the attachments.

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VIII. Certificate of Service

I certify that a copy of this petition and all attachments were served upon the following parties by Federal Express, overnight delivery, on January 19, 2017:

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In addition, an electronic copy of the petition only was served on the following parties by electronic mail on January 19, 2017:

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Before the Environmental Appeals Board
United States Environmental Protection Agency
Washington, D.C.

In the Matter Of Florence Copper, Inc. Florence Copper Project Underground Injection Control Program Permit No. R9UIC-AZ3-FY11-1	UIC Appeal No. _____ **Statement of Conformity to Electronic Filing**

The accompanying hard copies of the Petition for Review and attachments are identical to the electronic copies filed with the Board on January 19, 2017 through the Board's eFiling System.

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January 19, 2017

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

Docket No. 17-73170

*** * * ***

FLORENCE COPPER, INC. MOTION FOR ORDER TO SHOW CAUSE
April 20, 2018

EXHIBIT 6

EPA Region 6 Letter to New Mexico Envt'l Law Center (June 27, 2012)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202 - 2733

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BY

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Mr. Stuart Bluestone
Mr. Douglas Meiklejohn
Eric Jantz, Esquire
New Mexico Environmental Law Center
1405 Luisa Street, Suite 5
Santa Fe, New Mexico 87505

Gentlemen:

Senator Jeff Bingaman has requested that we reply directly to your letter dated April 30, 2012. That letter was written on behalf of the Eastern Navajo Dine' Against Uranium Mining regarding the Church Rock uranium mining project proposed by Hydro Resources, Inc. In that letter, the New Mexico Environmental Law Center states:

> The EPA Region 6 granted HRI an aquifer exemption for the Crownpoint Uranium Project under the Safe Drinking Water Act in 1989. The permit was issued before the public was aware of the project, and without any meaningful technical scrutiny. By continuing the aquifer exemption, Region 6 of the EPA has effectively taken the position – in the face of contrary data - that the groundwater beneath the 160 acres of land within the Church Rock Chapter at Section 8, Township 16 North, Range 16 West (Section 8) is so polluted that it will never be used as a drinking water source. On that basis, Region 6 has reasoned that Hydro Resources, Inc. should be allowed to further pollute the groundwater in order to mine uranium using the *in situ* leach method.

The statement above is inaccurate. The EPA requires the state of New Mexico to provide notice of the exemption (temporary aquifer designation) and the permit prior to approval. Moreover, the EPA has never taken the position "that the groundwater [subject to this exemption]…is so polluted that it will never be used as a drinking water source." The New Mexico Environmental Law Center goes on to provide three reasons for revoking the exemption.

The New Mexico Environmental Law Center's first two reasons for revoking the exemption are (1) the Westwater Canyon aquifer is an important future water source due to its water quality, and (2) EPA relied upon statistically indefensible groundwater quality data that are wrong and not relevant to the criteria under which the exemption was granted. In accordance with the criteria for exemption at 40 C.F.R. §146.4, Region 6 approved the exemption submitted by the State because the exempted portion of the aquifer was (1) not then used as a current source of drinking water and (2) contained minerals in producible quantities. Ground water quality is not a consideration in those criteria for exemption and was not a determining factor in granting the exemption.

The New Mexico Environmental Law Center's third reason to revoke the exemption points to the historical record of ground water restoration at commercial uranium *in situ* leaching mining operations. A Class III operator's ability to restore an aquifer following *in situ* mining is not one of the EPA's

regulatory criteria for exempting an aquifer. The primary criterion at 40 CFR §146.4 (a) requires all exemptions must demonstrate that the aquifer does not currently serve as a source of drinking water. Generally, an aquifer serves as a current source of drinking water if that water is within the capture zone of an existing water well used for human consumption. The EPA has requested information on such drinking water sources from the Navajo Nation in the ongoing consultation. The EPA is currently unaware of any human water sources in proximity to the exempted area. Should water sources be discovered within close proximity to the exemption, Region 6 will assess the capture capacity of those identified.

Please note that the New Mexico Environment Department is responsible for issuance and renewal of Class III Underground Injection Control Permits for *in situ* mining operations under Section 8, Township 16 North, Range 16 West. The NMED is currently considering an application for renewal of the permit in this matter and Eastern Navajo Dine' Against Uranium Mining's allegations may be of relevance to that permit action.

If you have any further questions, please contact me at (214) 665-7101, or your staff may contact Ms. Cynthia Fanning, Congressional Liaison, at (214) 665-2142.

Sincerely,

William K. Honker, P.E.
Acting Director
Water Quality Protection Division

cc: Senator Jeff Bingaman
United States Senate

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

Docket No. 17-73170

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FLORENCE COPPER, INC. MOTION FOR ORDER TO SHOW CAUSE
April 20, 2018

EXHIBIT 7

EPA Memorandum to Water Division Directors Regions 1 – 10 (July 24, 2014)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 21 2014

MEMORANDUM

OFFICE OF WATER

SUBJECT: **Enhancing Coordination and Communication with States on Review and Approval of Aquifer Exemption Requests Under SDWA**

FROM: Peter Grevatt, Director
Office of Ground Water and Drinking Water (OGWDW)

TO: Water Division Directors Regions I – X

I. Introduction

More than four thousand aquifer exemptions have been approved over the history of the UIC program, and the vast majority of these have been straightforward actions that have been completed in a timely manner. There are some aquifer exemption decisions, however, where review of the aquifer exemption request has been considerably more complex, due to specific conditions associated with the proposed exemption. In some cases, these issues have led to protracted discussions between EPA and the states, without a clear path for resolution.

The purpose of this memorandum is to promote a consistent and predictable process for the review of Aquifer Exemption requests under the Safe Drinking Water Act (SDWA).[1] EPA has both a direct implementation role and a state partnership role in reviewing and approving aquifer exemption requests. Over the course of the past year, EPA has participated in discussions with a number of states through a Ground Water Protection Council (GWPC) workgroup to review issues associated with more complex aquifer exemption requests and to make recommendations on steps to improve the review process. Based on these discussions, EPA and the participating states agreed on a number of steps to enhance coordination and communication between EPA Regions and state UIC programs regarding proposed aquifer exemptions, as discussed below.

II. Roles and Responsibilities

EPA is responsible for the final review and approval of all aquifer exemption requests, based on the regulatory criteria in 40 CFR 146.4 [attached]. UIC permit applicants that need an aquifer exemption in order to conduct injection activities typically delineate the proposed exempted area and submit the delineation to the primacy agency, along with information to support a determination under 40 CFR 146.4 that the proposed exemption is appropriate. States or tribes with primacy review the application and, if the information submitted supports a determination that an aquifer exemption is warranted, make a designation, provide for public participation, and submit a request for approval of the exemption to the

[1] The substantive and procedural requirements for aquifer exemptions in connection with Class VI wells are not addressed in this memo.

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appropriate EPA regional office. Primacy states and tribes are also responsible for issuing the UIC permit that goes with the aquifer exemption request and are the direct point of contact for the owners or operators requesting the permit and exemption. Where EPA directly implements the UIC program, the applicant submits the request directly to EPA, and EPA reviews the applicant's demonstrations and makes the final determination to approve or disapprove the exemption request.

If the aquifer exemption is a non-substantial program revision, the relevant EPA Region either responds by letter to the primacy state or tribe or, where EPA directly implements the program, to the applicant. If the aquifer exemption is a substantial program revision, notice of approval of the aquifer exemption is published in the *Federal Register* after EPA has provided public notice and an opportunity for public comment and a public hearing. Where EPA directly implements the UIC program, regional offices are also responsible for identifying and designating exempted aquifers or portions of aquifers at the request of a UIC permit applicant, issuing public notices, and issuing any related UIC permits following aquifer exemption approval. Regional Administrators are primarily responsible for approving/disapproving non-substantial aquifer exemption requests, and the Administrator is responsible for approving the request if the exemption is a substantial program revision.

III. Recommended Steps for Facilitating the Aquifer Exemption Review and Approval Process

As indicated above, most aquifer exemption requests have clearly met the regulatory criteria in 40 CFR 146.4, and reviews have been completed in a timely manner. There are some aquifer exemption requests, however, that have proven to be considerably more complex to review. These more complex aquifer exemption requests have not been limited to substantial program revisions; in some cases, non-substantial aquifer exemption requests have proved quite complex as well. Typically, these have involved situations where the proposed exempted area is located adjacent to an underground source of drinking water (USDW) that is currently in use, or where the potential future use of the USDW is unclear. The following steps are recommended to help facilitate the aquifer exemption review and approval process:

a. Each Region should adopt and share the attached aquifer exemption checklist with each of your states. OGWDW, in consultation with the Regions and states, developed the attached checklist to facilitate EPA's aquifer exemption review process and documentation. The checklist will help convey to states, tribes, and UIC permit applicants the typical information needed to facilitate EPA's review of an aquifer exemption request.

b. Regions should document their review and analysis of the information in the checklist in a Statement of Basis or decision memo that should be included in the Agency's record of its final action. The Statement of Basis should include explanations of the factual, technical, and legal bases for the determination. Information collected following the template of the checklist should inform the Statement of Basis.

c. In the case of aquifer exemption requests that are expected to be complex, EPA Regions are encouraged to schedule a discussion with the state UIC program managers as early in the process as possible. These discussions will serve to identify any potential technical issues that require additional attention even before the package has been submitted to EPA for review and approval.

d. Regional UIC program managers are encouraged to elevate significant disagreements on AE requests to senior primacy program managers rather than allowing them to persist at the staff level for extended periods of time. While HQ can offer assistance on specific Regional AE decisions, I anticipate that most technical issues can be resolved at the Regional level.

IV. Additional background for Approving and Documenting Aquifer Exemptions

The Safe Drinking Water Act (SDWA) directed EPA to establish an Underground Injection Control (UIC) program to prevent endangerment of Underground Sources of Drinking Water (Section 1421(b)(1)). EPA's regulatory approach to aquifer exemptions was promulgated in a 1980 rulemaking. EPA determined that without aquifer exemptions, certain types of energy production, solution mining, or waste disposal would be severely limited. Thus, the regulatory approach that EPA adopted—a broad definition of covered underground waters coupled with a discretionary exemption mechanism—allows the agency to prevent endangerment consistent with the statute while allowing some case-by-case consideration. This approach protects underground sources of drinking water while also allowing underground injection associated with industrial activities including the production of minerals, oil, or geothermal energy. EPA retains the final approval authority over aquifer exemption decisions regardless of state primacy status.

EPA must follow the regulatory criteria at 40 CFR 146.4 in making aquifer exemption determinations. For the EPA to approve an aquifer exemption, the Agency must first find that the state or, where EPA directly implements the UIC program, the applicant, has demonstrated that the aquifer or the portion of an aquifer identified by the state as exempt "does not currently serve as a source of drinking water" (40 CFR 146.4 (a)). EPA has determined that water that currently serves as a source of drinking water includes water that is being withdrawn in the present moment as well as water that will he withdrawn in the future by wells that are currently in existence. EPA's evaluation of this criterion ensures that water from the exempted area of the aquifer "does not currently serve as a source of drinking water" for nearby drinking water wells as required by 40 CFR 146.4(a).

The second exemption criterion requires EPA to determine either that the aquifer cannot now and will not in the future serve as a source of drinking water or that the total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.[2] The regulations at 40 CFR 146.4(b) describe four (4) potential reasons for making the determination that the aquifer cannot now and will not in the future serve as a source of drinking water. One reason (146.4(b)(1)) is that the aquifer is mineral, hydrocarbon, or geothermal energy producing, or can be demonstrated as part of a permit application to contain minerals or hydrocarbons that are expected to be commercially producible. The other reasons relate to practicality of access to water. EPA is continuing discussions with the GWPC workgroup to better define and communicate the type of data and analyses used to support those determinations. EPA Regions will need to document all reasons and factors they considered in a Statement of Basis or decision memo when making the final aquifer exemption decision. As best management practice, EPA will continue to communicate to the states the importance of documenting aquifer exemption analyses and their decision making process.

Robust recordkeeping and management of decision memos and aquifer exemption data is critically important to support informed decisions related to public and private ground water uses for drinking water. Therefore, in addition to the decision memos and records underlying EPA's approval/disapproval

[2] EPA will fully address the criteria 146.4 (b) and 146.4(c) at a later time, after ongoing discussions with GWPC have concluded.

decisions, it is essential that regions maintain standardized, readily available data on all existing aquifer exemptions. Proper recordkeeping and data management at the regional level will help with mapping and geospatial analysis for greater accessibility and comprehension of the exemption data and ensure that potentially affected parties are made aware of the exempted areas. Additionally it will enhance HQ efforts to facilitate a national tracking mechanism for approved exemptions.

Conclusion

Recognizing that EPA's approval of an aquifer exemption request is typically required prior to issuance of a UIC permit, regional UIC programs should establish early communication with the primacy state to inform EPA's review. The Region should start its review with the information provided in the primacy program's designation and approval request. If questions arise or further information is needed to either supplement the request or clarify specific data points related to the proposed exempted aquifer, the Region should work with the primacy program to obtain this information at the earliest opportunity. The Region should also work expeditiously with the primacy program to resolve any disagreements arising from the aquifer exemption process.

While there are other technical and policy issues associated with aquifer exemptions that are not addressed by this memorandum, I hope that the clarity on the review and determination process for aquifer exemptions provided herein, will help the Agency's effort to achieve national consistency and clarify expectations from states and tribes (and potentially owners or operators) on aquifer exemptions. The Agency will continue to work in consultation with states and stakeholders to promote a consistent and predictable process for the review of aquifer exemption requests under the Safe Drinking Water Act (SDWA).

Attachments

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

Docket No. 17-73170

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FLORENCE COPPER, INC. MOTION FOR ORDER TO SHOW CAUSE
April 20, 2018

EXHIBIT 8

Affidavit of Daniel M. Johnson (April 20, 2018)

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

TOWN OF FLORENCE and
SWVP-GTIS MR, LLC,

Petitioners,

v.

U.S. ENVIRONMENTAL
PROTECTION AGENCY, et al.

Respondents,

and

FLORENCE COPPER, INC.

Respondent-Intervenor

No. 17-73170

AFFIDAVIT OF
DANIEL M. JOHNSON

AFFIDAVIT OF DANIEL M. JOHNSON

I, Daniel M. Johnson, being duly sworn, hereby declare as follows:

1. I am over 18 years of age and competent to make the following declaration.

2. I am a registered Geologist, Hydrologist and Professional Engineer with over 28 years of environmental, hydrological engineering and project management experience in Arizona's mining industry. I have a bachelor's degree in Geological Engineering/Geosciences and a master's degree in Hydrology and Water Resource Science from the University of Arizona.

3. I am Vice-President and General Manager of Florence Copper Inc. ("**FCI**"), which is based in Florence, Arizona, and have been working as an employee of FCI since March 2011.

4. I make this affidavit based on my own personal knowledge of the facts stated herein. This knowledge is based on: (a) my intimate involvement in administrative proceedings before the U.S. Environmental Protection Agency ("**EPA**") concerning the Underground Injection Control Permit that EPA Region 9 issued to FCI on September 29, 2017 with a designated issuance date of October 13, 2017 ("**UIC Permit**") following an unsuccessful challenge of the UIC Permit that the Town of Florence and SWVP-GTIS MR, LLC ("**Petitioners**") had brought before the EPA Environmental Appeals Board ("**EAB**"); (b) my review of documents from the administrative record of the Aquifer Exemption that EPA issued on May 1, 1997

and underlies the UIC Permit (**"1997 Aquifer Exemption"** or **"Exemption"**); (c) my review of statements and documents that the Petitioners have published in relation to the Exemption, including, but not limited to, documents that they filed in the administrative proceedings before the EAB and leading up to EPA's issuance of the UIC Permit; and (d) my communications with other persons and review of other documents during my employment with FCI.

5. I am unaware of the existence of any engineering, hydrological or other scientific evidence in the administrative record of EPA Region 9's issuance of the UIC Permit, the administrative record of the Petitioners' unsuccessful challenge of the UIC Permit before the EAB, or anywhere else that demonstrates or indicates that either:

a. A drinking water well that is presently in existence is currently extracting groundwater from within the lateral and vertical limits of the 1997 Aquifer Exemption; or

b. A drinking water well that is presently in existence will in the future extract groundwater from within the lateral and vertical limits of the Exemption.

DATED: April 20, 2018

By: _____

Daniel M. Johnson
Vice-President and General Manager
Florence Copper Inc.

State of Arizona)
) ss.
County of Pinal)

SUBSCRIBED AND SWORN before me this 20th day of April, 2018.

LORRI RODRIGUEZ
Notary Public - Arizona
Pinal County
My Commission Expires
November 30, 2018

Notary Public

My commission expires:

November 30, 2018