COUNTY ADMINISTRATOR'S OFFICE
PIMA COUNTY GOVERNMENTAL CENTER
130 W. CONGRESS, FLOOR 10, TUCSON, AZ 85701-1317
(520) 724-8661 FAX (520) 724-8171

C.H. HUCKELBERRY
County Administrator

June 2, 2017

Kerwin Dewberry, Forest Supervisor
U.S. Forest Service
Coronado National Forest
300 W. Congress Street
Tucson, Arizona 85701

Re: **Rosemont Copper Mine, Environmental Impact Statement No. 20130360**

Dear Mr. Dewberry:

I understand you intend to make your final decision regarding the proposed Rosemont Copper Mine in early June. With this letter, Pima County (County) and the Regional Flood Control District (District) provide additional information regarding the impacts of the mine, highlighting our continued concerns about its extensive impacts.

New information relevant to the environmental impact of this project has come to my attention since the Final Environmental Impact Statement (EIS) was released in December 2013, and there have also been substantial changes to the proposed action that were not fully analyzed in the Final EIS. Per the National Environmental Policy Act (NEPA) implementing regulations, this information must be analyzed in a Supplemental EIS, and that analysis must be circulated for public comment in the same fashion as the Draft and Final EIS prior to a final decision being made (40 CFR §1502.9).

New Information Relevant to Environmental Concerns

New information and analyses—made available after the release of the Final EIS that were not part of the Forest's administrative record—provide a better understanding of recharge and runoff in the Davidson Canyon watershed (Figure 1 and Attachments 1 and 2). This new information included for your review identifies an error in the effects analysis for Davidson Canyon runoff used in the Final EIS analysis, and new runoff models substantiate our concerns that effects on water quality and quantity will jeopardize downstream Outstanding Waters.

We are also aware of new isotope data, which provide insights and questions about the recharge processes in the Rosemont area. Attachment 3 summarizes the new information that pertains to Davidson Canyon, showing that September baseflow near the mine appeared to be supported by wintertime recharge. Tritium values throughout the Rosemont/Davidson area are relatively low, meaning there is a mix of old groundwater and post-Atomic Bomb-era recharge. The information we provide in this correspondence represents the best science available and must be analyzed in a Supplemental EIS prior to a final decision being made.

Substantial Changes to the Proposed Action

We also bring to your attention unanswered questions regarding the Perimeter Containment Areas (PCAs) that unnecessarily diminish downstream runoff (Attachment 4). These features and their effects were never formally identified or analyzed in the Final EIS. District staff proposed solutions to the impacts caused by the PCAs during the Forest Service's objection period, resulting in direction to the former Forest Supervisor to discuss further the "legal and practical" feasibility with Rosemont. We have received no information from the Forest indicating these discussions ever took place or that the required analysis of this mine feature has occurred. As we have stated, these impounded flows must be released downstream to avoid diminishing runoff in this area.

HudBay's new pit dewatering plan raises new concerns. In their 2017 Feasibility Study, HudBay has identified the need to pump up to 18,500 acre-feet of water during the pre-production phase to improve the stability of the rock prior to any excavation (Attachment 5). The Final EIS limits the dewatering to 18,500 acre-feet over the life of the mine, not just the pre-production period. During the objection period, we asked what provisions had been made for transporting the water away from the pit and across Forest Service lands. The Forest Service declined to identify or properly analyze the systems required for transporting water and stated its intention to authorize these systems in the Mine Plan of Operations. The Forest Service cannot move forward with its decision until the uses and impacts of the rock-stabilizing dewatering plan have been analyzed in a Supplemental EIS. If additional pumping is needed, the effects must be analyzed.

Considerations relating to enforcement

The State's water quality certification, which the federal agencies would normally rely upon to prevent degradation of water quality of Outstanding Waters, rests on a flawed process. As part of that process, the Arizona Department of Environmental Quality (ADEQ) adopted a definition of baseline water quality that excluded consideration of effects on water quantity or quality resulting from some of the most damaging construction activities. (The details are contained in Attachment 6, which documents our appeal). This definition is detrimental to the interests of downstream users and would prevent any resolution of water quality impairments caused by construction.

Moreover, the Final EIS has a different definition of the baseline than the 401 certification. The Forest Service should seek to rectify the conflicting definition proposed by the applicant and adopted by the ADEQ prior to issuing a Record of Decision. The water quality baseline must be established prior to clearing and grubbing, pit diversion and other damaging activities authorized under the federal permits.

Considerations relating to timing of your decision

Pima County and the District jointly filed an appeal of ADEQ's administrative decision regarding Rosemont's Section 401 Water Quality Certification in Maricopa Superior Court on May 5, 2017 (Attachment 6). We ask that the Record of Decision be delayed until this matter is resolved. Furthermore, the effects of the Sawmill fire on habitat for listed species in the Biological Opinion (Attachment 7) should be analyzed.

Our investments at risk

Pima County is home to many mines, and mining helps sustain jobs in our community. However, mining in this particular location poses unacceptable costs to the community and risks to the investments local and federal taxpayers have made over the past several decades. The County and the District own land and water resources located downstream of the proposed mine site. The Congressionally-designated Las Cienegas National Conservation Area, also downstream of the mine site, was created with full local support and a land trade involving the Bureau of Land Management. A decision allowing this mine to move forward will fundamentally alter this treasured watershed and degrade the resources currently enjoyed by our citizens.

The Forest Service must consider the attached information prior to making this important decision. We trust you will carefully weigh this information as you seek to carry out your responsibilities to the American people as required under NEPA. The stakes in the outcome of your decision have never been higher for this community. To that end, County staff is available to provide additional data and to answer any questions you may have.

Sincerely,

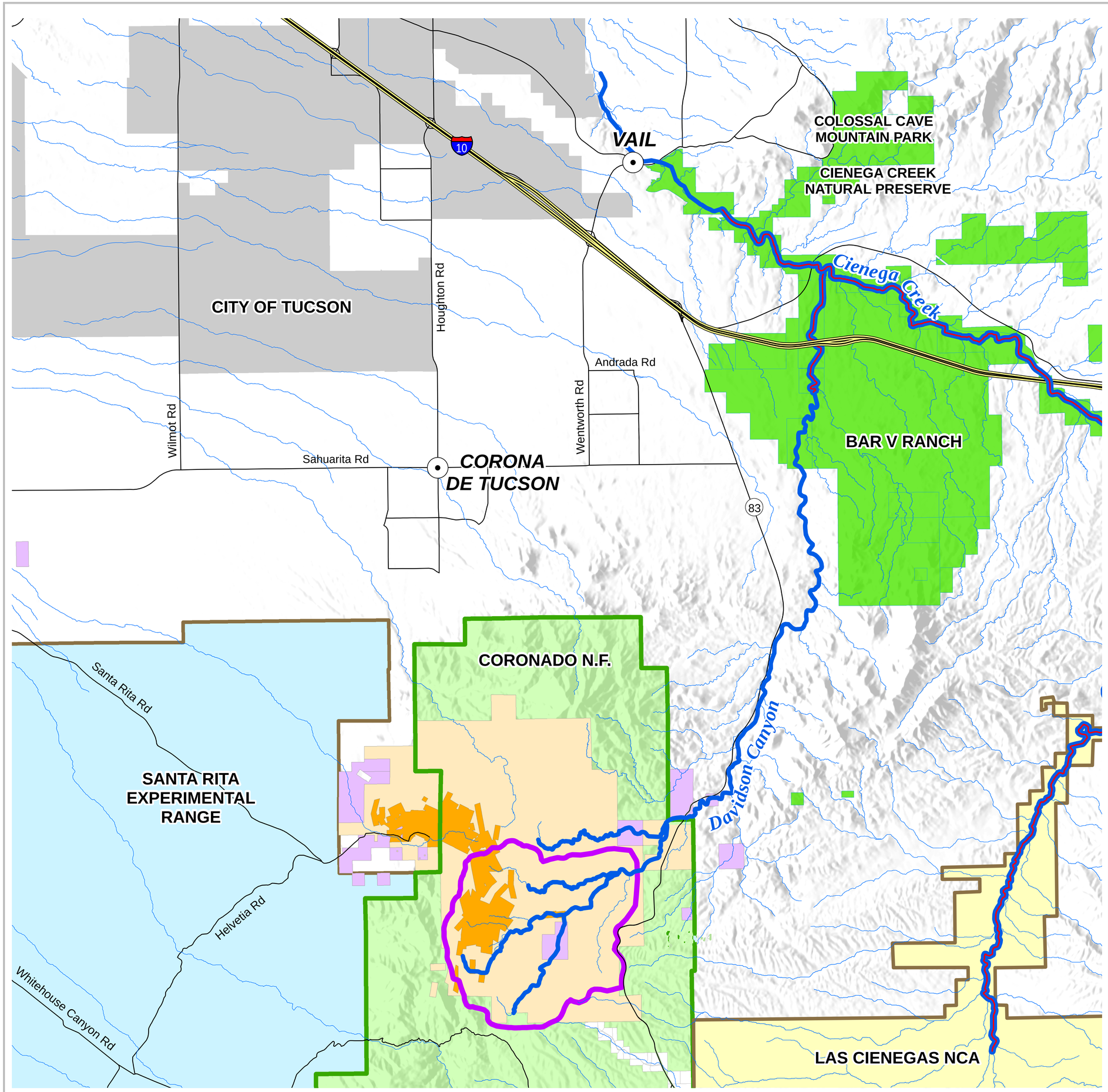
C.H. Huckelberry
County Administrator

CHH/mjk

Attachments

Figure 1

PROPOSED ROSEMONT MINE AND ENVIRONS



Mine to Vail Drainage Path

Other Stream or Wash

Outstanding Waters (per ADEQ)

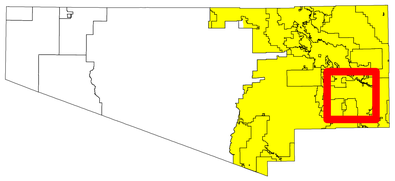
Proposed Rosemont Mine Land Position

- Fee Land
- Patented Claim
- Unpatented Claim
- Extent of Mine Operations

Other Land Management

- State Trust Land
- Bureau of Land Management
- Incorporated Area
- Pima County Preserve Land

Pima County Index Map



The information depicted on this display is the result of digital analyses performed on a variety of databases provided and maintained by several governmental agencies. The accuracy of the information presented is limited to the collective accuracy of these databases on the date of the analysis. The Pima County Information Technology Department Geographic Information Services Division makes no claims regarding the accuracy of the information depicted herein.This product is subject to the GIS Division Disclaimer and Use Restrictions.

Pima County Information Technology Dept.
201 North Stone Avenue - 9th Floor
Tucson, Arizona 85701-1207
(520)740-6670 - FAX:(520)798-3429

N

0 1 Mile

3/25/2015

\\gislib\specproj\jfonseca\cmo0743\mxds\mine_vail.mxd ml

ATTACHMENT 1

ATTACHMENT 1:
REGRESSION ANALYSIS FLAWED BY ERROR; EXISTING MODELS INDICATE MINE IMPACTS ARE UNDERESTIMATED; AND SHORT-TERM GAGE DATA ARE UNRELIABLE PREDICTORS OF LONG-TERM EFFECTS

Regression analysis was flawed by errors, which resulted in underestimated downstream flows in the FEIS. The omission of the precipitation and elevation terms resulted in substantially underestimating the runoff that comes from the mine site. Recalculation indicates there is a substantial impact on the Outstanding Waters in Davidson Canyon.

Existing recharge and runoff models show that the Rosemont mine's effects have been underestimated: Several spatially explicit, calibrated runoff models for the area exist, along with PRISM rainfall models. They show the importance of higher elevation areas on recharge and runoff as compared to the existing regression-based model used in the FEIS. All extant models indicate that the 4.3% reduction in average annual flows cited in the FEIS underestimate the impact on downstream hydrology.

Short-term gage data are unreliable as predictors of long-term effects of the mine. Short-term records can provide reliable estimates of the most frequent flows, but the likelihood of having observed data for large, infrequent floods is small. Because large floods have a disproportionate effect on the long-term averages, short-term gage data are unlikely to represent long-term averages or provide a "conservative" estimate of basin hydrology.

PIMA COUNTY
FLOOD CONTROL

MEMORANDUM

DATE: May 31, 2017

TO: Attendees Rosemont Hydrology/Water Quality
18 April, 2017 – USACE Phoenix

FROM: Evan Canfield, P.E HEC
Civil Engineering Manager

SUBJECT: **Follow Up On Downstream Flow Discussion April 18, 2017 Meeting in Phoenix USACE**

BACKGROUND

During the meeting, HudBay commented on Pima County's concerns about the hydrology at the Rosemont Mine site, and described their approach. We believe that several of the issues raised by HudBay deserve additional commentary, and significantly affect HudBay's conclusions. This memo addresses some of those.

SUMMARY

1.) **HudBay's regression model used incorrect precipitation (assumed 18 inches for entire watershed in Zeller, 2011) and mine area (appears to be 7.2 square miles in Zeller, 2011 but not specifically provided in SWCA 2012 which estimated a reduction of only 4.3%) which resulted in underestimated downstream flows in the FEIS.**

SWCA (08-28-2012) provided an estimate of 4.3% reduction of flow at the Davidson Canyon confluence, citing the method of Zeller, 2011. This original relationship by Zeller, 2011 is:

$$Q_{AA} = (8.44885x10^{-6})A^{0.9821}\,P^{2.1198}E^{1.2101}$$

Q_{AA} – Average annual runoff (acre-ft)
A – Area in (square miles)
P - Annual Precipitation (inches)
E – Mean Elevation (feet)

This was further simplified to assume the rainfall and elevation terms could be removed as described by Zeller, 2011, so that watershed area was the only relevant term. Since there is significant elevation difference, and precipitation difference, we believe this simplification is not warranted. In the April 18, 2017 meeting, Ronson Chee of Tetratech stated that precipitation is a variable in the original Zeller, 2011 relationship, and we believe that both the precipitation and elevation variables should be included, because these vary significantly across the watershed.

Based on the mine plan shown in 2012 (CDM-Smith), we estimated the area diverted by the mine, including mine, tailings, other operational features, and the upstream component of Barrel and Wasp Canyons, at 7.11 square miles (attachment A), which is nearly the same as the 7.2 square miles in Table 1 from Zeller, 2011.

Using this perimeter, observed elevation and precipitation from PRISM, the impact from the Zeller equation shows that 26% of runoff comes from the mine site (1,284 ac-ft from the mine site is 26% of the 4,975 ac-ft estimated from the entire watershed. This recalculation indicates a substantial impact on the Outstanding Waters in Davidson Canyon.

Q_{AA} (acre-ft)	Area (square miles)	Annual P (inches)	Mean Elevation (ft)
4,975	51.4	18.2	4,481
1,284	7.11	22.2	5,146
26%			

2.) **<u>Pima County recommended using a model that provides spatial and temporal change.</u>** Two such models already exist for this watershed but have not been evaluated for the FEIS. The first (Niraula, et al, 2012) was brought to HudBay's attention during the ADEQ certification process. The second, a U. S. Geological Survey basin characterization model, was actually published in 2007, but only recently came to my attention. We presented this during the meeting with the Corps of Engineers in April. We continue to believe that these two models are more representative of actual impacts because they includes spatial and temporal variability, which must be considered with an intermittent stream, such as the Outstanding Waters of Davidson Canyon, which contains dry reaches in part of the year.

A simplified available groundwater recharge and runoff estimate (e.g. Flint and Flint, 2007), and has been done for the larger Rillito Watershed on a 270m grid. Based on these areas, it is possible to estimate the relative impact of the mine site (CDM-Smith Mine Plan 07-09-12 Attachment A) to the larger Davidson Canyon Watershed.

		Acre-ft	Mean (inch)	
Flint & Flint	Total Watershed	22,495	8.2	Runoff
	Rosemont	2,649	6.9	Runoff
		12%		
Flint & Flint	Total Watershed	18,683	6.8	Recharge
	Rosemont	4,164	10.8	Recharge
		22%		
PRISM	Total Watershed	43,249	18.2	Precip
	Rosemont	7,148	22.2	Precip
		17%		

As the table shows, the mine site provides between 12 and 17% of the runoff and precipitation in the watershed, and 22% of the recharge. All models indicate that the 4.3% cited in the FEIS significantly underestimates the impacts on downstream hydrology.

3.) **Return period analysis of the limited data collected by HudBay is unlikely to provide estimates of average annual flows with acceptable confidence.** Pat Merrin from HudBay indicated that data collection would be the basis of future estimates of model calibration. HudBay stated that they believe the average annual discharges they provided are "conservative" relative to observed discharges so far. This conclusion is not supported by the available data.

We recently evaluated return-period data from the Walnut Gulch Experimental Watershed (concentration points 101 to 124) and the Santa Rita Experimental Watershed (SR4) as a basis of comparison of hydrologic models used in Pima County using method 17C in the HEC-SSP program. Results for the 10 watersheds with an average of 41 years of data are summarized below.

Concentration Point	Drainage Area (acres)	Years of Record (#)	Peak Observed Discharge (cfs)	100-Year Return Period Discharge: 50% Estimate (cfs)	5% Estimate (cfs)	95% Estimate (cfs)	Difference 5% to 95% (cfs)	Confidence Inverval/50 % Estimate	50% Observed in Record
101	3.05	25	15.1	***16.8***	33.9	10.0	23.9	1.42	No
102	4.29	53	18.4	***19.8***	27.3	14.6	12.7	0.64	No
103	8.97	54	30.5	***28.9***	47.1	20.7	26.4	0.91	Yes
104	10.82	53	43.5	***37.8***	56.5	28.7	27.8	0.74	Yes
105	0.58	46	2.9	***3.3***	5.7	2.3	3.4	1.03	No
106	1.11	51	7.1	***5.9***	9.1	4.4	4.7	0.80	Yes
112	4.81	49	22.3	***28.5***	55.2	19.1	36.1	1.27	No
122	2.22	14	5.7	***7.2***	17.6	5.4	12.2	1.69	No
124	5.36	25	20.4	***24.3***	58.2	15.0	43.2	1.78	No
SR4	4.88	42	23.9	***22.7***	35.7	17.8	17.9	0.79	Yes
	Average	41					Average	1.11	

Conclusions:

a.) Even with an average of 41 years of data, the range of the estimates is quite large, with the range exceeding the estimated 50% value on average. This indicates that even with a substantial data set our ability to estimate the 100-yr peak discharges with return period methods is quite poor.

b.) In only about 1/3 of the cases has a 100-year peak discharge (based on 50% estimate of peak 100-year discharge) been observed on the watershed. This indicates that even with a very large dataset, the likelihood of having observed data for a design discharge is very small. This means that one cannot rely on a short-term dataset to determine whether a model provides "conservative" estimates of basin hydrology.

To further evaluate the value of the last seven years of data, we performed return period analysis on the last seven years of data at the USGS Barrel Canyon gage (USGS # here):

Concentration Point	Drainage Area (acres)	Years of Record (#)	Peak Observed Discharge (cfs)	100-Year Return Period Discharge: 50% Estimate (cfs)	5% Estimate (cfs)	95% Estimate (cfs)	Difference 5% to 95% (cfs)	Confidence Inverval/50 % Estimate	50% Observed in Record
101	3.05	7	6.6	***10.2***	31.8	6.9	24.9	2.44	No
102	4.29	7	14.2	***24.8***	142.6	13.8	128.8	5.19	No
103	8.97	7	23.9	***38.2***	285.2	21.2	264.0	6.91	No
104	10.82	7	27.3	***43.7***	238.2	25.2	213.0	4.87	No
105	0.58	7	1.2	***3.0***	30.5	1.5	29.0	9.67	No
106	1.11	7	4.7	***7.0***	31.8	4.2	27.6	3.94	No
112	4.81	7	7.3	***19.0***	1259.1	7.4	1251.7	65.88	No
122	2.22	7	5.7	***10.1***	43.4	6.3	37.1	3.67	No
124	5.36	7	7.2	***10.8***	31.3	7.5	23.8	2.20	No
SR4	4.88	7	12.2	***15.8***	36.3	12.2	24.1	1.53	No
	Average	7					Average	11.64	

This evaluation indicated that the error on the estimate was over eleven times larger than the estimate itself, showing that return period analysis for short datasets are nearly useless in estimating 100-yr flood peaks.

REFERENCES

CDM Smith. 2012. *Preliminary Reclamation and Closure Plan for the Barrel Alternative, Rosemont Copper Company, July 2012, Rosemont Copper Project*. Prepared for Rosemont Copper Company. Tucson, AZ: CDM Smith. July 9

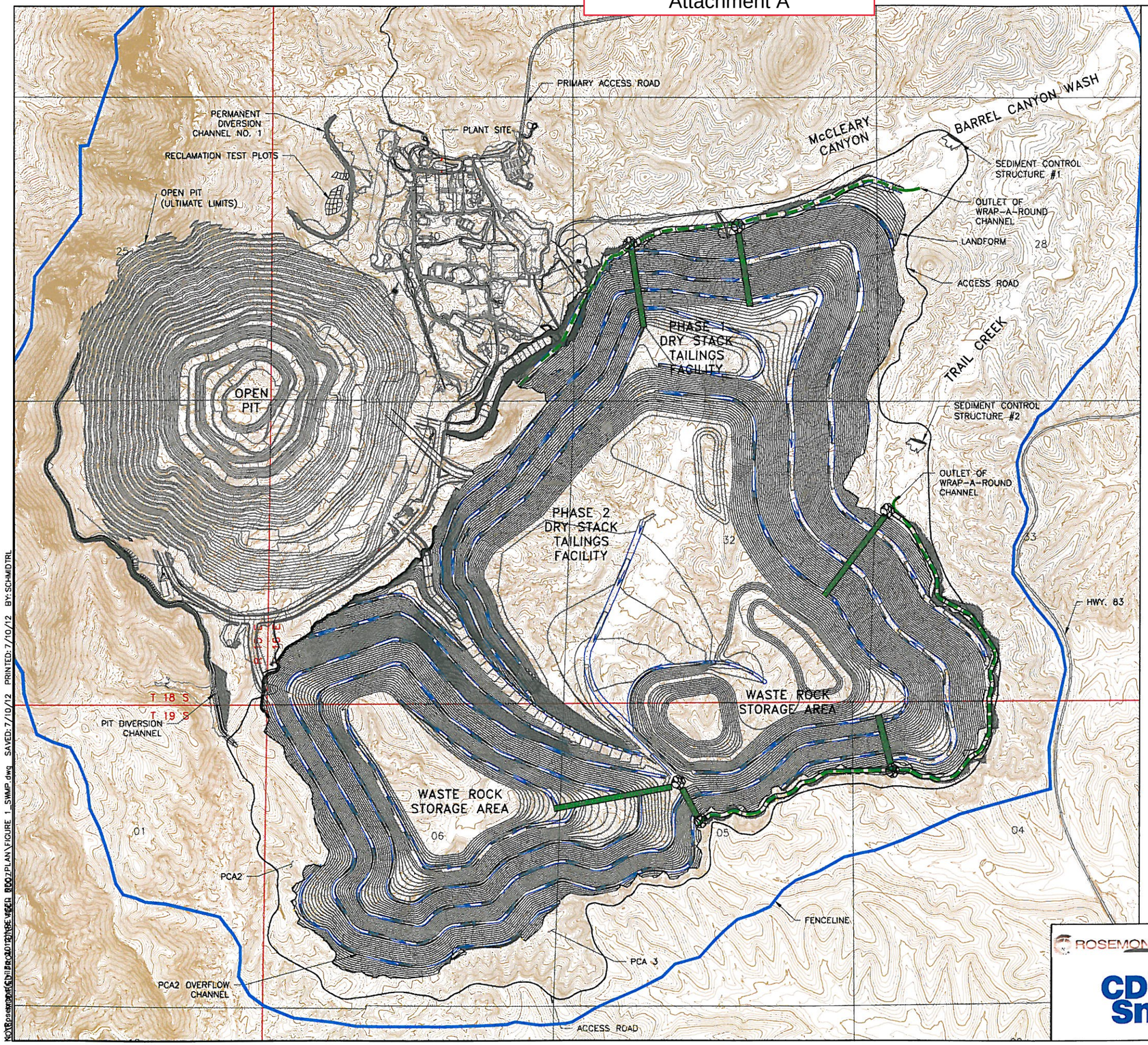
Flint L.E and Flint A.L. 2007. *Regional Analysis of Ground-Water Recharge*. USGS Professional Paper 1703—Ground-Water Recharge in the Arid and Semiarid Southwestern United States—Chapter B

Niraula, R., Meixner, T., and Norman, L.M. 2015. *Determining the importance of model calibration for forcasting absolute/relative changes in streamflow from LULC and climate changes*. Journal of Hydrology Vol. 522 p. 439-451

SWCA. 2012 Method for estimating flow in Davidson Canyon. Memorandum to file from DeAnne Rietz dated August 28, 2012.

Zeller, M. E. 2011. Predicted Regulatory (100-Yr) Hydrology and Average-Annual Runoff Downstream of the Rosemont Copper Project. Tucson, Arizona: Tetra Tech. July 11.

Attachment A



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE CHANNEL
- STILLING BASIN
- DROP STRUCTURE
- WRAP-A-ROUND CHANNEL ROUTING
- DRAINAGE BENCH
- FENCELINE

N

450 0 900 1800

NOTE:
OPERATIONAL PLANT SITE SHOWN WITH RECLAMATION LANDFORM.

ROSEMONT COPPER

CDM Smith

PRELIMINARY RECLAMATION AND CLOSURE PLAN FOR THE BARREL ALTERNATIVE

BARREL ALTERNATIVE LANDFORM - POST MINING FACILITIES LAYOUT

LOCATION:	PIMA COUNTY, ARIZONA
DATE:	07.09.12
PROJECT NO.	91146
FILE NAME:	FIGURE 1.DWG
FIGURE NO.	1

K:\Rosemont\Civil\Rec\2012\12-06 WEEK 28\02 PLAN\FIGURE 1_SWMP.dwg SAVED: 7/10/12 PRINTED: 7/10/12 BY: SCHMIDTRL

ATTACHMENT 2

ATTACHMENT 2:

SEEING THE WATER FOR THE MODELS: PIMA COUNTY'S MODELING OF ROSEMONT MINE IMPACTS ON WATER RESOURCES IN DAVIDSON CANYON REMAINS ROBUST DESPITE COMMENTS BY WESTLAND RESOURCES

Powell, B.F., J. Fonseca, E. Canfield, L. Orchard, and F. Postillion. 2016.

This report was developed in response to HudBay's criticism of the Powell et al. (2015) report and has not been reviewed in a previous Supplemental Information Report prepared by the U. S. Forest Service. Pima County maintains the need for the employment of a SWAT model to estimate runoff and the need to acknowledge the orographic effect suggested by the mine in this report. The lack of an observed orographic effect for the short period of record on the Rosemont site for the last few years [as reported in the recent Phoenix meeting] is irrelevant; for it to be absent on the Rosemont site and not other places in the region is counter to everything we know about the effect.

Another key criticism of the HudBay report is that the Powell et al. (2015) report relied on incorrect data related to the channel invert; this report clearly demonstrates this assertion to be false.

Finally, HudBay suggested that the 2015 report was incorrect because of minor statistical issues. In the 2016, those issues were addressed, and the models rerun. Similar to the 2015 report, the new analysis shows that depth to water in a well along Davidson Canyon was very tightly correlated with streamflow length, meaning that the Rosemont mine—by cutting of stormflows to Davidson Canyon—will lead to a reduction in groundwater levels.

As noted in the 2015 and 2014 reports, this has important implications for effects on the aquatic resources of the Outstanding Waters.

Seeing the Water for the Models: Pima County's Modeling of Rosemont Mine Impacts on Water Resources in Davidson Canyon Remains Robust Despite Comments by Westland Resources et al. (2016)

May 24, 2016

Brian Powell, Pima County Office of Sustainability and Conservation
Julia Fonseca, Pima County Office of Sustainability and Conservation
Evan Canfield, Pima County Regional Flood Control District
Lynn Orchard, Pima County Regional Flood Control District
Frank Postillion, Pima County Regional Flood Control District

> "The EIS must identify all the indirect effects that are known, and make a good faith effort to explain the effects that are not known but are 'reasonably foreseeable'." *(Council on Environmental Quality 1981)*

Introduction

As the federal decision-making process around the proposed Rosemont Mine comes to a close, Pima County and Pima County Regional Flood Control District continue to gather data relating to the stewardship of lands downstream of the proposed mine and to understand potential impacts of the mine on key resources on these same downstream lands. The two principal areas of concern are the Cienega Creek Natural Preserve and the Bar V Ranch (Figure 1), which were purchased with public funds with the explicit purpose of preserving the ecosystem integrity of these landscapes. Linking the two areas is Davidson Canyon, which contains both riparian and aquatic habitats.

In 2015, Pima County provided the U. S. Environmental Protection Agency (EPA) and others a report (Powell et al. 2015) that contained additional information relevant to the inadequacies of the federal conclusions regarding the effects of the mine upon Davidson Canyon, particularly the riparian systems within and downstream of it. This was the latest in a series of County reports and memos (e.g., Pima County 2013; Huckelberry 2014; Powell et al. 2014; Canfield 2016) addressing various long-standing inadequacies in the Final Environmental Impact Statement (FEIS; U.S. Forest Service 2013), the federal mitigation measures regarding surface water and groundwater conditions, and the potential effects of the mine.

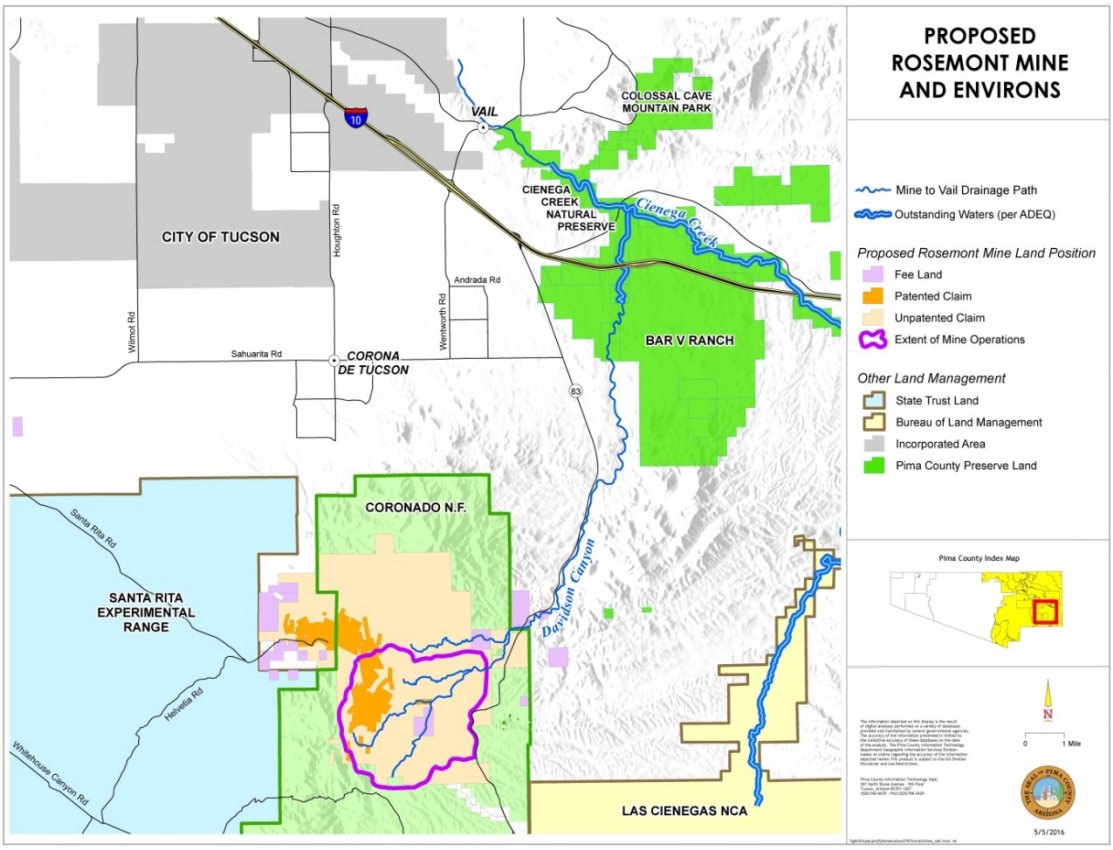


Figure 1. Location of the proposed Rosemont mine in relationship to Davidson Canyon, Cienega Creek, and key conservation lands.

Deficiencies of the FEIS and the proposed mitigations for waters regulated by the U.S. Army Corps of Engineers (Corps) have long concerned the EPA as well as other federal agencies involved in the Rosemont project. As a result, the Council on Environmental Quality (CEQ) has been periodically convening the federal agencies to discuss their differences, in hopes of resolving issues before the Corps and U.S. Forest Service issue their decisions.

Key uncertainties remain regarding the impacts of the mine, and Pima County has brought forward a robust dataset on key water resources in Davidson Canyon such as depth to shallow groundwater resources, stormwater flows, and length of surface water baseflows. At the request of the EPA, Pima County gathered together these data and presented the results (Powell et al. 2015).

Just prior to the CEQ's most recent field visit (April 2016), federal agencies involved in the Rosemont issue received comments prepared for Rosemont Copper Company[1] (WestLand et al. 2016) that sought to refute many of the key points addressed by Powell et al. (2015). The

[1] The report submitted to Rosemont had little in the way of referenced or assigned authorship, so barring additional information; it is referred to here as Westland et al. (2016).

purpose of this Pima County report is to respond to the criticisms outlined by Westland et al. (2016); our responses generally follow organization of that report.

2. Contribution of Barrel Canyon to Davidson Canyon

Westland et al. (2016) points out the difficulties of quantifying the distribution of runoff in Barrel and Davidson Canyons while adding nothing to the knowledge base of these watersheds. Pima County continues to maintain that the hydrologic analysis in the FEIS is deficient in identifying the stormwater impacts to Davidson Canyon and Cienega Creek, and Powell et al. (2014, 2015) have used the most complete available data and scientifically sound methodologies to advance our general understanding of these systems.

Westland et al. (2016) fail to present a scientifically supported alternative understanding of these systems, but instead simply point out perceived flaws and limitations found in the Powell et al. (2015) analysis. They identify limitations in using gage records from the Pima County Automated Local Evaluation in Real-Time (ALERT) system to conduct hydrological analyses. Westland et al. (2016) also discuss the lack of a comprehensive understanding of the spatial and temporal variability in rainfall across the local landscape, as well as the difficulty in using both USGS and ALERT gages to quantify streamflow volumes, but fail to present any robust alternative explanation to model the hydrological dynamics of these systems.

While we acknowledge there is much we do not currently understand, the onus is on Rosemont to demonstrate that their project will not adversely impact these resources. For example, Pima County has repeatedly suggested using the Soil Water Assessment Tool (SWAT) to evaluate the effects of the Rosemont mine on flows in Davidson Canyon. We understand that there is currently a modeling effort underway to help reduce some uncertainty around this issue, and we sincerely hope that that effort will be employing and adapting the recently published SWAT model (Niraula et al. 2015).

The following model parameterization suggestion has been made to the Arizona Department of Environmental Quality and HudBay previously (Canfield 2016), but we repeat it here:

1.) **Limits** – watershed of Davidson Canyon through the confluence with Cienega Creek.
2.) **Topography** –
    a. Existing Conditions - PAG LiDAR data at 10' resolution Grid.
    b. Maximum Diversion – Rosemont Mine Plan of Operations (modification of existing conditions topography at mine site only)
    c. Post Closure – Rosemont Mine Plan
3.) **Curve Number** – use PC Hydro tables (available on Web PCHydro, which are based on SSURGO soils data (10m) and reclassified Southwest ReGAP cover). Evaluation vs observed data runoff data (Stewart et al 2013) has indicated that the PC Hydro Curve Number values show less systematic bias than the USDA CN Tables.
4.) **Vegetated Cover -**
5.) **Observed Climate –** period of record coincident with observed runoff monitoring at Barrel Canyon (USGS 09484580 2009 to present)

6.) **Historical Climatic Data** - PRISM climatic data (800m) input
    a. 30 yr 'Normal' climate with the SWAT Weather Generator
    b. Daily Precipitation
    c. High and Low Temperature
    d. Reference ET
7.) **Simulations**
    a. Baseline (pre-site development)
    b. Maximum Diversion
    c. Post-closure
8.) **Evaluation Point**
    a. At Mine Compliance Point
    b. Upstream Edge of OAW
    c. At Confluence of Davidson Canyon and Cienega Creek

Evaluation Criteria

1.) **Model Comparison with Observed at Barrel Canyon Gage**
    a. Number of Days of flow
    b. Peak Daily Flow and Volume
    c. Seasonal volume of flow
    d. Annual volume of flow
2.) **Historical Climate Modeling of Annual Volume -** for Each 30 year simulation
    a. High Volume
    b. Low Volume
    c. Average
3.) **Historical Climate Modeling of Seasonal Volume -** for Each 30 year simulation
    a. High Volume
    b. Low Volume
    c. Average

Influence of Barrel Canyon and the Orographic Effect

If constructed, the Rosemont Mine would impact water inputs (e.g., stormwater and baseflow) to Davidson Canyon. An important element to understanding the extent and duration of those impacts is a more comprehensive description of the role that water movement through Barrel Canyon contributes to the hydrology of downstream regions in Davidson Canyon and Cienega Creek. Furthermore, a physical process known as the orographic effect must be considered to fully understand the dynamics of water movement through watersheds moving across significant topographical relief.

The orographic effect, which is the phenomenon of higher precipitation at greater elevation due in part to the reduced capacity for an air mass to retain moisture as the temperature decreases beyond its dew point, is a well-documented and accepted phenomenon (e.g., Daly et al. 1994) and is used in a wide variety of modeling approaches. Westland et al. (2016) incorrectly echoes Rosemont's continued assertions (citing the FEIS) that orographic effects have been accounted for in their assessment of mine impacts to the watershed.

The FEIS very clearly *does not include orographic effects* because the equation used to determine this did not contain an orographic effect parameter in the modeling of the predicted reductions in storm flow, making any estimates of the mine's impacts incomplete. Page 536 of the FEIS concludes the following:

> *Changes in surface flow and, therefore, to the recharge to shallow alluvid aquifers are possible as a result of disturbance by the mine and the removal of portions of the watershed upstream. The effect of the reduction in surface flow is estimated and could reduce storm flows by* ***4.3 [for the Preferred Alternative] to 11.5 percent,*** *depending on alternative, but this effect on recharge is likely to be overestimated, with the contribution being less owing to the distance downstream of the project area and substantial channel losses. Predictions of loss of recharge to the shallow alluvial aquifer have a high level of uncertainty because of the nature of the channels and the relatively great distance between the impacts from the proposed mine and lower Davidson Canyon. (USFS 2013)*

However, the values of 4.3 percent to 11.5 percent come from a numerical calculation (cited as SWCA Environmental Consultants 2012) that in turn cited Zeller (2011), which uses the calculation:

$$Q_{AAr} = \left(\frac{A_r}{A_n}\right)^{0.6636} Q_{AAn}$$

Where:

Q_{AAr} is the reduced average annual runoff (acre-ft)
Q_{AAn} is the average annual runoff under natural conditions (acre-ft)
A_r is the reduced watershed area assuming some diversion to mine (square miles)
A_n is the natural watershed area (square miles)

Importantly, because there is no parameter that models precipitation included in this equation, the equation clearly does not take into consideration any orographic effects, or differences in annual rainfall at higher elevations in the watershed. In fact, Zeller 2011 states: "<u>assuming on a watershed-wide basis the average-annual precipitation, P, would not change meaningfully</u> as a consequence of a small reduction in watershed size". Consequently, because the language in the FEIS clearly cites these calculations, it is clear that the modeled impacts did not take into consideration average annual precipitation (p. 428-429).

As such, Pima County continues to assert that orographic effects are not accounted for in the assessment of downstream runoff volumes in the FEIS, that the inclusion of these effects in the modeling of post-mine conditions may significantly alter the current analysis of impacts in the FEIS, and that the continued assertion that they are accounted for is factually in error.

Data Limitations

In section 2.2 of their report, Westland et al. (2016) point out that precipitation is variable across the landscape, a phenomenon that is well known in particular for southern Arizona. Westland et al. (2016) go on to cite data from two precipitation gauges in the Cienega Creek watershed (including the Empire Peak gage, the highest elevation in the watershed) and use the differences between the precipitation data collected at these two locations to seemingly suggest that the orographic effect does not, in fact, exist.

Pima County is aware that the Empire Peak precipitation gage consistently shows lower readings than other, lower elevation gages in the watershed (Powell 2013); we have been transparent about this observation. Though we do not know for sure why this is the case, we suspect that it is because the gage is placed at the highest point on Empire Peak and that consequently wind impacts the estimate. This is a well-known phenomenon that has been widely accepted by the scientific community and that is taken into consideration when interpreting precipitation data collected in such a scenario (Nešpor and Sevruk 1999). The Regional Flood Control District placed the gage at Empire Peak because other infrastructure is located on that site and not because it is representative of precipitation at that elevation. If, in fact, the orographic effect does not exist in the Barrel and Empire areas, then surely meteorologists would be interested in this anomaly.

In Section 2.1 of the April 19 Memo, Westland et al. (2016) attacks the use of ALERT streamflow data used in the Powell et al. (2015) report, and then in section 2.2 uses ALERT precipitation data to support their assertions, thereby highlighting the inconsistencies in their criticisms. The fact is that in both cases the limited spatial and temporal data available underscores the need for additional instrumentation and monitoring to accurately characterize the surface water hydrology of Barrel and Davidson Canyon, something that is lacking in the FEIS. They observe that the relative lack of directly measured hydrologic data, temporally abbreviated datasets and the coarse spatial distributions of data-collecting instruments makes using these data difficult to adequately describe watershed characteristics. In fact, the flaws pointed out (some valid and some not) actually corroborate the County's position that the FEIS has not adequately described the proposed Rosemont Mine's impact on the Davidson Canyon watershed. If, as they point out, the available data is insufficient to characterize the watershed's hydrologic characters, how is it possible to, at the same time, use the very same data to reach the conclusion that these resources will not be adversely impacted? Of course the available datasets have limitations, and additional data and analyses are warranted and needed. We continue to maintain that Hudbay has a responsibility to add to the knowledge base considering their potential to significantly impact these resources, but seemingly they have resisted doing so thus far.

Westland et al. (2016) asserts that ALERT data in Davidson Canyon does not account for low flows.

One of the primary criticisms by Westland et al. (2016) is that discharge values of zero are assigned to flow depths less than 1.4 feet at the Davidson Gauge (ALERT site 4313). This issue is not that low flow data was not collected or that ALERT streamflow sensors are not capable of—

or suitable for—capturing low and moderate flows. In fact, the flow sensor at ALERT station 4313 is located directly at the channel invert and is in a position specifically designed to measure low and moderate flows as well as flood flows (Figures 2 and 3).

The ratings used to display data on the ALERT website http://alert.rfcd.pima.gov/perl/pima.pl are sometimes intentionally truncated for a variety of reasons, and the truncated data set was used in the Powell et. al (2015) report. The complete data set, with discharge estimates for all stage values (including those below 1.4 feet for the period of July 15 – November 25 2015), is included in Figure 4.

Assigning discharge values to low flows increases the total flow volume calculation for the period of July 15 – November 25 of 2015 from 470 acre-feet—as reported in Powell et al. (2015)—to approximately 1600 acre-feet. The 470 acre-feet figure suggested that a disproportionately large percentage of total Davidson Canyon watershed volume is produced by Barrel Canyon. While the higher estimates of surface flow seems to counter our original argument, it is, as pointed out by Westland et al. (2016) a very short data set and the distance between the USGS gage at Barrel Canyon makes quantifying the overall flow contribution from these watersheds a difficult exercise for both Pima County and Rosemont. Neither Pima County nor Westland's analyses can correct the fact that the FEIS has done an inadequate job at describing the proposed Rosemont mine's impact on stormwater and baseflows in Barrel and Davidson canyons.

Figure 2. ALERT site 4313. Picture shows the location of the re-located pressure transducer outside of the stilling well. Photo taken on September 29, 2015.

Figure 3. ALERT site 4313. View is upstream and shows the location of the pressure transducer located at the channel invert. Photo taken on September 29, 2015.

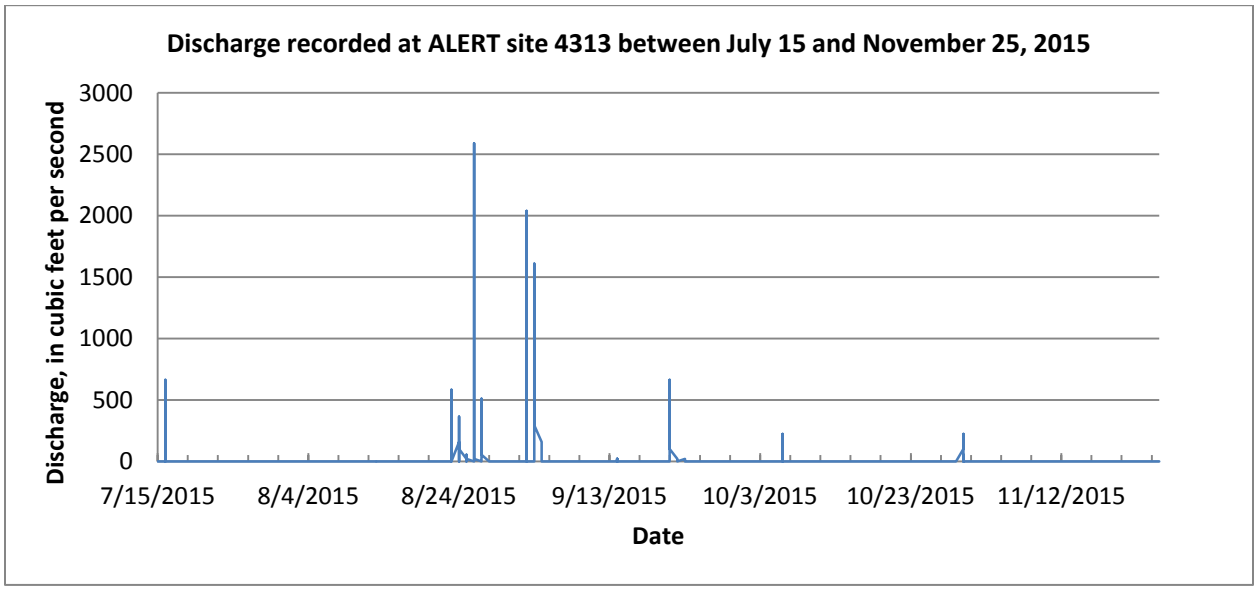


Figure 4. Non-truncated dataset of all storm water discharge, including flows of less than 1.4 feet, at ALERT site 4313 in Davidson Canyon for July 15 – November 25, 2015.

Additionally, Westland et al. (2016) also challenge the use of ALERT data recorded at ALERT site 4313 based on their presumption that scour and sedimentation have not been accounted for and that the stage/discharge relationship has not been maintained to account for changes in bed elevation. Westland et al. (2016) arrives at this conclusion erroneously. In fact, subtle shifts in the rating are made based on measured invert elevation after every field visit, which is typically twice per year. The mistake made by Westland et al. (2016) in this criticism is that the website they accessed (http://alert.rfcd.pima.gov/perl/pima.pl) is meant to display real-time data and not to disseminate historic information. The website disclaimer clearly states that the data are for "general information only". The database software used by this website to convert stage (depth) to discharge only allows one rating for the entire period of record so shifts or adjustments in the rating cannot be ascertained by an examination of data derived from this source alone. Internally, our primary ALERT database is operated with more sophisticated base station software that allows multiple ratings and invert elevation adjustments to be applied to multiple discrete time periods.

Furthermore, in the interest of transparency, these data are now available to be used to help reduce any uncertainty about the impacts of the Rosemont Mine and we welcome the use of these data.

2.3 Runoff Variability

Westland et al. (2016) presents a discussion of runoff variability between the USGS gauge 09484580 located at Barrel Canyon and the ALERT site 4313 streamflow gauge. It is unclear what exactly they are trying to establish but they show that runoff occurred at both locations on the same day on only three occasions during the July 15 – November 25, 2015 sampling period. As noted above, Westland et al. (2016) used an incomplete record of discharge for their analysis. In actuality, when using the complete dataset (Figure 5), it is clear that 70-percent of runoff events measured at the Davidson Canyon ALERT gage occurred on days where discharge was also recorded at Barrel Canyon. Barrel Canyon recorded more days of runoff than Davidson Canyon, but 50-percent of the runoff events recorded at Barrel Canyon also corresponded with days where runoff was measured at Davidson Canyon. As we have already acknowledged and pointed out, this temporally narrow data set is not sufficient to fully describe long-term watershed characteristics, but it does suggest that runoff events in the upper and lower watershed are not as temporally isolated as Westland et al. (2016) claim.

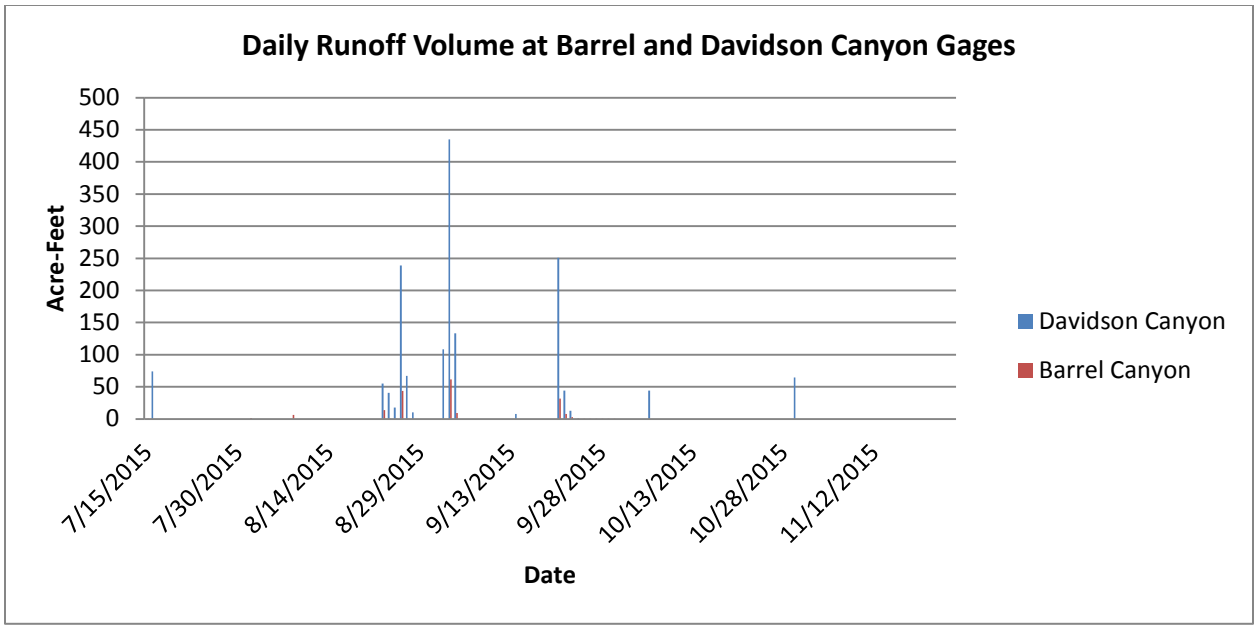


Figure 5. Runoff volume (acre feet) comparison between Davidson and Barrel canyon showing their close correlation.

3. Influence of Streamflow on aquifer recharge in Davidson Canyon

In section 3 of their report, Westland et al (2016) state that the correlation between stream flow and shallow groundwater levels is "axiomatic", well known to Arizona Department of Water Resources, and addressed in the Forest Service's Final Environmental Impact Statement (FEIS) for the Rosemont project. In fact, the FEIS does not adequately account for the fact that the project will starve Davidson Canyon of baseflow and stormflows, both of which are critical to both streamflow AND groundwater recharge. Pima County has long questioned the equation on which the widely cited loss of 4-11.5% of surface water contributions is predicated. In fact, that reported figure is based on work by Zeller (2011) and Krizek (2010) with follow-up work by SWCA Environmental Consultants (2012). None of these efforts looked at the baseflow conditions; Krizek (2010) for example, only looked at stormflows, and did not address baseflow, which means that these efforts present an incomplete scenario of the true complexity of the hydrologic system in the watershed.

By contrast, Pima County has brought forward a robust and long-term dataset on the relationship between flow, streamflow length, and depth to groundwater at lower Davidson Canyon. More recently, that dataset has been enhanced by an automatic datalogger in the Davidson 2 well, which allows for a greater insight into the responsiveness of the local aquifer to both stormflows and baseflows. These are critical and valid lines of evidence and can be used to model reductions in baseflow and stormflows to Davidson Canyon, similar to the work by Powell et al. (Figure 2; 2014). Unfortunately, Westland et al. (2016) did not take an opportunity to use the available Davidson Canyon data to model impacts on streamflow length, but instead simply criticized the model that Pima County used to do so.

4. Relationship between depth to water and length of streamflow in Davidson Canyon

Westland et al. (2016) was critical of the model produced by Powell et al. (2015) examining the relationship between streamflow length and depth to groundwater. Here we take a closer look at that critique, but it is important to note that here we will not address at length all of the minor quibbles perceived by Westland et al. (2016, section 4.3) with regards to "other statistical problems"; in a few cases they are correct (e.g., an axis was not labeled), but in most cases they are neither correct nor do their points refute the fundamental relationships that are so important to the issues at hand.

A primary concern to Westland et al. (2016) is that Powell et al. (2015) used a linear model with "censored response variables". We appreciate the authors pointing out this statistical minutiae to us and thus we have rerun the analysis without the zero values and with the two new values from late 2015. Figure 5 is the result of the re-run model using simple linear regression, which accounts for 71% of the variation in the data. Had Westland et al. (2016) done these analyses themselves, they would have seen that removing the zero values had no impact on the model outcome.

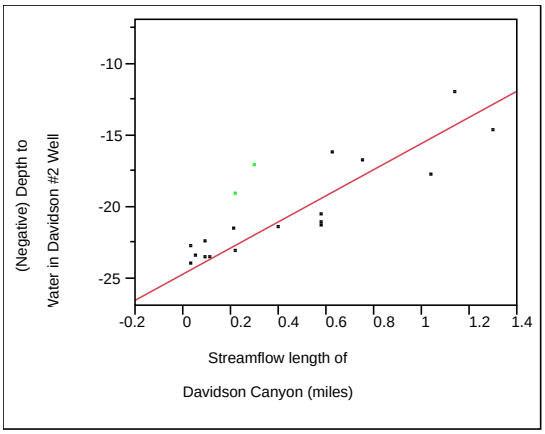


Figure 5. The relationship between streamflow length and depth to water in the Davidson #2 well. This is the same as Figure 6 in Powell et al. (2015) but with the zero values removed. Removing the zero values had no impact on the strong statistical relationship. The environmental connection between these two variables remained the same.

The second key issue raised by Westland et al. (2016) is that Powell et al. (2015) "fail to note or understand the effect of seasonal changes on the regression model." This is false from both the perspective of interpretation and modeling. From the modeling perspective, the variable *month* was used in the original analysis as an explanatory variable. As a response to the Westland et al. (2016) suggestion to exclude the zero values, we reran the analysis, which gave us 19 data points. The coefficient of determination (or the proportion of the variation in the dependent variable that is predictable from the independent variable) of the model that includes both

month and depth to water is 0.73, which is similar to the coefficient of determination of the re-run model (0.71). Because an advantage of multiple linear regression is its ability to inform us of the relative contribution of each variable to the model, we weighed the contribution of month and depth to water. We find that depth to water has considerably greater influence on the model than does month. Westland et al. (2016) failed to note this fact and instead suggested that a series of simple linear regression analyses with high coefficients of variation was the same as saying they all contributed about the same to the model outcome. Their attempt at a multivariate regression failed to highlight the relative contributions of month and depth to water.

From the perspective of interpretation, Westland et al. (2016) state that month in the final model is really a proxy for precipitation. Precipitation, not month, is clearly the driver and we see the expression most dramatically as stormflow in Davidson Canyon, but its influence on baseflow conditions (measured as length of streamflow) and depth to water are also evident.

Conclusion

By trying to discredit Powell et al. (2015), Westland et al. (2016) appear to be attempting to create a diversion from the real issue. Scrub away minor statistical issues and concerns about labeling axes and we in fact find some level of common agreement: precipitation is driving stormflows and baseflows and thus aquifer recharge, aquatic resources, and mesic and hydroriparian wildlife and their habitat. Altering the key outcomes of precipitation, stormflow and baseflow, will impact these key resources.

Natural variation in these systems is well known and documented, including Powell et al. (2015), but the key question that Pima County and others have unsuccessfully lobbied the Forest Service to thoroughly address for years remains: what additional impact will the Rosemont project have on these resources? As noted elsewhere in this report, the work by Krizek (2010) is woefully inadequate. It is unfortunate that instead of using robust statistical and technical methodologies to contribute to a better understanding of these resources, the companies behind the Westland et al. (2016) report simply disparage legitimate attempts to do so. The famous statistician John Tukey once said: "far better an approximate answer to the right question, which is often vague, than an exact answer to the wrong question, which can always be made precise". We think that Westland et al. (2016) and other analyses by Rosemont consultants continue to seek precise answers to the wrong questions.

In conclusion, neither our analysis nor theirs can completely address the deficiencies of the EIS. Modeling of changes in the Davidson watershed was identified as a need, and the FEIS was completed without adequate analyses. We once again call on the Forest Service to uphold the letter and spirit and NEPA by using models that account for variation in rainfall in addition to modeling the projected land-use impacts to storm flows and baseflows and the resulting diminishment of hydrological and biological resources of Davidson Canyon and lower Cienega Creek.

Literature Cited

Canfield, P. E. 2016. Evaluating effects of Rosemont Mine on downstream flows for 401 Certification. Memorandum to Suzanne Shields, Pima County Regional Flood Control Director.

Council on Environmental Quality. 1981. Forty most asked questions concerning CEQ's National Environmental Policy Act regulations. Memorandum to agencies. General Council Office, Washington D.C.

Daly, C., R. P. Neilson, and D. L. Phillips. 1994. A Statistical-Topographic Model for Mapping Climatological Precipitation over Mountainous Terrain. Journal of Applied Meteorology 33:140-158.

Huckelberry, C. H. 2014. Memorandum entitled "Additional Comments on State 401 Certification Decision –Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB" submitted to Robert Scalamera, Arizona Department of Environmental Quality.

Krizek, D. R. 2010. Technical Memorandum: Barrel Only Stormwater Assessment. Document No. 059/10-320871-5.3. Prepared for Rosemont Copper Company. Tucson, Arizona: Tetra Tech. March 5.

Nešpor, V., and B. Sevruk. 1999. Estimation of wind-induced error of rainfall gauge measurements using a numerical simulation. Journal of Atmospheric and Oceanic Technology, vol. 16, issue 4, p. 450 16:450-464.

Niraula, R., T. Meixner, and L. M. Norman. 2015. Determining the importance of model calibration for forcasting absolute/relative changes in streamflow from LULC and climate changes. Journal of Hydrology 522:439-451.

Pima County. 2013. Pima County comments- Rosemont Copper Mine Preliminary Administrative Final Environmental Impact Statement. Comments provided on August 14, 20013 to Jim Upchurch, Forest Supervisor, Coronado National Forest, Tucson, Arizona.

Powell, B., L. Orchard, J. Fonseca, and F. Postillion. 2014. Impacts of the Rosemont Mine on hydrology and threatened and endangered species of the Cienega Creek Natural Preserve. Pima County, Arizona.

Powell, B. F. 2013. Water resource trends in the Cienega Creek Natural Preserve, Pima County, Arizona. An unpublished report to the Pima County Flood Control District, Tucson, AZ.

Powell, B. F., J. Fonseca, and F. Postillion. 2015. New analysis of stormflow and groundwater data from Davidson Canyon: Evidence for influence of stormwater recharge of groundwater.

SWCA Environmental Consultants. 2012. Method for Estimating Flow in Davidson Canyon. Memorandum to file from DeAnne Rietz, SWCA Environmental Consultants. Phoenix, AZ: SWCA Environmental Consultants. August 28.

U.S. Forest Service. 2013. Final environmental impact statement for the Rosemont Copper project: A proposed mining operation, Coronado National Forest, Pima County, Arizona. U.S. Department of Agriculture, Forest Service, Southwestern Region. Document number MB-R3-05-6a.

WestLand, Water and Earth Technologies, and Neirbo Hydrogeology. 2016. Response to Powell et al (2015), "New Analysis of Stormflow and Groundwater Data from Davidson Canyon: Evidence for Influence of Stormwater Recharge of Groundwater. Report to HudBay.

Zeller, M. E. 2011. Predicted Regulatory (100-Yr) Hydrology and Average-Annual Runoff Downstream of the Rosemont Copper Project. Tucson, Arizona: Tetra Tech. July 11.

ATTACHMENT 3

ATTACHMENT 3:

SOURCES OF RECHARGE TO GROUNDWATER IN DAVIDSON CANYON, SOUTHEAST ARIZONA—An Isotopic Tracer Study by Rachel Tucci and Jennifer McIntosh, 2015.

Isotopic values for local rainfall differ from Tucson- Researchers at University of Arizona (UA) have analyzed isotopic values for summer and winter precipitation data from the Rosemont Project area. The average summer precipitation values from the Rosemont area, collected in the last few years, differ from the long-term average of Tucson precipitation, whereas average $\delta^{18}O$‰ values for winter precipitation are similar. Also, unlike the long-term record for the Tucson Basin and Santa Catalina Mountains, there is no discernible pattern in $\delta^{18}O$‰ values of precipitation with elevation in the local precipitation data so far collected by Rosemont or UA researchers.

Isotopic values for discharge in Outstanding Arizona Waters (OAW) reach are consistent with a mixture of winter and summer recharge- Based on all available rainfall isotopic data including those collected by Rosemont as well as Pima County, groundwater and surface water discharges in the Davidson watershed appear to be a mixture of winter and summer recharge. The recent UA data includes a new 9/30/14 value of -9.9‰ $\delta^{18}O$ and -72.0‰ δD for streamflow in the OAW at 31.985306 degrees latitude and -110.647 degrees longitude at elevation 3519 feet (data from UA Environmental Isotope Laboratory), consistent with winter precipitation average values (-10.3‰ $\delta^{18}O$). The values for monsoonal streamflow are at odds with TetraTech's interpretation that Davidson Canyon base flows in the Outstanding Arizona Waters (OAW) are the product of local runoff events only.

Upper Davidson Canyon baseflow is a mix of young and old water- Researchers at University of Arizona have analyzed for tritium in the base flow of Davidson Canyon on March 26, 2016 at location 31.86569, -110.68597, elevation 4291 feet (data from UA Environmental Isotope Laboratory). Tritium values were detectable but lower than ambient rainfall values, suggesting a mix of old and young water. The tritium value would be consistent with an interpretation that recent recharge is a source of water contributing to base flow, along with older groundwaters which support intermittent baseflows. This location is just downstream of the Barrel Canyon stream gage.

Sources of recharge to groundwater in Davidson Canyon, SE Arizona: an isotopic tracer study

Rachel Tucci and Jennifer McIntosh
The University of Arizona, Department of Hydrology & Water Resources

INTRODUCTION

Davidson Canyon is the largest channel that drains the proposed controversial Rosemont Copper Mine, and is a tributary to Cienega Creek. Davidson Canyon is classified as Outstanding Arizona Waters (OAWs), which indicates it's superior water quality. Questions have been raised about the potential impacts of future mining activities on surface water and groundwater resources in the area. Background studies of hydrogeochemical conditions are needed in order to evaluate, any future sources of contamination, were it to occur. This preliminary study utilizes natural isotopic tracers (^{18}O, ^{2}H, ^{3}H) to investigate the source of recharge, relative ages of groundwater at different locations, and groundwater-surface water interactions in the Davidson Canyon watershed.

SITE DESCRIPTION

Figure 1: View of Proposed Rosemont Copper Mine
Photo Credit: Mamta Popat / Arizona Daily Star

Figure 2: Arizona State, USA

Davidson Canyon is located in the southeast corner of Pima County in southern Arizona (figure 2). It is in the Sonoran Desert of the American southwest. Davidson Canyon is the closest waterway from the proposed Rosemont Copper Mine. The Canyon empties into the Cienega Creek north of the Interstate 10. Davidson Canyon used to be perennial, but due to long term drought and population growth in recent years the stream in the canyon is now ephemeral.

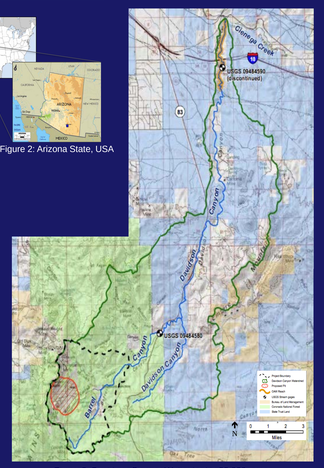
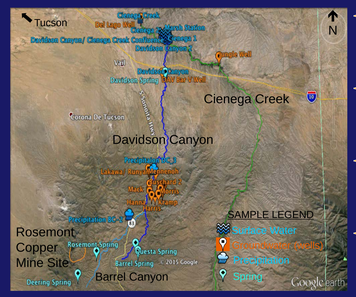


Figure 3: Davidson Canyon Watershed is 22,000 acres
(Rosemont Copper Davidson Canyon Conceptual Surface Water Monitoring Plan, Water and Earth Technologies INC.)

METHODS

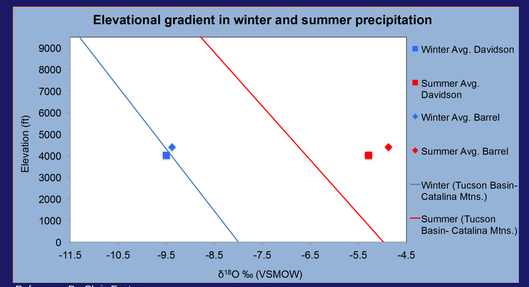


- ✧ Water samples were collected from 15 domestic wells and 4 surface water sites, following USGS protocol for water quality sampling.
- ✧ Samples were analyzed at the University of Arizona Environmental Isotope Lab in Geosciences for $\delta^{18}O$ and δD. Select samples were analyzed for ^{3}H.
- ✧ Additional data provided by Pima County Flood Control (RFCD) and Pima Association of Governments (PAG) included 3 groundwater wells and 5 surface water sites.
- ✧ Additional data provided by Hudbay Minerals Inc. included 4 surface water sites and 2 precipitation collector stations.

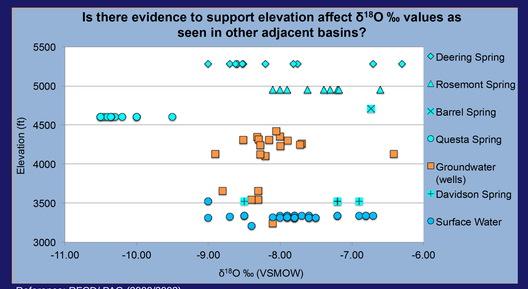
✧ ACKNOWLEDGMENTS

- ✧ The Residence along Highway 83 that allowed me to sample from their domestic wells.
- ✧ Pima County Flood Control (RFCD) and Pima Associates of Governments (PAG) for sharing data.
- ✧ Mrs. Karen Herther, Senior Hydrologist at Rosemont Copper Mine for sharing data.
- ✧ Dr. Chris Eastoe, Senior Research Scientist, Geosciences University of Arizona for tritium analysis contribution.
- ✧ Dr. Martha Whitaker, Senior thesis advisor at the University of Arizona for advice and guidance.

DOES SEASONALITY AND/OR ALTITUDE INFLUENCE THE STABLE ISOTOPES IN PRECIPITATION?

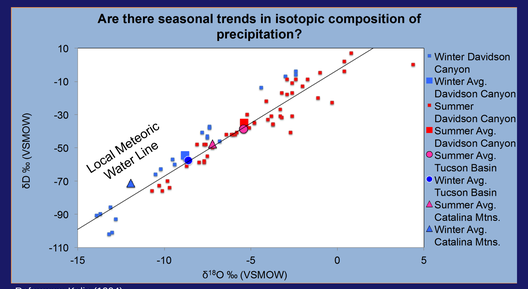


Reference: Dr. Chris Eastoe
Hudbay Minerals INC.



Reference: RFCD/ PAG (2000/2003)
Hudbay Minerals INC.

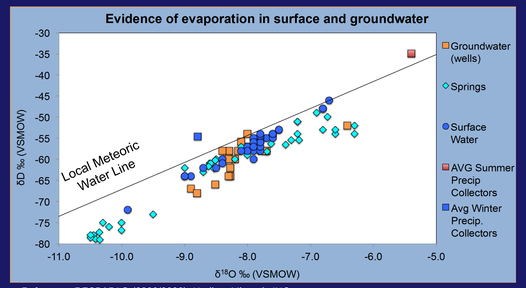
- ✧ Average $\delta^{18}O$ values for winter precipitation in the study area are similar to values for the Tucson Basin at the same elevation. This is likely a result of the widespread frontal winter storms in the region.
- ✧ The summer averages of the precipitation sites measured are not representative of the Tucson Basin average. This maybe a result of convective monsoon season storms, which are more localized.
- ✧ The Tucson Basin precipitation is normalized to the amount of rainfall whereas the precipitation data for this study did not include amount of rainfall . Having volume weighted $\delta^{18}O$ and δD values may alter our results.
- ✧ The large range and overlap of $\delta^{18}O$ and δD values for winter and summer precipitation points to no clear seasonal trends for the study period. However, average values for winter and summer precipitation in the study area fit expected relationships (with winter $\delta^{18}O$ values lower than summer), and match Tucson Basin values.



Reference: Kalin (1994)
Hudbay Minerals INC.

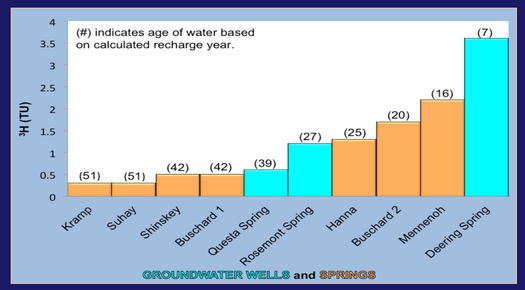
- ✧ The limited range in elevation of the precipitation collectors do not vary enough to evaluate an altitude affect.
- ✧ An expected relationship would display a trend with more negative $\delta^{18}O$ values at higher elevation and less negative $\delta^{18}O$ values closer to the basin floor.

- ✧ Groundwater, surface water and springs have $\delta^{18}O$ and δD values closest to winter precipitation averages suggesting a dominance of winter recharge.
- ✧ There is also evidence for slight evaporation during recharge.



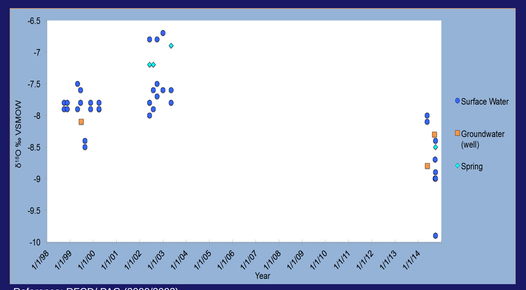
Reference: RFCD/ PAG (2000/2003); Hudbay Minerals INC.

WHAT IS THE APPARENT AGE OF GROUNDWATER?



- ✧ Recharge dates based on the radioactive decay equation $^{3}H_t=^{3}H_o*\exp(-\lambda t)$; $^{3}H_o$=5.3 TU (Tucson Basin average precipitation) and $T_{1/2}$=12.43yrs
- ✧ The ^{3}H concentrations for seven domestic wells and two springs are low and close to detection limit (0.6 TU), which indicates groundwater was likely recharged from a mix of modern recharge (<10 years old) and older pre-bomb pulse recharge (>~60 years old).
- ✧ Deering spring has a higher value closer to the average, current value of local precipitation (mean of 5.3 TU), which indicates modern recharge (7 years old).
- ✧ Further analysis, not shown here, revealed no apparent relationship with ^{3}H and a seasonality or altitude affect.
- ✧ In order to date the "older water component" in the groundwater more precisely additional analysis of ^{14}C would need to be conducted.

IS THERE EVIDENCE OF GROUNDWATER AND SURFACE WATER INTERACTION?



Reference: RFCD/ PAG (2000/2003)

- ✧ The $\delta^{18}O$ values of the surface water, groundwater wells and springs are within the same range, which is evidence of a connection between source waters.
- ✧ Further analysis of water levels and local hydrogeology would help to distinguish where the surface water is recharging to the groundwater or the groundwater is discharging to the surface water.

ATTACHMENT 4

ATTACHMENT 4:
WILL PERIMETER CONTAINMENT AREAS BE DRAINED?

Perimeter Containment Areas (PCAs) are environmentally damaging to downstream Waters and should be eliminated: The large runoff retention areas known as Perimeter Containment Areas (PCAs) were not identified or analyzed in the Clean Water Act 404(b)(1) alternatives analysis or elsewhere in the FEIS. These areas are not constructed features; they are passively created by waste and tailings fill, which has the effect of impounding flow from several watersheds. The PCAs should be drained to reduce impacts on downstream Waters during operation of the mine. This is considered a best management practice.

The Forest has not considered this effect. We objected to the effects of retaining runoff in the PCAs during the Forest Service's EIS objection period and proposed drainage channels to reduce impacts to downstream Waters (see figure in the attachment).

During the objection meeting, Rosemont representatives acknowledged that perimeter channels were likely feasible, as noted in the meeting summary discussing our objections (see excerpt in the attachment). The Forest Supervisor was directed to conduct further evaluation and discussion with the applicant, but there is no evidence in the record available to us that this was ever done.

If the areas are not drained, the effects should be disclosed.

Two Draft Objections to FEIS and ROD

February 11, 2014 mk

OBJECTION 1

Significant surface waters from the western and southern portions of the mine site should be released in perpetuity for downstream discharge

Rosemont Copper still intends to capture and retain surface water from an approximately 1 square mile watershed to the west of the mine pit and along the southern perimeter of the waste rock disposal area. This water should be released downstream into Trail Creek in perpetuity as part of the site water management plan.

Prior Written Comments and Relation to Objection

Prior written comments can be found at: *Pima County Comments - Rosemont Copper Mine Preliminary Administrative Final Environmental Impact Statement*, August 14, 2013, pp. 161-162, figure p.163

This objection and the prior written comment address the same subject matter.

Description of Aspects of the Proposed Project Addressed by the Objection

As shown in the PA DEIS (Chapter 2, p57, Figure 19 – Barrel Alternative Stormwater Concept) and on Figure 13 (Barrel Alternative Landform) of the CDM Smith *Preliminary Reclamation and Closure Plan* (July 2012), two Perimeter Containment Areas (PCA2 and PCA3) are to be located along the southern boundary of the Waste Rock disposal mound. The PCAs are stormwater retention basins, intended to capture and hold all incoming surface water, with no release to downstream drainages.

Objection Figure 1 (February 2014) is based on Figure 13 (Barrel Alternative Landform) of the CDM Smith *Preliminary Reclamation and Closure Plan* (July 2012). As shown on Objection Figure 1, stormwater which is intended to be collected and retained in PCA2 and PCA3 includes contributions from: the lower slopes of the Waste Rock mound and adjacent upper slopes of the Barrel Canyon watershed (Area 1), and the entire upgradient watershed area associated with the Pit Diversion Channel (Area 2). Area 1, comprising the area which is not planned for downstream drainage between the Waste Rock mound and the upper Barrel Canyon watershed divide, has a surface area of about 335 acres. Area 2, consisting of a mountainous watershed which sheds surface water to the Pit Diversion Channel for transfer into Area 1, has a surface area of about 240 acres with an approximate 100-yr discharge of 1800 cubic feet per second. Combined, Areas 1 and 2 have a watershed surface area approaching 1 square mile in size.

As noted in the FEIS Volume 2, Chapter 3 of the DEIS under *Barrel Alternative-Stormwater Management after Closure*, p. 425 "The diversion channel west of the pit would collect precipitation in stormwater retention ponds along the southern toe of the waste rock facility and would be allowed to infiltrate as aquifer recharge, but it would not be able to flow downstream as surface water due to topography".

The "topography" referenced here is simply the geometric result of construction of the waste rock pile onto the existing slopes of upper Barrel Canyon (the resultant surface of the large graded pile superimposed on hilly topography nearby the upper watershed boundary). As a result of construction, stormwater collecting in Area 1becomes trapped between the lower slopes of the Waste Rock mound and the existing, undulating upper slopes of the head of Barrel Canyon. As noted above, in addition to the capture of all waters from the Area 1 watershed, all water collected from the Area 2 watershed and transmitted by the Pit Diversion Channel is also captured and held without release in these two large surface water trapping areas.

Stormwater retained in PCA2 and PCA3 is problematic both during mining operations and throughout the post-closure period. Retained stormwater will reduce the quantity of surface water which is released downstream of the mine site. This represents a significant, permanent reduction of a valuable downstream surface water resource, with associated adverse impacts to habitat and riparian resources, and downstream recharge.

In addition, stormwater ponded against mounded waste rock to depths of up to about 50 ft may cause leaching of contaminants as the ponded water moves laterally into and through the waste rock mound. The infiltration of ponded water from PCA 2 and PCA 3 through the waste rock materials may also infiltrate tailings materials deposited downstream within the Barrel Canyon channel, with the potential to cause additional contamination of surface water and shallow groundwater downstream of the mine site.

<u>Suggested Remedies to Resolve the Objection</u>

Surface waters collected in Areas 1 and 2 certainly do <u>not</u> have to be captured and held in PCA2 and PCA3. These waters can, and should, be collected and transferred via a continuous perimeter drainage channel, and released downstream into the Trail Creek - Barrel Canyon drainage system as a fundamental stormwater management component of the facility operational and postclosure condition.

The Forest Service should require Rosemont Copper to professionally design and construct a stormwater management channel along the southern perimeter of the Waste Rock mound to collect and transmit surface waters from the Pit Diversion Channel (Area 2 on Objection Figure 1), and the lower side slopes of the Waste Rock mound and adjacent upper Barrel Canyon watershed (Area 1 on Objection Figure 1). The stormwater management channel would transfer these surface waters into the FEIS Wrap-A-Round channel alignment located at the east end of Area 1 (Objection Figure 1). From this point, the collected surface waters

could then be transferred around the eastern side of the Waste Rock mound for release downstream in perpetuity into Trail Creek at location SW-2, the outlet of the Wrap-a-Round channel.

There is sufficient grade for a continuous perimeter stormwater channel from PCA2 all the way around to the Trail Creek outlet at location SW-2. As shown on Objection Figure 1, the Waste Rock mound perimeter distance from Point SW-1 (elev ~ 5220 msl) to Point SW-2 (elev ~ 4820 msl) is about 20,000 ft, with a corresponding elevation drop of about 400ft. This corresponds to an average slope of approximately 2% for the perimeter system.

Construction of a stormwater management channel through the Area 1 zone could be accomplished by integrating and implementing the following operations:

A. Design the stormwater channel per standard engineering state of the practice, including minor modifications to the geometry of the southern Waste Rock mound side slopes to facilitate passage of perimeter stormwater.

B. Per the final design, perform the necessary excavations and fills through the hilly topographic slopes of upper Barrel Canyon adjacent to the Waste Rock mound, in order to obtain the required width and channel grade of the perimeter stormwater managment system.

C. Utilize abundant waste rock materials for construction of the perimeter stormwater management channel, including placement of waste rock materials within the channel area between the Waste Rock slope and the upper Barrel Canyon slopes. Utilization of waste rock as a construction fill material will reduce the volume of excavation required into the existing side slopes.

Design and construction of a continuous perimeter stormwater system is doable, has real benefits to the community and environment, and factually constitutes a minor part of these primary planned mining operations:

- Excavation and disposal of 1.9 billion tons of waste rock and tailings
- Creation of a permanent 4.5 square mile waste disposal landform on Federal and State lands

OBJECTION 2

Significant surface waters from the northeast portions of the tailings mound should be released in perpetuity for downstream discharge

Rosemont Copper still intends to capture and retain surface water from an approximately 75 acre watershed area on the lower side slope of the northeastern portion of the tailings mound. This water should be released downstream into Barrel Canyon as part of the site water management plan.

Prior Written Comments and Relation to Objection

Prior written comments can be found at: *Pima County Comments - Rosemont Copper Mine Preliminary Administrative Final Environmental Impact Statement*, August 14, 2013, p. 163 and figure on same page

This objection and the prior written comment address the same subject matter.

Description of Aspects of the Proposed Project Addressed by the Objection

As shown on Objection Figure 1, there is no collection channel planned to transfer water collected at the base of the Area 3 sideslope interval. An additional wraparound or perimeter channel should be constructed at this location along the northeastern side of the Tailings mound. Instead, stormwater collecting from this approximate 75 acre watershed side slope simply ponds along the base of the sideslope, within three main tributary areas below the adjacent north-trending ridgeline. This situation is similar in nature to the trapped water in PCA 2 and PCA 3 as described above in Objection 1.

Stormwater retained in pools against the waste rock buttress at this location is problematic, both during mining operations and throughout the post-closure period. Retained stormwater will reduce the quantity of surface water which is released downstream of the mine site, both from the approximate 75-acre mound side slope area and also the adjacent hilly sideslope to the crestline. This represents a significant and permanent reduction of a valuable downstream surface water resource, with associated adverse impacts to habitat and riparian resources, and downstream recharge.

In addition, stormwater ponded against the mounded waste rock may cause leaching of contaminants as the ponded water moves laterally into and through the waste rock buttress. The percolating water may also may also reach and infiltrate tailings materials deposited downgradient within the Barrel Canyon channel. Fluid contact with waste rock and/or tailings materials includes the potential to cause contamination of surface water and shallow groundwater downstream of the mine site.

Suggested Remedies to Resolve the Objection

The Forest Service should require Rosemont Copper to professionally design, and construct, an approximate 5000 ft long stormwater management channel along the northeastern perimeter of the Tailings mound to collect surface waters from the lower eastern side slope (Area 3 on Objection Figure 1). Surface waters collected along the base of this slope should be routed to the tailings mound side slope stormwater channel shown at location SW-3, for transfer into the northern Wrap-A-Round channel and release in perpetuity at the channel outlet into downstream Barrel Canyon.

The Forest Service should require Rosemont Copper to professionally design and construct the stormwater management channel at the base of the 75-acre tailings mound side slope. Construction of the stormwater channel could be accomplished by integrating and implementing the following operations:

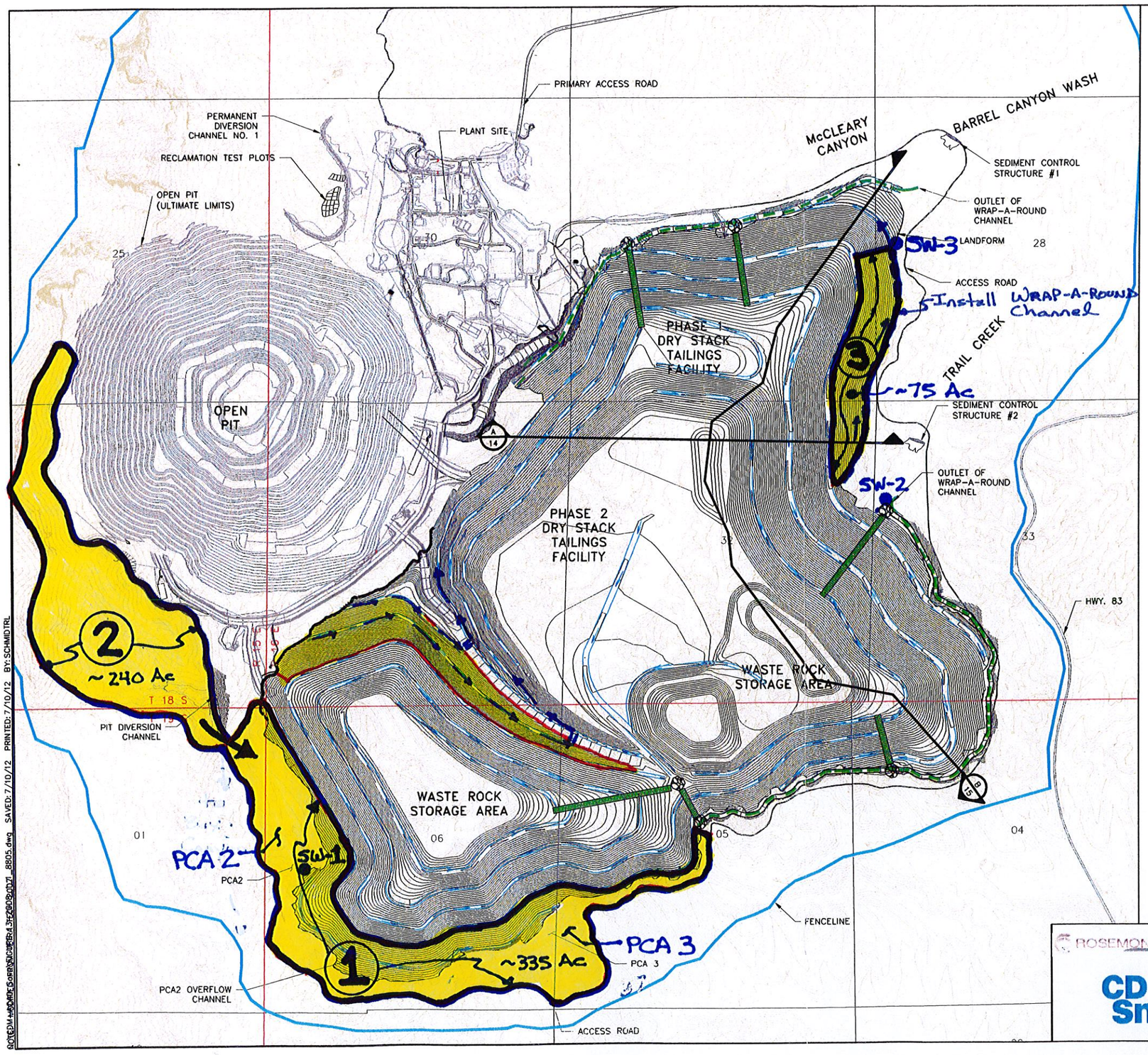
A. Design the stormwater channel to transfer collected water per standard engineering state of the practice.

B. Per final design plans, perform the necessary excavations through the hilly topographic slopes of upper Barrel Canyon adjacent to the base of the waste rock buttress on the perimeter of the Tailings mound, in order to obtain the required width and channel grade of the perimeter stormwater managment system.

C. Utilize abundant waste rock materials for construction of the perimeter stormwater management channel where advantageous, including placement of waste rock materials within the channel area between the waste rock slope and the eastern upper Barrel Canyon watershed slopes. Utilization of waste rock as a construction fill material will reduce the volume of excavation required into the existing side slopes.

Design and construction of a stormwater management channel at this location is doable, has real benefits to the community and environment, and factually constitutes a minor part of these primary planned mining operations:

- Excavation and disposal of 1.9 billion tons of waste rock and tailings
- Creation of a permanent 4.5 square mile waste disposal landform on Federal and State lands



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE CHANNEL
- STILLING BASIN
- DROP STRUCTURE
- WRAP-A-ROUND CHANNEL ROUTING
- DRAINAGE BENCH
- FENCELINE

Objection Figure 1
February, 2014

N

450 0 900 1800

NOTE:
OPERATIONAL PLANT SITE SHOWN WITH RECLAMATION LANDFORM.

ROSEMONT COPPER

CDM Smith

PRELIMINARY RECLAMATION AND CLOSURE PLAN FOR THE BARREL ALTERNATIVE

BARREL ALTERNATIVE LANDFORM - POST MINING FACILITIES LAYOUT

LOCATION:	PIMA COUNTY, ARIZONA
DATE:	07.09.12
PROJECT NO.	91146
FILE NAME:	FIGURE 13.DWG
FIGURE NO.	13

G:\CEDM-HYDRO\RECLAMATION\BARREL\2008\2007_8805.dwg SAVED: 7/10/12 PRINTED: 7/10/12 BY: SCHMIDTRL

Surface Water Resources – Mitigation (SWR-4)

- At the Pima County resolution meeting, the County suggested that storm water (run-on) from outside the pit area, rather than be diverted to an infiltration pond, could be run (via a "perimeter channel"), downstream to the watershed. They acknowledged this would be costly but believed it was feasible. The Forest Supervisor should discuss the legal and practical feasibility of some method of routing this clean storm water to the watershed below to see if Rosemont wishes to propose such a change to its plans.

SUMMARY

In conclusion, I have reviewed all of the issues raised in the objections filed on the Rosemont Copper Mine Project and the assertions that the project violates various environmental laws, regulations, policies, and the Coronado Forest Plan. I find that the project is in compliance with these laws, regulations, policies, and the Forest Plan. However, by copy of this letter, I am instructing the Forest Supervisor to complete consultation with USFWS and address the clarifications and corrections I identified above prior to signing the Final ROD.

There will be no further review of this response by any other Forest Service or U.S. Department of Agriculture official as per 36 CFR 218.11(b)(2).

Sincerely,

CALVIN N. JOYNER
Regional Forester

cc: Jim Upchurch

ATTACHMENT 5

ATTACHMENT 5:

EFFECTS OF NEW PIT DEWATERING PLAN HAVE NOT BEEN FULLY EVALUATED; WILL HUDBAY NEED TO PUMP MORE THAN 18,500 ACRE-FEET?
Excerpts from NI 43-101 Technical Report, Feasibility Study, Rosemont Project, Pima County, Arizona, USA. Prepared by Cashel Meagher, HudBay, March 30, 2017.

HudBay's pit dewatering plan identifies the need for substantial pumping prior to "pre-stripping" in order to improve rock stability during pit excavation. Ten wells would be installed and pumped during pre-production, for a total of 14 wells during "pre-mining". The plan limited pre-production pumping to 18,500 acre-feet of water.

Pumping from the dewatering wells is described in the EIS to be limited to 18,500 acre-feet of water over the life of the mine, but the HudBay plan interpreted that limit to be for pre-production pumping. Will HudBay be able to operate the mine within the 18,500 acre-feet limit over the life of the mine, or will they need to increase the limit?

No disclosures are made in the FEIS or subsequent Supplemental Information Reports regarding effects of transporting this water from the wells across Forest Service land, presumably in pipelines. If so much of the water is produced prior to stripping, how will the water be used? Will any of this water will be disposed in natural drainages? The Forest Service has said, during the objection process that no special-use permit is needed for these features, but the means and effects of dewatering must still be disclosed.

16.7.2 Hydrogeology and Mine Planning

Neirbo Hydrogeology was contracted by Hudbay to provide a hydrogeological study. Based on a refined and localized version of the 2010 Regional Groundwater Model prepared for the Environmental Impact Statement (EIS) process, Neirbo provided a report in May 2016 – Hydrogeological Study for The Rosemont deposit. Based on the Neirbo report, Hudbay worked to find the best strategy to combine: pit dewatering, pit design, mine planning and operational objectives.

The following general strategy has been considered:

- Starting the drilling and pumping before pre-stripping and continuing during the pre-stripping
- Dynamic updating of the hydrogeological parameters and model for each well
- Monitoring wells focused on dewatering
- Active and passive depressurization verification according to mining advance
- Updating the areas indicating high and low conductivity
- Establishing an operational correlation between the geological, geotechnical and hydrogeological parameters

The pit dewatering plan consists of:

- 10 wells during pre-production (14,850 feet)
- 10 additional wells between year 1 to year 5 (10,800 feet)
- 10 additional wells after year 5
- Annual horizontal drain sustaining capital cost ($ 3M) was considered for the arkose material as it will be mined every year in the mine's life
- Limited by pre-production pumping described in the EIS as 18,500 acre-feet of water

The pit opens up in the central-western zone; away from the final walls which is expected to provide an opportunity to:

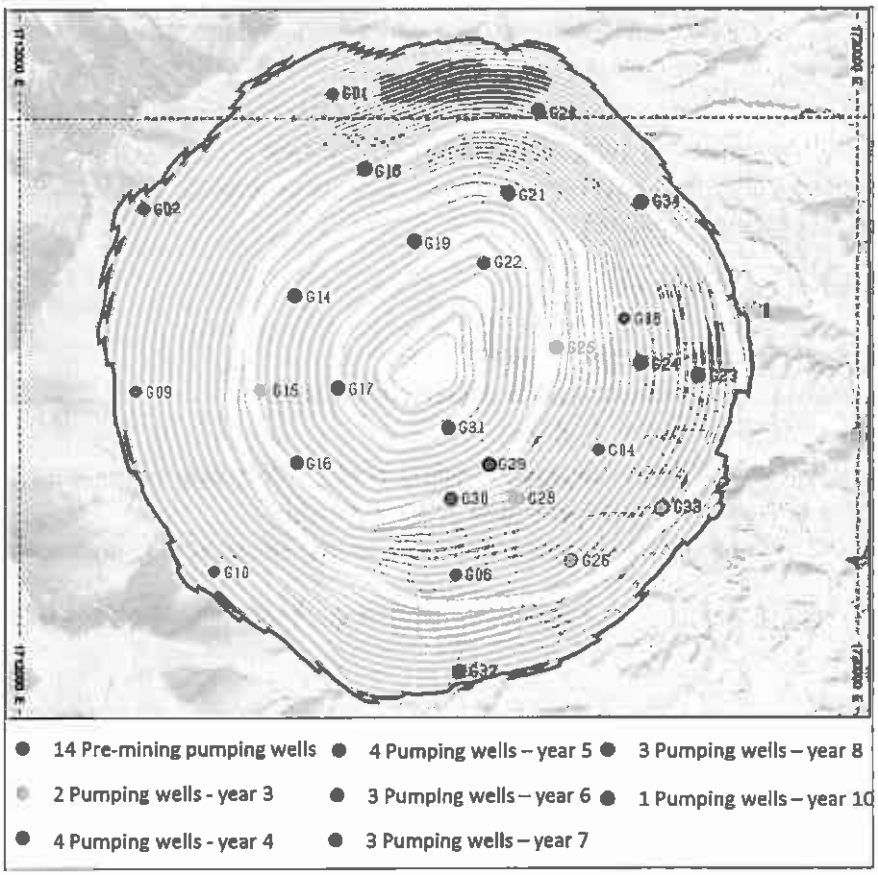
- Pre-mining
  - To control the inter ramp angle ("IRA") and the bench face angle ("BFA")
  - To manage the water with wells and superficial water management
  - To install and monitor the impact of 14 pumping wells
- Year 1
  - As the mine expands through Phase 1, monitoring of the effects of the pumping wells will continue. This will include water captured via the in-pit ponds
  - Phase 2 will begin in year one and monitoring of the pumping wells and surface ponds will continue.
- Year 2

- Phases 1 and 2 will remain the active mining areas supported by the original pumping wells and ponds.

- Year 3
  - Beginning in Year 3 and continuing for the remainder of the mine's life, additional wells will be drilled to achieve the drawdown and depressurization requirements necessary to safely advance the ore extraction sequence.

Figure 16-40 presents LOM well holes in the final Rosemont pit, and Table 16-13 summarizes LOM well holes for the pre-production and operating stages.

FIGURE 16-40: SECTION AA' SHOWING HARD VALUES IN FINAL ROSEMONT PIT



16.8 Manpower Requirements

16.8.1 Mine Operations Manpower

Mine supervision, technical staff, mine maintenance, workshop personnel and equipment operator requirements over the life of the mine are based on the mine plan. During the Pre-Production period, direct (workshop and operators) and indirect (Staff, supervision and technicians) requirements total 337, building up to 424 in the steady production (132 M ton per year) and is shown in Table 16-14.

ATTACHMENT 6

ATTACHMENT 6: CONFLICTING BASELINES FOR WATER QUALITY IMPAIR FUTURE ENFORCEMENT

ADEQ's definition of the water quality baseline is illegal, unwise, and cause conflicts with the federal definition in the Environmental Impact Statement. Among other problems, ADEQ's definition of the water quality baseline conflicts with the U.S. Forest Service's FEIS, which states that "baseline conditions would be established prior to mine construction (before pre-mining phase)" (see FEIS Appendix B at B016). Instead, as part of its 401 certification, the state of Arizona accepted Rosemont's definitions of the baseline as described in a "Surface Water Mitigation Plan" that was never subject to public review or comment.

Under the Plan's definition, water quality impacts prior to the "larger-scale stormwater impoundments" are constructed would be deemed natural variations and exceedances of surface water quality standards would not trigger any mitigation of water quality impacts. The baseline is defined in a way that permit 404-regulated activities to occur, and these may influence the water quality observed during the earliest phases of opening the mine.

Baseline water quality data should exclude data collected during and after clearing and grubbing of the land surface, the construction of pit diversion channels and impoundments other than the vaguely worded "larger-scale impoundments" in the current definition, and the construction of haul and access roads. Including 404-regulated impacts as part of baseline and pre-judging any resulting changes as "natural variation" is arbitrary and capricious. Including clearing and grubbing in the baseline does not make sense, given that the natural soil in the area is observed to have elevated levels of soluble metals, and may have contributed to dissolved metals in recent stormwater samples.

The water quality baseline as defined includes mine construction activities which are regulated by the Forest Service. Rosemont representatives at a recent meeting, hosted by the Corps of Engineers in Phoenix, seemed to agree that a revision of this definition is warranted, but this flawed definition currently stands as the basis for this 401 certification. Should the Corps or Forest Service wish to pursue enforcement independent of the state's authority, there would be an inherent conflict between the water quality baseline as defined in the FEIS and in the 401 Certification.

Having recently exhausted administrative remedies, on May 5, 2017, Pima County and the Regional Flood Control District filed an appeal of ADEQ's administrative decision in Maricopa Superior Court.

MICHAEL K. JEANES
Clerk of the Superior Court
By Lizethe Rivas , Deputy
Date 05/05/2017 Time 16:48:28
Description Amount
---------- CASE# LC2017-000144-001 -----
SP ACT PET RV/ST ADM 319.00 W

TOTAL AMOUNT 0.00
Receipt# 25918262

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION
Charles W. Wesselhoft (# 023856)
Andrew L. Flagg (# 025889)
Deputy County Attorneys
32 North Stone Avenue, Suite 2100
Tucson, Arizona 85701
Telephone: 520-724-5700
Charles.Wesselhoft@pcao.pima.gov
Andrew.Flagg@pcao.pima.gov
Attorney for Appellants

IN THE SUPERIOR COURT FOR MARICOPA COUNTY

IN AND FOR THE STATE OF ARIZONA

PIMA COUNTY, PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT Appellants, vs. MISAEL CABRERA, DIRECTOR OF THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY, Appellee.	Case No. LC2017-000144 **NOTICE OF APPEAL FOR JUDICIAL REVIEW OF FINAL ADMINISTRATIVE DECISION**

Pima County ("County") and the Pima County Regional Flood Control District ("District") file this Notice of Appeal pursuant to A.R.S. § 12-904(A).

PARTIES, JURISDICTION, AND VENUE

1. Pima County is a body politic and corporate, and a political subdivision of the State of Arizona.
2. The Pima County Regional Flood Control District is a special taxing district

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

organized pursuant to Title 48, Chapter 21, Article 1 of the Arizona Revised Statutes.

3. Misael Cabrera ("Cabrera") is the Director of the Arizona Department of Environmental Quality ("ADEQ") and is sued in his official capacity. The principal offices of ADEQ are located in Maricopa County.
4. ADEQ issued a Section 401 water quality certification ("§ 401 Certification") to Rosemont Copper Company on February 3, 2015.
5. On March 5, 2015, County and District jointly filed an administrative appeal of ADEQ's decision to issue the Certification. A copy of that document (without attachments) is attached hereto as Exhibit A.
6. ADEQ, through a March 23, 2015 letter (attached hereto as Exhibit B), denied Appellants' appeal based on ADEQ's assertion that it lacks jurisdiction to consider the appeal.
7. Relying on its interpretation of A.R.S. § 49-202, ADEQ argued that it lacked jurisdiction to hear Appellants' § 401 Certification challenge because, for Certifications related to individual § 404 permits, only the permit applicant may appeal the Certification.
8. Conversely, Appellants assert that administrative appeal rights provided at A.R.S. § 41-1092.03(B) govern Appellants' challenge of the § 401 Certification.
9. A.R.S. § 41-1092.03(B) allows any party adversely affected by an appealable agency action to challenge the action through an administrative appeal.
10. Appellants, on April 1, 2015, filed a Request for Reconsideration with ADEQ addressing the jurisdictional issue. A copy of the Request for Reconsideration is attached hereto as Exhibit C.
11. ADEQ, in a letter dated May 1, 2015 (attached hereto as Exhibit D), again asserted lack of jurisdiction for its denial of Appellants' appeal.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

12. Pursuant to A.R.S. § 12-902(A)(1), Appellants asked this Court (Maricopa Superior Court Case No. LC2015-000243) for relief from ADEQ's refusal to consider Appellants' administrative appeal of the § 401 Certification.
13. In that action, Appellees argued ADEQ's decision denying the appeal was not a "final agency action" but merely advisory, thereby precluding appeal to this Court due to, again, lack of jurisdiction.
14. Judge McClennen was troubled by ADEQ's attempt to insulate itself from challenges to its administrative decisions by labeling them advisory and, in an order dated July 14, 2016 (attached hereto as Exhibit E), remanded the matter to ADEQ requiring that it issue a final administrative decision regarding Appellants' appeal.
15. On remand, the underlying jurisdictional issue regarding the interplay between A.R.S. § 49-202 and A.R.S. § 41-1092.03(B) was briefed and a hearing held before the Office of Administrative Hearings (OAH).
16. The Administrative Law Judge issued a decision finding that the § 401 Certification was an appealable agency action, but concluding that A.R.S. § 49-202 does preclude Certification challenges from anyone but the applicant. A copy of that decision is attached hereto as Exhibit F.
17. As permitted by A.R.S. § 41-1092.08(B), the Director of ADEQ reviewed the OAH decision and issued a Final Administrative Decision accepting the OAH decision. A copy of the Director's decision is attached hereto at Exhibit G.
18. This action seeks judicial review of ADEQ's decision made by Cabrera, as Director of ADEQ.
19. Jurisdiction in Superior Court to review ADEQ's administrative decision is proper pursuant to A.R.S. § 12-905(A).

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

20. Venue in Maricopa County Superior Court is proper pursuant to A.R.S. §§ 12-401(16) and 12-905(B).

BACKGROUND

21. Section 404 of the Federal Water Pollution Discharges Prevention and Control Act (also known as the Clean Water Act or "CWA") (33 U.S.C. §§ 1251 to 1387) authorizes the Secretary of the Army, through the Corps of Engineers (or "COE"), to issue permits for the discharge of dredged or fill material into navigable waters. 33 U.S.C. § 1344(a).

22. As a pre-condition for obtaining a "Section 404 permit", an applicant must provide to the COE a so-called Section 401 water quality certification that the proposed discharge will comply with "applicable provisions of sections 1311, 1312, 1313, 1316, and 1317" of the CWA. 33 U.S.C. § 1341(a).

23. Section 401 certifications are issued by the state in which the discharge originates. 33 U.S.C. § 1341(a).

24. ADEQ is authorized, pursuant to A.R.S. § 49-202, to issue the Section 401 certifications on behalf of the State.

25. Rosemont Copper Company ("Rosemont") applied to ADEQ for a Section 401 certification on January 12, 2012.

26. ADEQ issued a draft certification in March of 2014.

27. County and District jointly filed three sets of comments (March 21, 2014; April 4, 2014; and July 16, 2014) in response to ADEQ's request for comments on the draft certification.

28. ADEQ issued a final Section 401 certification (the "§ 401 Certification") to Rosemont on February 3, 2015.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

29. Appellants timely appeal the § 401 Certification's issuance on March 5, 2015, citing, among other things, ADEQ's failure to comply with Arizona notice and comment law when considering and issuing the Certification.

30. ADEQ refused to accept Appellants' appeal alleging that A.R.S. § 49-202(H) precludes appeal of water quality certifications if the underlying permit is an individual, rather than a nationwide or general Clean Water Act § 404 (33 U.S.C. § 1344) permit.

31. Regulations promulgated pursuant to § 404 of the Clean Water Act define an "individual permit" as:

> a Department of the Army authorization that is issued following a case-by-case evaluation of a specific project involving the proposed discharge(s) in accordance with the procedures of this part and 33 CFR part 325 and a determination that the proposed discharge is in the public interest pursuant to 33 CFR part 320.

33 CFR § 323.2(g).

32. Those same regulations define a "general permit" as:

> a Department of the Army authorization that is issued on a nationwide or regional basis for a category or categories of activities when:
>
> (1) Those activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts; or
>
> (2) The general permit would result in avoiding unnecessary duplication of regulatory control exercised by another Federal, State, or local agency provided it has been determined that the environmental consequences of the action are individually and cumulatively minimal.

33 CFR § 323.2(h).

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

33. Finally, a "nationwide permit" is defined by the regulations as "a type of general permit which authorizes activities on a nationwide basis unless specifically limited." 33 CFR § 330.2(b).

34. The Certification issued by ADEQ to Rosemont supports Rosemont's underlying "individual" § 404 permit application which is currently pending before the U.S. Corps of Engineers.

35. While Appellants cited A.R.S. § 49-202(H) as a basis for appeal in their Notice of Appeal, they also cited A.R.S. Title 41, Chapter 6, Article 10 and provided a showing that both Appellants qualified under that statute to appeal the Certification.

36. A.R.S. Title 41, Chapter 6, Article 10 allows appeal:

> by a party who will be adversely affected by the appealable agency action or contested case and who exercised any right provided by law to comment on the action being appealed or contested, provided that the grounds for the notice of appeal or request for a hearing are limited to issues raised in that party's comments.

A.R.S. § 41-1092.03(B).

37. A.R.S. § 41-1092.03(B) is part of the larger Arizona Administrative Procedure Act ("APA"): A.R.S. Title 41, Chapter 6.

38. The APA specifically addresses its relationship to other statutes:

> This chapter [chapter 6] creates only procedural rights and imposes only procedural duties. They are in addition to those created and imposed by other statutes. To the extent that any other statute would diminish a right created or duty imposed by this chapter, the other statute is superseded by this chapter, unless the other statute expressly provides otherwise.

A.R.S. § 41-1002(B).

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

COUNT ONE

Judicial Review of Administrative Decision

39. Appellants incorporate by reference all of the preceding paragraphs and allegations of this Notice of Appeal, as if set forth herein.

40. ADEQ acted arbitrarily and capriciously, abused its discretion, and acted contrary to law when it refused to accept Appellants' appeal in this matter.

41. ADEQ's decision to reject Appellants' appeal was in error, arbitrary and capricious, contrary to law, and an abuse of discretion because ADEQ's misinterpretation of A.R.S. § 49-202(H) improperly divests Appellants of their right to appeal granted under A.R.S. Title 41, Chapter 6, Article 10.

RELIEF

42. Appellants Pima County and Pima County Flood Control District seek the following relief:

    a. Reverse ADEQ's decision denying Appellants' Notice of Appeal in this matter and remand the matter to ADEQ for consideration of the substantive arguments made in Appellants' Notice of Appeal.

    b. Award Appellants attorneys' fees pursuant to A.R.S. § 12-348.01 and costs pursuant to A.R.S. § 12-341, incurred and expended herein.

    c. Grant Appellants such other and further relief as the Court may deem just and proper.

RESPECTFULLY SUBMITTED May 5, 2017.

BARBARA LAWALL
PIMA COUNTY ATTORNEY

By _____
Charles W. Wesselhoft
Deputy County Attorney

Copies hand delivered on May 5, 2017
to the Clerk of the Court.

Copies mailed:
May 5, 2017, to:

Misael Cabrera, Director
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix AZ 85007

Curtis Cox
Office of the Attorney General
Environmental Enforcement Section
1275 W. Washington Street
Phoenix AZ 85007

Norman James
Fennemore Craig
2394 E Camelback Rd, Suite 600
Phoenix, AZ 85016

By: Stacey Bowman

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Exhibit A

Notice of Appeal

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION
Charles Wesselhoft, SBN 023856
Deputy County Attorney
32 North Stone Avenue, Suite 2100
Tucson, Arizona 85701
Telephone: 520-740-5750
Charles.Wesselhoft@pcao.pima.gov
Attorney for Pima County

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

PIMA COUNTY, a body politic; and PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT, Appellants, vs. THE STATE OF ARIZONA, and THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY, Respondents.	**NOTICE OF APPEAL**

I. INTRODUCTION

This is a challenge by Pima County and the Pima County Regional Flood Control District (the "Appellants") to the Arizona Department of Environmental Quality's ("ADEQ") issuance of a Clean Water Act Section 401 Water Quality Certification ("Certification") to Rosemont Copper Company ("Rosemont") for its Rosemont Copper Project (the "Mine"). A copy of the issued Certification is attached hereto as Exhibit A.

II. JURISDICTION AND STANDING

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

a. This Petition is Proper in this Forum

Issuance of Clean Water Act Section 401 Certification in Arizona is authorized under pertinent portions of A.R.S. § 49-202. Specifically, ADEQ is authorized to process § 401 certification requests in accordance with subsections C through H of A.R.S. § 49-202. A.R.S. § 49-202(B). A.R.S. § 49-202(H) provides the pathway for appealing an ADEQ § 401 certification decision. Pursuant to that subsection, "[a]ny person who is or may be adversely affected by the denial of or imposition of conditions on the certification of a nationwide or general permit may appeal that decision pursuant to title 41, chapter 6, article 10" entitled "Administrative Hearing Procedures." Article 10 further provides: "A party may obtain a hearing on an appealable agency action or contested case by filing a notice of appeal or request for a hearing with the agency within thirty days after receiving the notice prescribed in subsection A of this section." The article 10 procedures allow appeal by "a party who will be adversely affected by the appealable agency action or contested case and who exercised any right provided by law to comment on the action being appealed or contested, provided that the grounds for the notice of appeal or request for a hearing are limited to issues raised in that party's comments." A.R.S. § 41-1092.03(B). While ARS § 49-202(B) does not require Appellants to have commented on the appealed action, as noted below, Appellants did submit comments.

b. Appellants are Entitled to Bring this Action

i. Appellants are Adversely Affected by the Agency's Action

Both Pima County ("County") and the Pima County Regional Flood Control District ("District") will be adversely affected by the ADEQ action. Appellants own the land and

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

water rights in the Outstanding Waters reach of Davidson Canyon and the Outstanding Waters reach downstream of Davidson Canyon. Both of these Outstanding Waters reaches are downstream of surface water and ground water impacts resulting from the construction and operation of the Mine. In addition, Appellants manage the Bar V ranch and Cienega Creek Natural Preserve for wildlife and recreational purposes plus oversee ranching at the Bar V Ranch. These facilities are also located downstream of the surface water and ground water impacts resulting from the construction and operation of the Mine. Allowing Rosemont to proceed with the proposed construction and operation of the Mine will result in degradation of the quality of the surface water in Outstanding Waters located on Appellant's properties and in adverse impacts to surface waters and uses thereof on the Bar V Ranch.

ii. Appellants Commented on the Action being Appealed

Appellants submitted three sets of comments for ADEQ consideration in this matter:

1. The first County/District comment, attached hereto as Exhibit B, was submitted to ADEQ on March 21, 2014;

2. The second County/District comment, attached hereto as Exhibit C, was submitted to ADEQ on April 4, 2014; and

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

3. The third County/District comment, attached hereto as Exhibit D, was submitted to ADEQ on July 16, 2014. This comment provided supplemental information.[1]

County/District comments contained in Exhibits B and C were timely submitted.[2] As those Exhibits show, Appellants commented on the draft Certification. However, portions of the final Certification and of documents used in the ADEQ decision-making process were never available for public review and comment in the action below. Further, there is no public record concerning ADEQ response to public comments or of what criteria ADEQ used to modify the draft Certification. Those issues will be addressed below.

c. This Petition is Timely

The appeal procedure, A.R.S. title 41, chapter 6, article 10, sets forth a thirty day limitation for filing a notice of appeal on an appealable agency action. A.R.S. § 41-1092.03(B). To date, neither Appellant has received official notice of ADEQ's Certification issuance. To ensure the timeliness of this appeal, Appellants are filing this action within thirty days of the ADEQ signature date.

d. Scope of Review and Basis for Reversal

Review of ADEQ's action is limited by statute:

[1] The information was also provided to the involved federal agencies for ESA consultation on the § 404 permit decision.

[2] The initial comment period closed on March 24, 2014 but was extended by ADEQ until April 7, 2014.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

> The court shall affirm the agency action unless after reviewing the administrative record and supplementing evidence presented at the evidentiary hearing the court concludes that the action is not supported by substantial evidence, is contrary to law, is arbitrary and capricious or is an abuse of discretion.

A.R.S. § 12-910(E).

III. BASIS OF APPEAL

In issuing the Certification, ADEQ acted arbitrarily and capriciously and abused its discretion. ADEQ has produced no explanation of the basis for its decision to issue, despite extensive comments by Appellants (and others), a final Certification that is nearly identical to the draft version issued [date]. Further, ADEQ included documents in its decision record that were not in the available for public review and comment. Specifically, ADEQ considered Rosemont's December 2014 "Surface Water Mitigation Plan." That plan is flawed and the flaws raise serious questions about Rosemont's ability to meet the Arizona surface water quality standards ("SWQS") and maintain existing uses, including recreation, wildlife and livestock.

a. Facts

i. Pima County and Pima County Regional Flood Control District have Invested Millions of Taxpayer Dollars to Protect Lands in the Cienega Creek Groundwater Basin.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Pima County has worked to protect and conserve natural resources in the Cienega basin since 1986, with the creation of the Cienega Creek Natural Preserve. According to the County Administrator's Office, total acquisition costs for lands in the Cienega Creek basin total nearly $64 million. Most notably, these include portions of lower Cienega Creek and Davidson Canyon, downstream of the proposed mine. The Cienega Creek Natural Preserve is a 4000-acre protected area owned by Pima County Regional Flood Control District containing intermittent and perennial flow reaches, and springs supported by a shallow water table. Acquisition costs total $8.6 million for the Preserve. Acquisition began in 1986 and was largely completed in the early 1990s.

The Bar V Ranch, located along Davidson Canyon south of Interstate Highway 10 was acquired for $8.1 million in 2005. The State Transportation Board unanimously approved a contribution of $500,000 to acquire 600 acres of the ranch along Davidson Canyon to preserve viewsheds along state-designated scenic roads and highways. Bar V Ranch includes a vital wildlife linkage recognized by Arizona Game Fish Department along Davidson Canyon.

In addition, the county also acquired 58 acres near the Empire Mountains at a cost of $190,000 called the Amadon and Nunez properties. These lands are located five to six miles east of the mine, and were purchased in conjunction consistent with the U. S. Bureau of Land Management's plan for Las Cienegas National Conservation Area.

ii. Pima County and Pima County Regional Flood Control District have Acted to Protect Water and Water Quality along Cienega Creek and Davidson Canyon.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

The presence of water combined with riparian vegetation creates wildlife habitat of very high value supporting diverse populations of mammals, birds, fish, reptiles, and amphibians. Several special status species are present within the Preserve including the endangered Gila Topminnow, the threatened Gila Chub Mexican garter snake, and the yellow-billed cuckoo. These same water conditions create an area with very high values for recreation, educational opportunities and scenic quality, as well as wildlife.

The ecological and recreational significance of the Preserve is amplified because it is one of a very few remaining examples of a desert riparian environment. Environments of this type once paralleled many of the water courses and drainages in southern Arizona such as the Santa Cruz River near Tucson. During the past century, the extent of these riparian areas has been greatly reduced.

When the Preserve was established in 1986, the Pima County Board of Supervisors, sitting as the Board of Directors of the Pima County Flood Control District, adopted a Declaration of Restrictions, Covenants, and Conditions that applies to areas along Cienega Creek and Davidson Canyon. This document states that the Preserve was established ...for the purposes of the preservation and protection of the natural and scenic resources of the property,...

At the same time, the Board stated that Pima County's management goals, simply stated, are to maintain the present natural characteristics of the Cienega Creek Natural Preserve, and if possible, to allow natural restoration of the climax vegetation...The following management policies support Pima County's desire to maintain our last remaining low-elevation perennial stream in as natural a condition as possible"

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

The restrictions that run with the land also state that … Pima County shall not conduct, nor permit any other person to conduct mining, quarrying, sand hauling, fill hauling, or timbering of any kind on the Preserve. Hunting or trapping of birds or animals, grazing of cattle, or the destruction or removal of plants, shrubs, trees, except with written permission of Pima County, is expressly prohibited. In the interest of resources protection, no discharge of waste or by-products or materials on land or into water channels that might result in harm to wildlife or human water supplies will be permitted.

As acquisitions proceeded over the next decade, the District obtained historic water rights and transferred their uses to recreation and wildlife purposes to protect streamflow occurring within the Natural Preserve. As authorized by the Board of Supervisors in 1986, the District also filed for in-stream flow rights, receiving an instream flow certificate in 1993. The County holds water rights for stock-watering purposes along Davidson Canyon.

At the request of Pima County Regional Flood Control District, Pima Association of Governments began monitoring groundwater levels at three sites within the Preserve in 1989. This program was expanded to include groundwater monitoring along Davidson Canyon and base flow discharges along Cienega Creek in the early 1990s. PAG continues to monitor groundwater levels and surface water discharges today.

Pima County Regional Flood Control District and Pima County have also taken steps to protect water quality of Cienega Creek and Davidson Canyon, beginning in1987 with water quality sampling. An interagency proposal was submitted in 1990 to protect Cienega Creek within the Natural Preserve under the State of Arizona's Unique Waters program, which imposes anti-degradation standards under state water quality rules. This

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

designation was received in 1992 for the lower Cienega Creek. The designation was amend in 2002 in include portions of upper Cienega Creek located on U.S. Bureau of Land Management land.

In recognition of Davidson Canyon's outstanding ecological and recreational values, Pima County purchased the Bar V Ranch, consisting of 1763 acres of private lands and 12,674 acres of State Trust Land grazing leases. Bar V Ranch includes four channel miles of Davidson Canyon and a working ranch. A riparian enclosure fence has been constructed along part of the wash. The Cienega Creek Natural Preserve downstream has an additional two miles of Davidson Canyon's flow and has also been excluded from livestock grazing.

In 2005, Pima County Administrator C. H. Huckelberry requested to classify Davidson Canyon as an Outstanding Water, pursuant to R18-11-112 of the Arizona Administrative Code. The purpose was to protect the high quality water that Davidson provides to Cienega Creek via springs and groundwater underflows.

Davidson Canyon is a rare, spring-fed, low-elevation desert stream that supports leopard frogs, and at times, the native fish known as the long-fin dace. The Arizona Game and Fish Department has recognized this as one of the most important wildlife migration corridors in this part of Arizona, linking the Rincon, Empire and Santa Rita Mountains (see Arizona Wildlife Linkage Assessment, 2006). Sky Island Alliance has monitored wildlife use of Davidson Canyon below the Rosemont Mine in several places periodically since 2001. Their data show that Davidson Canyon is used by black bear, mountain lion, bobcat, coatimundi, white-tailed deer and at least three species of skunks.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Water chemistry data indicated that the water in the bottom of Davidson Canyon is excellent, lower in total dissolved solids than the base flows in the main channel of Cienega Creek where the Unique Waters designation had already been received from the State. In addition, an isotope study by Pima Association of Governments showed that groundwater underflows from Davidson Canyon contribute a significant portion of the base flow in Cienega Creek, which is already designated as a Unique Water.

b. Legal Framework

i. The Section 401 Process and Required Consideration under Federal and Arizona Law

This matter arises under §401 (33 U.S.C. § 1341) of the Federal Water Pollution Control Act (33 U.S.C. §§ 1251 to 1387; otherwise known as the Clean Water Act) and A.R.S. § 49-202. Rosemont applied for a § 404 (33 U.S.C. §1344) permit from the U.S. Corps of Engineers for activities Rosemont plans related to the development of the Mine. As a precondition to the issuance of a § 404 permit for the Mine, the State of Arizona must issue a § 401 water quality certification. In that document, the State must certify that Rosemont's § 404 activities will comply with applicable Arizona water quality standards (WQS) and allow for maintenance of existing uses. Section 401(a)(1) provides:

> Any applicant for a Federal license or permit to conduct any activity . . . which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate . . . that any such discharge will comply with the applicable provisions of [the Clean Water Act].

33 U.S.C. 1341(a)(1).

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Both federal and Arizona law require the State to ensure compliance with all applicable WQS before issuing a § 401 water quality certification. If the Mine will violate water quality standards and cannot be reasonably expected to meet those standards through remedial measures, ADEQ must deny certification. *See* 33 U.S.C. § 1341(a)(1) and (a)(3). The Clean Water Act also authorizes the State to impose conditions on the Certification necessary to ensure compliance with WQS. 33 U.S.C. 1341(d).

ADEQ is statutorily designated as the State's agency responsible for issuing § 401 Certifications. A.R.S. § 49-202(A). ADEQ is required to issue rules governing how it will evaluate §401 applications but has done so only in a limited sense. The rules pertaining to antidegradation provide that

> [t]he Director shall conduct the antidegradation review of any discharge authorized under a nationwide or regional § 404 permit as part of the § 401 water quality certification prior to issuance of the nationwide or regional permit. The Director shall conduct the antidegradation review of an individual § 404 permit if the discharge may degrade existing water quality in an OAW or a water listed on the 303(d) List of impaired waters. For regulated discharges that may degrade water quality in an OAW or a water that is on the 303(d) List of impaired waters, the Director shall conduct the antidegradation review as part of the § 401 water quality certification process.

AAC R18-11-107.01(D).

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Further, ADEQ is to evaluate "whether the effect of the discharge will comply with the water quality standards for navigable water established by department rules adopted pursuant to § 49-221, subsection A, and § 49-222." A.R.S. § 49-202(C).

ADEQ, by rulemaking, established "Outstanding Arizona Water" ("OAW") designations for pertinent reaches of Cienega Creek and in Davidson Canyon. AAC R18-11-112(G)(8) and (G)(21). Both of these waters are downstream of Mine activities. As OAW's, both streams warrant additional protection under Arizona law. Specifically, they are subject to Tier 3 antidegradation protection pursuant to AAC R18-11-107(D). Tier 3 antidegradation protection requires that "existing water quality shall be maintained and protected in a surface water that is classified as an OAW under R18-11-112. Degradation of an OAW under subsection (C) is prohibited." AAC R18-11-107, *emphasis added.*

Additional regulatory Tier 3 protections include:

- A new or expanded point-source discharge directly to an OAW is prohibited.
- A person seeking authorization for a regulated discharge to a tributary to, or upstream of, an OAW shall demonstrate in a permit application or in other documentation submitted to the Department that the regulated discharge will not degrade existing water quality in the downstream OAW.
- A discharge regulated under a § 404 permit that may affect existing water quality of an OAW requires an individual § 401 water quality certification to ensure that existing water quality is maintained and protected and any water quality impacts are temporary. Temporary water quality impacts are those impacts that occur for a period of six months or less.

AAC R18-11-107.01(C)(2) through (4).

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

ii. Public Notice Requirements Under Federal and Arizona Law

Nowhere does Arizona law specifically address the Clean Water Act requirement that the state "establish procedures for public notice in the case of all certifications by it and, to the extent it deems appropriate, procedures for public hearings in connection with specific applications." 33 U.S.C. § 1341(a)(1). Arizona statutes include a general provision for public participation in ADEQ processes. That provision requires ADEQ to, by rule, "prescribe procedures to assure adequate public participation in proceedings of the department under this chapter." A.R.S. § 49-208(A). Further, the public participation procedures, at a minimum, must "prescribe public notice requirements including the content and publication of the notice, provide an opportunity for public hearings and specify the procedures governing the hearings and <u>require the public availability of relevant documents</u>." *Id., emphasis added.*

Arizona rules promulgated pursuant to A.R.S. § 49-208 require ADEQ to:

1. Publish the notice as a legal notice at least once, in one or more newspapers of general circulation in the county or counties concerned;
2. Include in the notice the following information:
3. The major issue under consideration or a description of the reason for the action;
4. The Department's proposed action and effective date for that action;
5. The location where relevant, nonconfidential documents may be obtained and reviewed during normal business hours;
6. The name, address and telephone number of a person within the Department who may be contacted for further information;

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

7. The location where public comments may be addressed, and the date and time by which comments shall be received.

AAC R18-1-401(A).

c. <u>ADEQ Based a Portion of Its Decision on a Relevant Document that was not Subject to Public Review and Comment</u>

The Certification identifies, in section 3 (Information Reviewed), a document entitled "Surface Water Mitigation Plan" (the "Plan", a copy of the narrative portion of which is attached hereto as Exhibit E), which was prepared by Rosemont in December, 2014. This submittal by Rosemont to ADEQ came long after the close of the public comment period[3] and approximately only a month prior to ADEQ's decision to issue the Certification. At no point during this period did either Rosemont or ADEQ make an attempt to inform the public of the Plan's existence or to solicit input on the Plan's content. That it is included in the "Information Reviewed" list signifies that it is a relevant document and, indeed, represents a critical piece of information in ADEQ's decision-making process.

The Clean Water Act requires Arizona to provide public notice of the § 401 process consistent with Arizona public participation procedures. U.S.C. § 1341(A). Those Arizona procedures require relevant documents to be publicly available (A.R.S. § 49-208(A)) and the public to be notified where they can be viewed. AAC R18-1-401(A). A relevant document, made part of the record at the last possible minute and with no notice to the public until the decision has been made, does not comply with either the Clean Water Act or Arizona statutes. The resulting Certification is, therefore, void.

[3] Extended comment period ended April 7, 2014

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

d. Rosemont's Surface Water Mitigation Plan is Fatally Flawed

i. The Plan, and therefore, the Certification, Improperly Relies on an As-Yet-to-be-Developed Surface Water Model

Section 4.0 of the Plan advises that a Surface Water Model (the "Model") "is planned." Plan, Sec. 4.0. This Model is to "quantify potential changes surface water runoff" and to "quantify potential flow reductions." *Id.* The apparent intent is to identify whether Mine construction changes "affect, or have the potential to affect, downstream water quality." *Id.* Rosemont's schedule shows implementation of the Model in January, 2017, after nearly two years of development. Plan, Sec. 6.0

Since the downstream OAWs are covered by Tier 3 of the Arizona antidegradation standard, they cannot be degraded. AAC R18-11-107(D). There is no room for maybes and unknowns; this is an absolute prohibition. Despite the lack of a surface water model and, consequently, no idea of the Mine's impacts on downstream OAWs, ADEQ issued the Certification based solely on Rosemont's promise that it will develop the Model and implement it two years from now. Furthermore, without the model, there is no demonstration that the proposed mitigation measures can be effective. While ADEQ has some discretion in this matter, it must make a serious effort to determine whether the Mine will impact the OAWs and, if so, whether the mitigation measures will be effective. The lack of a surface water model leaves ADEQ with nothing but Rosemont's promises. Until the model is developed, there is no comfort level that Mine activities will be protective of the OAWs. Further, without a model, there can be no demonstration that

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Rosemont's mitigation can be effective in offsetting the anticipated declines identified in the FEIS and other documents.

An arbitrary and capricious decision is one where there has been "an unreasoning action, without consideration and in disregard for facts and circumstances." *Maricopa County Sheriff's Office v. Maricopa County Employee Merit Commission, et al.*, 211 Ariz. 219, 223 (2005). Issuance of the Certification without the model is arbitrary and capricious.

ii. ADEQ has Improperly Approved Definitions Requiring any Impacts Resulting from Regulated Construction Activities to be Include in the "Baseline" and would Require these Impacts to be Deemed "Natural Variation"

ADEQ approved a definition of baseline water quality conditions that includes water quality changes resulting from Phase 1 construction of impoundments. Including those impacts as part of baseline and pre-judging any resulting changes as "natural variation" is arbitrary and capricious and is contrary to law. These definitions were never provided to the public until now, so there is no previous record of our commenting on this issue. These definitions go far beyond the intent of describing how reductions in surface water volumes will be mitigated.

The surface water mitigation plan's definition of baseline also conflicts with the USFS FEIS which states, "baseline conditions would be established prior to mine construction (before pre-mining phase)" (see FEIS appendix B at B-16).

The Certification provides in Section 1:

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

> Subject to the conditions in Section 5, ADEQ certifies that based on the information in Section 3 and in consideration of comments received in response to public notice of the draft Certification decision issued February 21, 2014, the activities proposed for **Rosemont Copper Project** will not violate applicable surface water quality standards (SWQS) in the subject water bodies including McCleary, Wasp, Trail, Barrel and Davidson Canyons and Cienega Creek in the Santa Cruz Watershed, near Greaterville, Pima County.

Certification, Sec. 1.

In reaching this decision, ADEQ cites both the draft memorandum entitled "Revised Analysis of Surface Water" and the "Surface Water Mitigation Plan." Certification, Sec. 3, Items 16 and 26, respectively. In the Certificate, ADEQ also approves the Surface Water Mitigation Plan, whose purpose is stated below in the Certificate's Specific Conditions:

> The applicant has prepared, and ADEQ has approved, a Surface Water Mitigation Plan, December, 2014, to maintain aquatic and riparian resources at pre-project levels in the Outstanding Waters portions of Davidson Canyon Wash and Lower Cienega Creek. The purpose of the plan is to detail the measures that will be taken to offset predicted reductions in surface water flows and sediment, resulting from the construction and operation of the Rosemont Copper Project, and a schedule for implementation of such measures.
>
> Upon issuance of this Certification, the applicant shall begin implementing the Surface Water Mitigation Plan. Any proposed changes to this plan by the applicant shall be submitted in writing to ADEQ. ADEQ shall coordinate with the USDA

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Forest Service and CoE to determine if the changes are warranted and they should be approved.

Should the results of monitoring by ADEQ, the applicant or others and/or revised hydrologic modeling (ROD Mitigation Measures FS-BR-22, FS-BR-27, FS-GW-02, FS SR-05) demonstrate that, as a result of the certified activities, water quality upstream of or in the OAW segments in Davidson Canyon Wash and/or Lower Cienega Creek has been degraded, ADEQ will request that the CoE suspend the CWA 404 Permit in order for ADEQ to evaluate the issues and require additional mitigation measures should the impacts be more than temporary degradation.

Any unauthorized material changes in, or failure to implement the Surface Water Mitigation Plan, as it is currently approved or as amended in the future by the applicant and approved by ADEQ, may be grounds for ADEQ requesting the CoE modify, suspend or revoke the CWA 404 permit pursuant to 33 CFR 325.4(a)(2). Certification, Spec. Cond. 1.

While the purpose of the Plan is to detail the measures that will be taken to offset predicted reductions in surface water flows and sediment, Section 1 of the Plan, on page 3, goes far beyond this intent. "Baseline" water quality is defined to include impacts that could occur during construction activities:

Monitoring discussed in this Plan is separated into two phases: Phase 1 and Phase 2. Phase 1 monitoring includes the time period from 2006 to the present and to the point when Project construction activities begin to affect stormwater flow and drainage. The installation of additional monitoring stations/locations (see Section 2.2.2 of this Plan) is assumed phased in during this period and is based on Rights

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

of Way from the Arizona State Land Department (ASLD). This time period covers the baseline monitoring that was initiated in 2006. As a note, any trends, water quality changes, or other anomalies observed in the Phase 1 data are understood to be due to natural variations or other activities not associated with the Project; and

Phase 2 monitoring will begin when major construction activities occur at the Project site, i.e., when larger-scale stormwater impoundments are constructed at the Project site and used to contain stormwater.

Plan, Sec. 1.2.1.

Note that Phase 1 includes "to the point when Project construction activities begin to affect stormwater flow and drainage", but Phase 2 does not begin until "larger-scale stormwater impoundments are constructed and used to contain stormwater". This is vague and confusing, especially because there are so many impoundments of different sizes and none are specifically referenced in the Plan or description of activities being certified. Clearly, though, Rosemont intends to perform substantial amounts of construction during baseline development.

Activities being certified are described in the Certification, Section 2, in a way that is also vague and confusing:

NOTE: During the development of the Final Environmental Impact statement (FEIS), changes were made to the project design that modified certain activities proposed in the CoE Public Notice/Application No. SPL-2008-00816-MB (Public Notice). This Certification is based on activities described in the Public Notice, with the exception of activities modified by the selected action in the USDA Forest Service's Record of Decision and FEIS. These modifications to the planned

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

activities include the removal of the heap leach facility and process, elimination of fill in McCleary Canyon and the removal of the flow-through drain systems under the waste rock storage areas and dry stack tailings facilities.

Certification, Sec. 2.

However, the resubmitted § 404 application (the "404 Application") describes Surface Water Management on page 3. In that description, Rosemont advises:

> For the purposes of stormwater management, the open pit, the heap leach facility, and the plant site are closed systems, with all direct rainfall contained on site. Currently designed stormwater diversions include the flow-through drain system, process water temporary storage (PWTS), and open pit diversions. In addition to the primary diversions, a storage and recovery system sump will be developed in the waste rock storage area. Project water management facilities are intended to have sufficient capacity to handle runoff generated from 100-year, 24-hour storm events. Sediment control facilities are designed to reduce the total suspended solid loads to the minimum practical level in the 10-year, 24-hour storm event, defined as total suspended sold [*sic*] concentrations equal to existing conditions.
>
> Stormwater flows from the plant site will be collected in the lined PWTS pond, located immediately downgradient of the plant site. The PWTS pond functions as a closed system with all water that is directed to the pond from the plant, in addition to collected stormwater runoff, incorporated into the process water flows.
>
> The buttresses of the dry stack tailings facility will advance ahead of the tailings surface to provide containment while concurrent reclamation and best management practices, such as settling ponds, will be used to limit soil erosion in

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

> the outer slopes. The top of the tailings area is impervious and will be sloped inward so precipitation falling on top of the active tailings area will remain on top and evaporate. Ponded water may be pumped to the PWTS pond as needed to limit infiltration into tailings mass. Stormwater management at the waste rock facilities will be similar to that for the dry tailings facility.

404 Application, page 3.

As noted in the Certification, the project description and activities were modified in the draft ROD and FEIS. The FEIS identifies an 18- to 24-month preconstruction period that includes pit construction and diversion of the intercepted runoff to Barrel Canyon, not impoundment. Specifically: see p. xvi of the FEIS executive summary:

> The project would be located primarily within the Barrel Canyon drainage and its tributaries. Diversion channels would be constructed to intercept runoff from precipitation and route it around the mine facilities for discharge to lower Barrel Canyon, downstream of the project. Over time, the northern tailing facility would expand south and east and would cover a portion of the Barrel Canyon.

FEIS, p. xvi.

The FEIS further provides:

> Preproduction stripping of overlying rock would require 18 to 24 months (premining stage) to prepare for full-scale mining operations, train work crews, construct access and haul roads, and clear and grub the pit and tailings and waste rock facilities that would be disturbed during the initial years of operation.

FEIS, p. xvii.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Page 14 of the July 2013 Stormwater Pollution Prevention Plan (SWPPP), which was not listed as a relevant document for the Certification and, therefore, apparently not reviewed by ADEQ, provides much more explicit information regarding sequencing of stormwater controls on the figures 4-13 submitted with the SWPPP. At the minimum, based on these, there could be clearing, grubbing, construction of the crushing, milling and flotation facilities, and at least partial construction of the pit diversion and the haul and access roads during baseline.

In conclusion, it is clear the baseline is defined in a way that permits 404-regulated activities to occur during baseline water quality data collection. This is illogical in addition to arbitrary and capricious. While it is true under Arizona law that there can be no discharges from the mine workings during active mining and that this prohibition does not apply before mining commences, it is not logical to assume that construction activities at the mine cannot cause any trends, water quality changes or other anomalies, particularly when wholesale diversions of watersheds will occur during the earliest phases of construction.

The monitoring plan goes further to define any trends, water quality changes or other anomalies as "due to natural variations or other activities not related to the Project" (Section 1 of the Plan at page 3). Approving an applicant's statement requiring official to interpret water quality data in the applicant's favor is arbitrary and capricious, if not contrary to law.

iii. Rosemont Will Use Improper Adaptive Management Techniques to Modify the Plan

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

The Surface Water Mitigation Plan, dated December 2014, is a new document that is part of the basis for Certification. This new document advises that a surface water model will be used to identify runoff replacement as a means of mitigating reduction of surface water discharges. At page 18, Rosemont states:

> In addition to serving as a tool to quantify potential flow reductions due to Project activities, the Model will be used to estimate runoff replacement quantities from off-site mitigation locations. Project effects will be based on existing and new monitoring points located throughout the watershed up-gradient of the USGS Gaging Station. The USGS station is located at the intersection of SR 83 and the Lower Barrel Canyon Drainage.

Plan, Sec. 4.0.

In the Plan, Rosemont proposes the use of an adaptive management process "to ensure the initial intent of the Plan is being met, and that pertinent data is being collected and reported and that site conditions are accurately represented." Plan, Sec. 8.0. It identifies three key components of adaptive management:

- Testing assumptions - collecting and using monitoring data to determine if current assumptions are valid;
- Adaptation - making changes to assumptions and monitoring program to respond to new or different information obtained through the monitoring data and project experience: and
- Learning - documenting the planning and implementation processes and its successes and failures for internal learning as well as the scientific community.

Plan, Sec. 8. Rosemont further provides a partial list of elements that may be modified as part of the adaptive management process:

> Monitoring locations;

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Monitoring parameters;

Monitoring frequencies;

Assumptions associated with pollutant loading, runoff volume, and/or assimilative capacity;

Modeling approach;

Mitigation opportunities or requirements;

Implementation process for mitigation; and

Information provided and included in the quarterly data summaries and in the Annual Summary Report.

Approximately 30% of the surface water entering the OAW at Davidson Canyon will be impounded as a result of the Mine, yet there is no plan proposed by Rosemont to make up for that reduction in flow. Further, there is <u>no connection</u> between the host of data proposed to be collected and a decision to engage in a management action that can reverse or mitigate for damages caused. Instead, the Certification allows Rosemont to invoke an "adaptive management" process whose outcome is not avoiding, minimizing, or mitigation harm to the resource (quantity and/or quality of surface water), but instead to refine models. Characterizing such an approach as adaptive management is contrary to logic, because adaptive management is inherently focused on management actions that foster outcomes related the goal of the project, which is:

. . . no degradation to downstream water quality (compared to current water quality) due to Project construction, operation, and/or closure activities. Additionally, no degradation is anticipated to the water quality in the Outstanding Arizona Water (OAW) segment of Davidson Canyon Wash.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Plan, Sec. 1.0.

The certification ignores a large body of literature and practice of adaptive management in environmental decision processes in general (e.g., Walters 1986; Gregory and Keeney 2002; Williams et. al. 2007) and water management in particular (Richter et. al. 2003; Zedler 2003; Richter and Thomas 2007; Medema et. al. 2008). Citations to this literature with brief excerpts is attached hereto as Appendix 1. To our knowledge, no credible application of adaptive management principles and practices are restricted to model validation and refinement, as was certified for Rosemont. In short, while model validation is a key step in adaptive management, such models only serve to improve the outcome of management actions. Rosemont's reliance solely on model refinement is an improper use of the adaptive management method and, consequently, ADEQ's acceptance and approval of this approach as a key component of the Plan is arbitrary and capricious.

In the case of surface water in the Davidson watershed, adaptive management—even as practiced according to industry standards—is not an appropriate tool for surface water in Davidson Canyon. Instead, the focus of the mitigation plan should be on avoidance, minimization, and mitigation of impacts that are already modeled to occur, particularly during construction. In light of the absolute antidegradation requirement of AAC R18-11-107(D) for the OAWs involved, failure to require such a focus is arbitrary, capricious and contrary to law.

iv. Rosemont's Surface Water Mitigation Plan Does not Include a Stormwater Mitigation Plan nor any Immediate Contingency to Address Stormwater Impacts

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Rosemont opines that it "does not anticipate any adverse changes to water quality or the stability of Davidson Canyon Wash or the OAW segment as the result of Project activities." Plan, Sec. 5.0. For that reason, it offers only "general concepts" of what it will do should stormwater impacts occur. *Id.* ADEQ's acceptance of Rosemont's opinion and the resulting approval of the Plan without stormwater response contingencies is arbitrary and capricious and is contrary to law.

Both Davidson Canyon and Cienega Creek are OAWs (AAC R18-11-112(G)) and are protected by the Tier 3 antidegradation standard. AAC R18-11-107. Tier 3 protections in Arizona law are:

1. Tier 3 antidegradation protection applies only to an OAW listed in R18-11-112(G).
2. A new or expanded point-source discharge directly to an OAW is prohibited.
3. A person seeking authorization for a regulated discharge to a tributary to, or upstream of, an OAW shall demonstrate in a permit application or in other documentation submitted to the Department that the regulated discharge will not degrade existing water quality in the downstream OAW.
4. A discharge regulated under a § 404 permit that may affect existing water quality of an OAW requires an individual § 401 water quality certification to ensure that existing water quality is maintained and protected and any water quality impacts are temporary. Temporary water quality impacts are those impacts that occur for a period of six months or less.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

AAC R18-11-107.01(C). Two of these protections, (3) and (4) are particularly relevant to the instant discussion.

Protection (3) requires Rosemont to demonstrate that Mine-related discharges "will not degrade existing water quality." AAC R18-11-107.01(C)(3). Rosemont has not done so with respect to stormwater discharges. It merely offers its belief that there will be no impacts and advises that it will develop a mitigation plan "[w]hen it is determined that mitigation is required." Plan, Sec. 5.0.

Rosemont's intent to delay development of a mitigation plan leaves open the likelihood that impacts to the OAWs will last more than the "temporary" six-month duration specified in Protection (4). Only after an impact is detected, will Rosemont develop the mitigation plan and implementation of the plan's response actions will be even further postponed. This is particularly problematic given the inherent delay in reporting impacts to the U.S. Forest Service (only on a quarterly basis) followed in delays in convening meetings of the response committee.

Rosemont's failure to make the demonstration necessary to meet the requirement of Protection (3) is contrary to law. ADEQ's approval of the Plan with the non-compliant demonstration and the lack of an immediate mitigation plan is arbitrary and capricious.

e. <u>ADEQ Relied Upon Faulty Technical Data in its Decision-Making Process</u>

As noted above, Appellants submitted three letters during ADEQ's review of the Rosemont application. ADEQ has made no attempt to address any of these comments in a written explanation of its decision-making process. It issued a final Certification that is

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

essentially identical to the draft version and merely makes passing reference, in the "Information Reviewed" section of the Certification, to the many comments received. This lack of a reasoned response to the comments coupled with the lack of significant revisions between the draft and final Certification suggests the comments were, for the most part, ignored.

ADEQ's apparent refusal to consider comments filed is particularly troubling in light of information contained in Appellants' July 16, 2014 submittal (Exhibit D, hereto). While this document was submitted outside the official comment period, it is not a comment, *per se*, but represents supplemental technical information regarding streamflow and groundwater in Cienega Creek and Davidson Canyon. Attached to the July 16, 2014 letter was a document entitled "Impacts of the Rosemont Mine on Hydrology and Threatened and Endangered Species of the Cienega Creek Natural Preserve"[4] (hereinafter, "Powell (2014)") which points out a statistically significant link between surface water flow extent and groundwater resources in lower Cienega Creek and Davidson Canyon. In particular, Powell (2014) identifies and discusses faulty topographical data relied upon by Rosemont. This new technical data makes invalid Rosemont's assertion that the Davidson Canyon surface-water system is disconnected from the groundwater system. However, despite the obvious importance of this information in the protection of OAW water quality and the resulting potential for Mine impacts, ADEQ apparently chose to ignore Appellants' submittal. ADEQ's failure to consider the data supplied in Appellants' July 16, 2014 submittal and to factor that data into the Certification is arbitrary and capricious.

---

[4] Powell, Orchard, Fonseca, and Postillion (2014). Impacts of the Rosemont Mine on hydrology and Threatened and Endangered Species of the Cienega Creek Natural Preserve. The Powell document resulted from a federal workshop held on June 10 and 11, 2014 to identify new data and analyses pertaining to surface waters. The data therein was not available during the official comment period in this matter.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Powell (2104) shows: 1) the corrected channel bed elevations are clearly within elevations that intersect the shallow groundwater table; and 2) groundwater supports intermittent surface flows in the OAW reach. There is, however, no recognition of this information in ADEQ's final Certification nor is there any explanation as to why the information was ignored.

Figure 1 of Appendix 2 hereto is a graph[5] produced by Rosemont purporting to show groundwater elevations significantly below stream bed levels. Figure 2 in Appendix 2 hereto is the same graph[6] but with corrected stream bed elevations. The corrected cross-sectional data demonstrate that the following conclusions from Rosemont's Davidson Canyon Conceptual Groundwater Monitoring Plan[7] are incorrect:

- "DTW [depth to water] has been persistently 7 to 15 feet below the stream channel in the OAW Reach;"
- "Persistent DTW below the stream channel bottom, combined with ephemeral, short duration, low discharge, and limited surface-length expression of spring flow, indicates that the groundwater system is usually disconnected from the surface-water system;"
- "Groundwater is disconnected from the alluvial stream channel"; and
- "Potential impacts to the OAW Reach will be limited

(Groundwater Plan, page 12) and that ADEQ's reliance[8] on those conclusions was improper.

---

[5] Figure 5 in Tetra Tech (2010a), Davidson Canyon hydrological conceptual model as assessment of spring impacts. Tetra Tech project 114-320869. Prepared for Rosemont Copper, Tucson, Arizona.
[6] Figure 6 in Powell (2014).
[7] Davidson Canyon Conceptual Groundwater Monitoring Plan, prepared by Engineering Analytics, Inc., March 2012.
[8] Cited as document 13 in Certification, Section 3.0.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Appellants, in their April 4, 2014 comments (Exhibit C) discuss ADEQ's decision to ignore isotope work done by Montgomery and Associates in 2010[9] that clearly supports a hydraulic connection between the OAW reach of Davidson Canyon and the regional aquifer. The statement in the Mitigation Plan that "no degradation is anticipated to the water quality in the Outstanding Arizona Water (OAW) segment of Davidson Canyon Wash" (Plan, Sec. 1.0), in part, presumes that the OAW reach is not connected to the regional aquifer as reported in Tetra Tech (2010a). This overlooks documentation suggesting otherwise, and therefore, contradicts the Certification's assertion that mining activities will not cause degradation to water quality in the OAW.

Further, as also discussed in Appellants' July 16, 2014 report (attached to Exhibit D), ADEQ failed to consider and comment on an analysis showing drawdown of the regional aquifer in amounts reported in (Montgomery 2010) can potentially reduce wetted stream length in Lower Davidson Canyon by 30%. This analysis is crucial to illustrate the potential damage to the OAW that will result from drawdowns in the regional aquifer. It undermines Rosemont's argument that the streamflows in Davidson Canyon are unrelated to the regional aquifer and that groundwater is disconnected from the alluvial stream channel. When additional evidence is considered, it is apparent there is a much higher probability of Mine impacts on Lower Davidson Canyon and the Outstanding Arizona Waters. The data concerning these increased risks were apparently not considered by ADEQ in its decision to issue the Certification. That failure produced an arbitrary and capricious decision.

[9] Montgomery and Associates, Inc. 2010. Revised report: Groundwater flow modeling conducted for simulation of proposed Rosemont pit dewatering and post-closure, Vol. 1: Text and tables. Prepared for Rosemont Copper. Tucson, Arizona.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

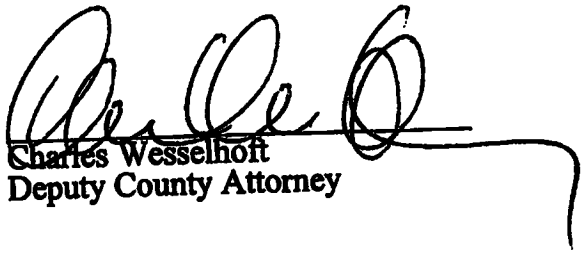
IV. CONCLUSIONS

For the reasons provided above, ADEQ's Certification that the activities proposed by Rosemont for the Rosemont Copper Project will not violate applicable surface water quality standards in Davidson Canyon and Cienega Creek is not supported by substantial evidence, is contrary to law, is arbitrary and capricious and is an abuse of discretion. For that reason, ADEQ's decision to issue the Certification must be reversed. Further, approval of the Rosemont Surface Water Mitigation Plan must be rescinded and amended to address the inadequacies discussed herein. Revision of the Plan should be followed by public review and comment. Finally, Rosemont must quantify the extent and duration of "temporary" impacts from Mine operations to the downstream OAWs.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

RESPECTFULLY SUBMITTED March 5, 2015.

BARBARA LAWALL
PIMA COUNTY ATTORNEY

By 
Charles Wesselhoft
Deputy County Attorney

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

CERTIFICATE OF SERVICE

I hereby certify that on March 5, 2015, a copy of the above Notice of Appeal, was served on the persons listed below by depositing said document into the U.S. Mail, postage prepaid (certified mail, return receipt requested) prior to 11:59 p.m.

Director
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

and

Hearing Administrator
ADEQ Office of Administrative Counsel
1110 West Washington Street
Phoenix, Arizona 85007

With a copy to:

Office of the Attorney General
Environmental Enforcement Section Administrative Appeals Desk
1275 West Washington Street
Phoenix, Arizona 85007

***

By: Stacey Berman

Exhibit B

March 23, 2015 letter from ADEQ

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Douglas A. Ducey
Governor

Henry R. Darwin
Director

March 23, 2015

Mr. Charles Wesselhoft
Deputy County Attorney
32 North Stone Avenue, Suite 2100
Tucson, Arizona 85701

RE: Notice of Appeal (Water Quality Certification to Rosemont Copper Company)

Dear Mr. Wesselhoft:

Arizona Revised Statute (A.R.S.) § 49-202(H) limits administrative appeals of water quality certifications under Title 41, Chapter 6, Article 10. As you noted, A.R.S. § 49-202(H) authorizes an adversely affected person to appeal a certification of a nationwide or general permit. In this case, the requirements of A.R.S. § 49-202(H) have not been met because the State's 401 Water Quality Certification applies to the individual Clean Water Act 404 permit for the Rosemont Copper Project. Since the requirements have not been met, your appeal request is denied.

If you have any questions, feel free to contact me at (602) 771- 224.

Sincerely,

Sherri L. Zendri
Administrative Counsel
Arizona Department of Environmental Quality

cc: Curtis Cox, Arizona Attorney General's Office

Exhibit C

Request for Reconsideration

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION
Charles Wesselhoft, SBN 023856
Deputy County Attorney
32 North Stone Avenue, Suite 2100
Tucson, Arizona 85701
Telephone: 520-740-5750
Charles.Wesselhoft@pcao.pima.gov
Attorney for Pima County

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

PIMA COUNTY, a body politic; and PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT, Appellants, vs. THE STATE OF ARIZONA, and THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY, Respondents.	**REQUEST FOR RECONSIDERATION**

INTRODUCTION

In a letter from the Arizona Department of Environmental Quality (ADEQ) dated March 23, 2015 (copy attached hereto as Exhibit A) ADEQ denied Appellants Pima County's and Pima County Flood Control District's appeal of ADEQ's issuance of a Section 401 water quality certification (Certification) to Rosemont Copper Company. ADEQ cites, as a basis for denial, an alleged standing limitation in A.R.S. § 49-202(H). Specifically, ADEQ denied the appeal because the appeal challenged issuance of a

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

certification for an individual, rather than a nationwide or general, permit. For the reasons discussed below, Appellants respectfully request that ADEQ's decision to deny the appeal be reversed.

DISCUSSION

I. Appellants Pled Applicability of Both A.R.S. § 49-202(H) and A.R.S. § 41-1092.03(B) in Their Assertion of Standing

While Appellants, in their Notice of Appeal ("Notice"), offered A.R.S. § 49-202(H) as a basis for standing, Appellants also relied on the standing provisions of A.R.S. § 41-1092.03(B) and, in particular, explained Appellants' participation in the Certification process and, therefore, their right to appeal the Certification under that statute. State law specifically allows appeal by a "party who will be adversely affected by the appealable agency action or contested case and who exercised any right provided by law to comment on the action being appealed or contested . . . ." A.R.S. § 41-1092.03(B). Appellants meet the requirements of A.R.S. § 41-1092.03(B) and have a right to appeal the Certification independent of A.R.S. § 49-202(H).

II. Appellants are Parties for Purposes of A.R.S. § 41-1092.03(B)

"Party," for purposes of Title 41, Chapter 6, "means each person or agency named or admitted as a party or properly seeking and entitled as of right to be admitted as a party." ARS 41-1001(12). Nothing in Title 41, Chapter 6 is particularly instructive regarding who is entitled to be admitted as a party. However, there is case law touching on the subject.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

City of Phoenix v ADEQ, et al., 205 Ariz. 576 (Div. 1, 2003) involved a challenge by the City of Phoenix (City) of a permit issued by ADEQ to a waste management company allowing the company to own and operate a hazardous waste treatment and storage facility. The City's challenge was based, in part, on whether the Resource Conservation and Recovery Act[1] (RCRA) and regulations promulgated thereunder preempted A.R.S. Title 41, Chapter 6, Article 10 (Article 10).

As part of the court's analysis of this question, it looked to regulations promulgated pursuant to RCRA and, in particular at 40 CFR § 124.19(a). The court pointed out that, under the cited RCRA regulation, "only persons or entities who first filed comments on the initial draft permit may petition the Board for administrative review." *Phoenix* at 582. It then went on to say, when comparing the challenge provisions under RCRA with those in Article 10:

> Moreover, whereas federal regulation requires that only parties who filed comments on, or participated in, the initial draft permit are allowed to petition for administrative review and thus ultimately obtain judicial review, no such qualifying preliminary objection is required under Article 10.

Id. Thus, for purposes of RCRA permit challenges and Article 10, the Division 1 court equated "persons" with "parties." There is no reason to believe a different interpretation applies when a water quality certification is the underlying decision.

The broader interpretation of "party" is also supported when A.R.S. § 41-1092.03(B) is read in conjunction with A.R.S. § 49-202(H). As discussed below, these two statutes, when combined, provide appeal rights for all persons adversely impacted by ADEQ's issuance of § 401 water quality certifications. It is unreasonable to ascribe a

[1] RCRA is the 1976 amendment to the federal Solid Waste Disposal Act, 42 U.S.C. §§ 6901 to 6992k.

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

lesser standing standard to those appealing nationwide and general permit-related certifications but a higher standard to those appealing individual permit certifications.

Given the lack of any guidance to the contrary in statute or case law, Appellants must be considered Article 10 parties.

III. A.R.S. § 41-1092.03(B) Allows Appeals of § 401 Individual Permit Certifications

The Arizona Administrative Procedure Act ("APA"), A.R.S. Title 41, Chapter 6, grants persons the right of appeal "an appealable agency action." A.R.S. § 41-1092.03(B). An "appealable agency action" is defined under the APA as "an action that determines the legal rights, duties or privileges of a party and that is not a contested case." ARS 41-1092(3). Appellants, in the Notice of Appeal, provided multiple claims concerning ADEQ's improper issuance of the Certification and the resulting impact on Appellants' legal rights as downstream property owners. Protection of those rights is the very purpose of the APA.

IV. A.R.S. § 49-202(H) Does Not Preclude A.R.S. § 41-1092.03(B)-based Appeals of § 401 Individual Permit Certifications

While A.R.S. § 49-202(H) allows both an "applicant" and "any person who is or may be adversely affected by the denial or imposition of conditions on the certification of a nationwide or general permit" to appeal the certification, there is nothing in that statute precluding challenges to individual permit certifications under another statute. Indeed, interpreting A.R.S. § 49-202(H) as a limitation would be in direct conflict with the general right to appeal agency actions provided under A.R.S. § 41-1092.03(B).

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

Given this conflict, interpreting A.R.S. § 49-202(H) as a limitation on Appellants' right to appeal the Certification is inconsistent with the state's Administrative Procedure Act (the "APA"). A.R.S. Title 41, Chapter 6. The APA, which includes A.R.S. § 41-1092.03(B), provides the following explanation of statutory hierarchy: "[t]o the extent that any other statute would diminish a right created or duty imposed by this chapter, the other statute is superseded by this chapter, unless the other statute expressly provides otherwise." A.R.S. § 41-1002(B). Therefore, A.R.S. § 49-202(H) must be interpreted as something other than a limitation on the APA-granted right to appeal.

Interpreting A.R.S. § 49-202(H) to preclude appeal of individual permit certifications is also illogical in that the statute allows appeal of nationwide and general permits but, for individual permits which often result in substantial impacts to waters of the U.S., no appeal is allowed.

The logical, conflict free interpretation of the two provisions allows appeals of individual permit certifications to proceed under A.R.S. § 49-1092.03(B), subject to the requirement that the persons appealing participated in the certification process. A.R.S. § 49-202(H) provides a separate appeal pathway for persons challenging nationwide and general permit certifications. Certifications for those types of permits are issued generally and with little or no opportunity for review and input regarding specific conditions imposed on permittees or those adversely impacted by the certifications. This appears to be the gap the Legislature intended to close in enacting ARS 49-202(H).

V. CONCLUSION

As discussed above, Appellants properly pled their right to appeal pursuant to ARS 41-1092.03(B). They were parties to the Certification process and therefore qualify for standing to appeal under ARS 41-1092.03(B). Appeals of individual § 401 permit

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

certifications are properly brought under ARS 41-1092.03(B). Finally, ARS 49-202(H) does not preclude appellants from an appeal pursuant to ARS 41-1092.03(B).

For the above reasons, Appellants respectfully request reconsideration of ADEQ's decision to deny Appellants' appeal in this matter.

RESPECTFULLY SUBMITTED April 1, 2015.

BARBARA LAWALL
PIMA COUNTY ATTORNEY

By _____
Charles Wesselhoft
Deputy County Attorney

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

BARBARA LAWALL
PIMA COUNTY ATTORNEY
CIVIL DIVISION

CERTIFICATE OF SERVICE

I hereby certify that on April 1, 2015, a copy of the above Request for Reconsideration, was served on the persons listed below by depositing said document into the U.S. Mail, postage prepaid (certified mail, return receipt requested) prior to 11:59 p.m.

Director
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

and

Hearing Administrator
ADEQ Office of Administrative Counsel
1110 West Washington Street
Phoenix, Arizona 85007

With a copy to:

Office of the Attorney General
Environmental Enforcement Section Administrative Appeals Desk
1275 West Washington Street
Phoenix, Arizona 85007

***

By: Stacey Bowman

Exhibit D

May 1, 2015 Letter from ADEQ

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Douglas A. Ducey
Governor

Henry R. Darwin
Director

May 1, 2015

Mr. Charles Wesselhoft
Deputy County Attorney
32 North Stone Avenue, Suite 2100
Tucson, Arizona 85701

RE: Request for Reconsideration (Water Quality Certification to Rosemont Copper Company)

Dear Mr. Wesselhoft:

The Arizona Department of Environmental Quality (ADEQ) has received and considered your April 1, 2015 request to reconsider its position regarding Pima County's appeal of the Section 401 Water Quality Certification to Rosemont Copper Company. ADEQ does not have the legal authority to expand the statutory jurisdiction authorizing administrative appeals in the State's administrative appeals process. Therefore, as previously stated in ADEQ's March 22, 2015 letter, ADEQ is unable to accept an appeal and agree to your request. ADEQ, however, does not take a position on the right to administratively appeal, through the federal administrative appeals process, the Army Corp of Engineers' Section 404 permit.

If you have any questions, feel free to contact me at (602) 771- 2242.

Sincerely,

Sherri L. Zendri
Administrative Counsel
Arizona Department of Environmental Quality

cc: Curtis Cox, Arizona Attorney General's Office

Exhibit E

Order dated July 14, 2016

Michael K. Jeanes, Clerk of Court
*** Filed ***
07/18/2016 8:00 AM

SUPERIOR COURT OF ARIZONA
MARICOPA COUNTY

LC2015-000243-001 DT 07/14/2016

THE HON. CRANE MCCLENNEN

CLERK OF THE COURT
J. Eaton
Deputy

PIMA COUNTY
PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

CHARLES WESSELHOFT

v.

HENRY DARWIN (001)

CURTIS A COX

OFFICE OF ADMINISTRATIVE HEARINGS
REMAND DESK-LCA-CCC

HIGHER COURT RULING / REMAND

Appellants Pima County and Pima County Regional Flood Control District ask this Court to review actions taken by Appellee the Arizona Department of Environmental Quality (AzDEQ) refusing to allow Appellants to proceed with the appellate review process. For the following reasons, this Court orders AzDEQ to take some official action in this matter.

I. FACTUAL BACKGROUND.

On October 11, 2011, Rosemont Copper Company (Rosemont) applied to the Army Corps of Engineers for a discharge permit (known as a § 404 permit), and on January 12, 2012, applied to Appellee the Arizona Department of Environmental Quality (AzDEQ) for a § 401 certification, which it needed in order to obtain the § 404 permit. AzDEQ issued a notice stating any comments were due by March 24, 2014. In response, Appellants filed an initial set of comments on March 21, 2014. AzDEQ extended the comment period to April 7, 2014, and Appellants filed a second set of comments on April 4, 2014.

On February 3, 2015, AzDEQ issued the final Certification. On March 5, 2015, Appellants filed an administrative appeal pursuant to the Arizona Administrative Procedure Act seeking to have this issue reviewed at an administrative hearing, such as one before the Office of Administrative Hearings. Mr. Charles Wesselhoft (Wesselhoft), Deputy (Pima) County Attorney, received a letter dated March 23, 2015, on Arizona Department of Environmental Quality letterhead, from Ms. Sherri L. Zendri (Zendri), who listed herself as Administrative Counsel, Arizona Department of Environmental Quality. In that letter, Zendri stated that Appellants did not qualify as entities that were permitted to file an administrative appeal, and thus "your appeal request is denied." (Zendri Letter, dated Mar. 23, 2015, at 1.)

In response to Zendri's letter, Appellants filed a Request for Reconsideration giving their reasons why they believed they did have the right to appeal AzDEQ's issuance of the final Certification. (Request for Reconsideration, dated Apr. 1, 2015.) In response, Wesselhoft received another letter, again on Arizona Department of Environmental Quality letterhead from Zendri, who again listed herself as Administrative Counsel, Arizona Department of Environmental Quality. In that letter, Zendri stated "ADEQ is unable to accept an appeal and agree to your request." It further stated "ADEQ, however, does not take a position on the right to administratively appeal, through the federal administrative appeals process, the Army Corp of Engineers' Section 404 permit." (Zendri Letter, dated May 1, 2015, at 1.)

On June 3, 2015, Appellants filed a Notice of Appeal for Judicial Review of Administrative Decision stating, "This action seeks judicial review of ADEQ's decision made by [Henry R.] Darwin, as Director of ADEQ." (Notice of Appeal at ¶ 9.) In its Answering Brief filed October 26, 2015, Appellees (which now included both AzDEQ and Rosemont) presented three arguments.

First, Appellees contended this Court did not have jurisdiction in this appeal because (1) the two letters from Zendri were not the actions of AzDEQ, (2) thus those letters did not constitute an administrative decision under A.R.S. § 12–901(2), and (3) thus those letters did not constitute a final administrative decision under A.R.S. § 12–902(A)(1) that would be subject to administrative review under A.R.S. § 12–904(A). Appellees stated "Zendri's letters are more properly viewed as advisory communications from agency counsel to counsel for the Appellants." (Appellees' Joint Answering Brief at 7, ll. 14–15.) They further stated "Zendri was not the Director of ADEQ and was not authorized to render decisions for the agency." (*Id.* at 7, ll. 25–26.)

Second, Appellee contended this Court did not have jurisdiction in this appeal because Appellants failed to seek a hearing of the agency decision in accordance with the Administrative Procedure Act. Appellees contend that, because Appellants had taken the position that the Zendri letters constituted an appealable agency action within the meaning of A.R.S. § 41–1092(3), "they had an obligation to request a hearing on that action pursuant to A.R.S. § 41–1092.03(B) and to complete the administrative appeal process *before* seeking judicial review under the Administrative Review Act." (Appellees' Joint Answering Brief at 9–10; emphasis original.)

Third, Appellees contended that "even if Ms. Zendri's advisory letters constitute a final administrative decision and Appellants' failure to exhaust administrative remedies is ignored, Appellants, as a matter of law, had no right to appeal the Certification." (Appellees' Joint Answering Brief at 10, ll. 15–17.)

At the oral argument held January 27, 2016, Appellees again took the position that the Zendri letters were not the action of the administrative agency (AzDEQ), thus this Court did not have jurisdiction to review what had happened below. This Court raised the question whether this Court could treat the current action as a special action in the nature of mandamus and order the Director of AzDEQ to take some action as Director of, and on behalf of, AzDEQ. This Court ordered the parties to file supplemental briefs on that issue. The parties have now done so.

II. DISCUSSION.

In their Joint Supplemental Brief, filed June 1, 2016, Appellees state the following:

> Appellees acknowledge that Ms. Zendri was authorized to act on behalf of ADEQ (but as the agency's Administrative Counsel, and not as its Director) and that her correspondence is consistent with ADEQ's position in this case. But that does not mean Ms. Zendri is authorized to issue final administrative decisions on behalf of ADEQ or that her communications are appealable under the ARA.
>
> As a result, there are two serious jurisdictional problems which affect the Court's interlocutory powers, including its authority to issue the contemplated order. First, as stated, the ARA provides for judicial review in the superior court of "a final decision of an administrative agency." A.R.S. § 12–902(A)(1). Ms. Zendri is not the ADEQ Director, and her letters do not constitute the final administrative decision of ADEQ. See Appellees' Ans. Br. At 6–8.
>
> Second, Appellants failed to exhaust their administrative remedies. Under the Administrative Procedure Act ("APA"), A.R.S. §§ 41–1092 to 41–1092.12, a party who is adversely affected by an "appealable agency action" is required to request a hearing and complete the administrative appeal process. At the end of that process, a final administrative decision is issued by the agency head or board. *See* A.R.S. § 41–1092.08. Even if Ms. Zendri's letters were an appealable agency action—as Appellants must contend—they did not seek a hearing and obtain a final administrative decision. Consequently, their appeal is barred by A.R.S. § 41–1092.08(H) and by the doctrine of exhaustion of administrative remedies. See Appellees' Ans. Br. At 8–10.

(Joint Supp. Brief, filed Jun. 1, 2016, at 3–4.) This Court accepts Appellees' position that "Ms. Zendri is [not] authorized to issue final administrative decisions on behalf of ADEQ" even though "her correspondence is consistent with ADEQ's position in this case." (Joint Supp. Brief, filed Jun. 1, 2016, at 3, ll. 15–17.) Zendri's letters indicated that AzDEQ had adopted a position on Appellants' right to appeal that was contrary to Appellants' position, but AzDEQ chose to express that position, not by the issuance of an administrative decision by the Director of AzDEQ, but by means of "advisory communications from agency counsel to counsel for the Appellants." (Appellees' Joint Answering Brief at 7, ll. 14–15.) AzDEQ's position is that, because Ms. Zendri's letters are only "advisory communications" and not final administrative decisions by the agency, Appellants have no right to appeal to this Court. That would also mean Appellants had no right to seek review by means of a hearing by the Office of Administrative Hearings, which is what Appellants tried to do. Although AzDEQ is entitled to take any position it wishes on Appellants' contention that they have the right to appeal AzDEQ's issuance of the final Certification to Rosemont, this Court is of the opinion that AzDEQ is not entitled to insulate itself from judicial review by having its Administrative Counsel issue "advisory communications," rather than having its Director issue an administrative decision.

On the issue of jurisdiction, this Court is of the opinion that, if it does not have jurisdiction because AzDEQ has not issued a final administrative decision, this Court has the jurisdiction to treat these proceedings as a special action in the nature of mandamus. This Court will therefore order the Director of AzDEQ to issue an administrative decision on Appellants' request to appeal AzDEQ's issuance of the final Certification to Rosemont. In making this order, this Court is aware that it has no authority to order the Director of AzDEQ to decide this matter in any particular way. Thus, AzDEQ and its Director have complete discretion to decide in any way they deem appropriate on Appellants' request to appeal AzDEQ's issuance of the final Certification to Rosemont. Under this Court's order, the only thing AzDEQ and its Director must do is reduce that decision to writing in such a manner that it becomes an administrative decision, so that Appellants may pursue further administrative remedies if they choose to do so.

III. CONCLUSION.

Based on the foregoing, this Court concludes AzDEQ does not have the authority to reject a permissible request (for further review) by Appellants, and then insulate itself from judicial review by having its Administrative Counsel issue "advisory communications," rather than having its Director issue an administrative decision. This Court further determines there is no just reason to delay entry of judgment and no further matters remain pending, and thus this judgment is entered pursuant to Rule 54(c).

IT IS THEREFORE ORDERED treating these proceedings as a Special Action in the nature of mandamus.

IT IS FURTHER ORDERED that the Director of AzDEQ to issue an administrative decision on Appellants' request to appeal AzDEQ's issuance of the final Certification to Rosemont.

IT IS FURTHER ORDERED entering this judgment pursuant to Rule 54(c).

IT IS FURTHER ORDERED signing this minute entry as a formal Order of the Court.

/s/ Crane McClennen
THE HON. CRANE MCCLENNEN
JUDGE OF THE SUPERIOR COURT

071520161150•

NOTICE: LC cases are not under the e-file system. As a result, when a party files a document, the system does not generate a courtesy copy for the Judge. Therefore, you will have to deliver to the Judge a conformed courtesy copy of any filings.

Exhibit F

Administrative Law Judge Decision

IN THE OFFICE OF ADMINISTRATIVE HEARINGS

In The Matter Of:	No. 16A-P33-DEQ
ROSEMONT COPPER 401 CERTIFICATION	**ADMINISTRATIVE LAW JUDGE DECISION**
Appellants: Pima County and Pima County Flood Control District	

HEARING: Oral argument held on February 7, 2017

APPEARANCES: Andrew Flagg, Esq. and Charles Wesselhoft, Esq. for Appellants; Norman James, Esq. for Rosemont Copper Company; Curtis Cox, Esq. and Bradley Pollock, Esq. for the Arizona Department of Environmental Quality

ADMINISTRATIVE LAW JUDGE: Thomas Shedden

FINDINGS OF FACT

1. On November 1, 2016, the Arizona Department of Environmental Quality ("ADEQ") issued a Notice of Hearing setting the above-captioned matter for hearing on December 20, 2016, at the Office of Administrative Hearings in Phoenix, Arizona.

2. The Appellants are Pima County and Pima County Flood Control District (referred to collectively as "Pima County" or the "County"). Rosemont Copper Company was also a party in the matter.

3. The basic issue is whether Pima County meets the statutory requirements to file an administrative appeal of ADEQ's issuance to Rosemont of a Clean Water Act section 401 certification.

4. The parties agreed that the issue could be resolved as a matter of law, but ADEQ's administrative record, consisting of twelve exhibits, was taken into evidence.

5. Rosemont plans to build and operate an open pit copper mine in Pima County and it has applied to the Army Corp of Engineers for a section 404 (dredge and fill) permit under the Clean Water Act.

6. There are two types of section 404 permits, individual and general permits. Rosemont has applied for an individual permit.

7. A section 404 permit cannot be issued to Rosemont unless ADEQ first issues a section 401 certification.

8. On February 3, 2015, ADEQ issued to Rosemont the required section 401 certification. The section 401 certification provides that ADEQ has determined that Rosemont's proposed activities will not violate the applicable surface water quality standards. The certification is exhibit 6 in the Administrative Record ("A.R." 6).

9. Pima County filed with ADEQ a Notice of Appeal arguing that ADEQ's decision to issue the certification should be reversed. A.R.7.

10. Through a letter dated March 23, 2015, ADEQ informed Pima County that its appeal was being rejected because Pima County was not authorized under ARIZ. REV. STAT. section 49-202(H) to bring such an appeal.[1] A.R. 8.

11. Pima County filed with ADEQ a request for reconsideration, in which it asserted that its appeal was also proper under ARIZ. REV. STAT. section 41-1092.03(B), and that it had properly raised that point in its appeal. A.R. 9.

12. Through a letter dated May 1, 2015, ADEQ affirmed its position that it was unable to accept an appeal from Pima County. A.R. 10.

13. Pima County filed an action in Maricopa County Superior Court requesting the Court to review the Decision of ADEQ's Director, by which it meant ADEQ's March 23 and May 1, 2015 letters.[2] *See* A.R. 11 (Minute Entry July 14, 2016).

14. At the Superior Court, ADEQ took the position that ADEQ's Director had not taken any action, and that the letters were advisory communications. In the alternative, ADEQ asserted that if its letters were a Director's Decision, Pima County had failed to exhaust its administrative remedies. ADEQ argued that the Court had no jurisdiction in either scenario. Id.

15. The Superior Court did not accept ADEQ's position, finding that ADEQ had impermissibly "insulate[d] itself from judicial review." The Court ordered that the matter should be treated as a special action (mandamus) and it ordered ADEQ to issue an administrative decision on Pima County's request to appeal ADEQ's issuance of the section 401 certification. A.R. 11.

---

[1] Prior to an amendment in 1998, the applicable provision was found in subsection 49-202(G).
[2] Rosemont was also a party in that matter.

16. Through a letter dated September 26, 2016, ADEQ provided that: "Pursuant to [the Superior Court's order] ADEQ is granting appeal rights to Pima County for ADEQ's March 23, 2015 letter." In its letter, ADEQ reiterated its position that Pima County did not meet the requirements of ARIZ. REV. STAT. section 49-202(H) and consequently, that ADEQ was unable to accept the appeal. A.R. 12.

17. On November 1, 2016, ADEQ issued the Notice of Hearing. The scope of this matter is limited to whether Pima County has a right to appeal ADEQ's decision.

18. On December 13, 2016, Pima County filed an Opening Brief; ADEQ and Rosemont file a Joint Response on January 13, 2017; Pima County a Reply on January 25, 2017; and oral argument was held on February 7, 2017.

19. ADEQ and Rosemont argue that the right to appeal a 401 certification is governed exclusively by ARIZ. REV. STAT. section 49-202(H) and that because Pima County does not meet those requirements, ADEQ properly rejected the County's appeal.

20. ADEQ and Rosemont also argue that the issuance of a section 401 certification is not an appealable agency action and that ARIZ. REV. STAT. section 41-1092.03 does not apply.

21. Pima County argues to the effect that ADEQ's issuance of a section 401 certification is an appealable agency action subject to appeals under ARIZ. REV. STAT. section 41-1092.03 and that subsection 49-202(H) added to, rather than limited, those who can appeal by allowing appeals of certifications of general permits.

22. Pima County argues that ADEQ's interpretation of the statutes is not logical because under ADEQ's interpretation, a person who is adversely affected by the certification of a general or nationwide 404 permit can appeal, but the same is not true for persons adversely affected by the certification of individual permits and individual 404 permits will have a more substantial impact.

23. Pima County acknowledges that the first sentence of subsection 49-202(H) is redundant to subsection 41-1092.03(B), but, citing ARIZ. REV. STAT. section 41-1002(B), it argues that the legislature did not expressly eliminate appeals under 41-1092.03 when it modified ARIZ. REV. STAT. section 49-202.

24. Pima County argues it meets the requirements of 41-1092.03(B) because it will be adversely affected by the certification and it exercised its right to comment.

25. Through Laws 1996, Chapter 2, Article 1, the legislature clarified ADEQ's authority to issue section 401 certifications by modifying and expanding ARIZ. REV. STAT. section 49-202, which statute was modified again in 1998. Pima County's Opening Brief at Appendix A provides a copy Laws 1996, Ch. 2, Art. 1 and its legislative history.

26. Pima County argues that nothing in the legislative history indicates an intent to preclude a non-applicant from appealing the certification of an individual section 404 permit because there is no discussion of appeal rights in that history other than a summary of the bill's language. ADEQ and Rosemont argue to the effect that the legislative history does show an intent to limit appeals because the history shows that the legislation was intended to create "a specific procedure" using "specific criteria."

CONCLUSIONS OF LAW

1. The burden of proof at an administrative hearing falls to the party asserting a claim, right or entitlement, and the standard of proof on all issues in this matter is that of a preponderance of the evidence. ARIZ. ADMIN. CODE § R2-19-119.

2. A preponderance of the evidence is:

> The greater weight of the evidence, not necessarily established by the greater number of witnesses testifying to a fact but by evidence that has the most convincing force; superior evidentiary weight that, though not sufficient to free the mind wholly from all reasonable doubt, is still sufficient to incline a fair and impartial mind to one side of the issue rather than the other.

BLACK'S LAW DICTIONARY 1373 (10th ed. 2014).

3. Because Rosemont cannot be issued a section 404 permit unless ADEQ issues the section 401 certification, the certification determines Rosemont's legal rights or privileges within the meaning of ARIZ. REV. STAT. section 41-1092(3). As such ADEQ's issuance of the certification meets the definition of an appealable agency action. ARIZ. REV. STAT. § 41-1092(3) ("'Appealable agency action' means an action that determines the legal rights, duties or privileges of a party and that is not a contested case.")

4. A statute is to be construed to "avoid ... render[ing] any of its language mere surplusage, and instead give meaning to each word, phrase, clause, and sentence so that no part of the statute will be void, inert, redundant, or trivial." *City of Phoenix v. Phoenix Emp't Relations Bd.*, 207 Ariz. 337, 340-41 ¶ 11, 86 P.3d 917, 920-21 (App. 2004)

5. ADEQ's interpretation of the applicable statutes should be given considerable weight unless there is clear statutory guidance contrary to ADEQ's interpretation. *Arizona Water Co. v. Arizona Department of Water Resources*, 208 Ariz. 147, 91 P.3d 990 (2004).

6. As pertinent to this matter, ARIZ. REV. STAT. section 49-202(A) provides that ADEQ "is designated as the agency for this state for all purposes of the clean water act .... [and] may take all actions necessary to administer and enforce [the act] as provided in this section...."

7. As pertinent to this matter, ARIZ. REV. STAT. section 49-202(B) provides that ADEQ "shall process requests under section 401 of the clean water act for certification of permits required by section 404 of the clean water act in accordance with subsections C through H of this section."

8. ARIZ. REV. STAT. section 49-202(H) provides:

> Pursuant to title 41, chapter 6, article 10 an applicant for certification may appeal a denial of certification or any conditions imposed on certification. Any person who is or may be adversely affected by the denial of or imposition of conditions on the certification of a nationwide or general permit may appeal that decision pursuant to title 41, chapter 6, article 10.

9. Because Pima County is not the applicant for certification in this matter, it has no authority under ARIZ. REV. STAT. section 49-202(H) to appeal ADEQ's decision to issue the 401 certification.

10. Pima County argues that the appeal rights found in ARIZ. REV. STAT. section 41-1092.03(B) also apply to section 401 certifications. As pertinent to this matter, ARIZ. REV. STAT. section 41-1092.03(B) provides:

> A notice of appeal or request for a hearing also may be filed by a party who will be adversely affected by the appealable agency action or contested case and who exercised any right provided by law to comment on the action being appealed or contested, provided that the grounds for the notice of appeal or request for a hearing are limited to issues raised in that party's comments.

11. Pima County's position is not consistent with the principals set out in *City of Phoenix* because the first sentence of ARIZ. REV. STAT. section 49-202(H) is redundant to appeal rights that applicants for individual permits would already have had under section 41-1092.03(B). Pima County acknowledges as much, but argues to the effect that *City of Phoenix* does not apply based on ARIZ. REV. STAT. section 41-1002(B), which provides:

> This chapter creates only procedural rights and imposes only procedural duties. They are in addition to those created and imposed by other statutes. To the extent that any other statute would diminish a right created or duty imposed by this chapter, the other statute is superseded by this chapter, unless the other statute expressly provides otherwise.

12. Pima County's argument is not persuasive because when the legislature amended ARIZ. REV. STAT. section 49-202, it limited ADEQ's authority by including the phrase "as provided in this section" and by directing ADEQ to process certifications "in accordance with subsections C through H of this section." ARIZ. REV. STAT. §§ 49-202(A) and (B).

13. In addition, as ADEQ interprets the applicable statutes, these limitations mean that ARIZ. REV. STAT. section 41-1092.03(B) does not apply. ADEQ's positon is supported by the legislative history showing that the legislation was intended to create "a specific procedure" using "specific criteria," Ariz. State Sen., Final Revised Fact Sheet for S.B. 1290, and there is no clear statutory guidance contrary to ADEQ's interpretation of the statutes.

14. As such, Pima County has not shown that ADEQ's decision to reject the County's appeal should be reversed.

ORDER

IT IS ORDERED that Pima County's and Pima County Flood Control District's appeals are dismissed.

In the event of certification of the Administrative Law Judge Decision by the Director of the Office of Administrative Hearings, the effective date of the Order is five days after the date of that certification.

Done this day, March 2, 2017.

/s/ Thomas Shedden
Thomas Shedden
Administrative Law Judge

Transmitted electronically to:

Misael Cabrera, PE, Director
Department of Environmental Quality

Exhibit G

Final Administrative Decision

BEFORE THE DIRECTOR OF THE
DEPARTMENT OF ENVIRONMENTAL QUALITY

In the matter of:	
ROSEMONT COPPER 401 CERTIFICATION Appellants: Pima County and Pima County Flood Control District	No. 16A-P33-DEQ **FINAL DECISION AND ORDER**

Disposition of the Recommended Decision of the Administrative Law Judge

The Director has reviewed the Administrative Law Judge (ALJ) Decision and Order, as well as the record in this matter. The ALJ has recommended dismissal of the appeal upon appellant's failure to show by a preponderance of the evidence that ADEQ's decision to reject the County's appeal should be reversed. The basic issue is whether Pima County meets the statutory requirements to file an administrative appeal of ADEQ's issuance to Rosemont of a Clean Water Act ("CWA") section 401 certification.

ADEQ SUMMARY OF FINDINGS OF FACTS

A. On February 3, 2015, ADEQ issued to Rosemont.Copper ("Rosemont") the required CWA section 401 certification. The section 401 certification provides that ADEQ has determined that Rosemont's proposed activities will not violate the applicable surface water quality standards.

B. Pima County filed with ADEQ a Notice of Appeal arguing that ADEQ's decision to issue the certification should be reversed.

C. ADEQ responded on March 23 and May 1, 2015 with letters stating pursuant to Arizona Revised Statute (A.R.S.) § 49-202(H), Pima County did not meet the requirements of a party with standing to appeal.

D. Pima County filed an action in Maricopa County Superior Court requesting the Court to review the March 23 and May 1, 2015 letters.

E. The Court determined the March 23 and May 1, 2015 letter were final agency actions and ordered ADEQ to reissue the determination including administrative appeal language as required by A.R.S. §41-1092.03.

ADEQ SUMMARY OF CONCLUSIONS OF LAW

A. The ALJ found Pima County is not the applicant for certification in this matter, therefore it has no authority under A.R.S. §49-202(H) to appeal ADEQ's decision to issue the section 401 certification.

B. The ALJ found how ADEQ interprets A.R.S. §49-202(H) is appropriate; therefore, A.R.S. §41-1092.03(B) does not apply to Pima County.

C. Pima County has not shown ADEQ's decision to reject the County's appeal should be reversed.

Pursuant to Arizona Revised Statute (ARS) §41-1092.08(B), for the rationale above, the Director of ADEQ accepts the ALJ Decision and Order based upon the finding that the appellant's failed to show by a preponderance of the evidence that ADEQ's decision to reject the County's appeal should be reversed. The matter is therefore dismissed accordingly.

ORDER

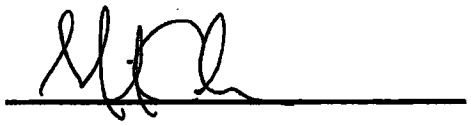
IT IS ORDERED that Pima County's and Pima's County Flood Control District appeal in Docket No. 16A-P33-DEQ is dismissed. This is the Final Decision of the Director of ADEQ.

Notice of Right to Request a Rehearing or Review

A party to this matter may file a Motion for Rehearing or Review within thirty (30) days after service of this Final Decision and Order pursuant to A.R.S. § 41-1092.09. A party

is not required to file a Motion for Rehearing or Review to seek judicial review of this Final Decision and Order. A.R.S. § 41-1092.09(A)(3).

DATED this 31st day of March, 2017.



Misael Cabrera, Director
Arizona Department of Environmental Quality

ORIGINAL filed this 31st day of March, 2017, with:

Anakaren Lemus, Hearing Administrator
Office of Administrative Counsel
Arizona Department of Environmental Quality
1110 W. Washington Street, #6135C
Phoenix, AZ 85007

Copy of the forgoing sent certified mail this 31st day of March, 2017, to:

Pima County
130 W. Congress, 10th Floor
Tucson, AZ 85701

Pima County Flood Control District
201 N. Stone 9th Floor
Tucson, AZ 85701

Copy of the foregoing sent via email this 31st day of March, 2017, to:

Thomas Shedden
Administrative Law Judge
Office of Administrative Hearings
1400 W. Washington, Suite 101
Phoenix, AZ 85007

Sherri Zendri, Administrative Counsel
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007

Curtis Cox, Assistant Attorney General
Environmental Enforcement Section
Office of the Attorney General
1275 W. Washington
Phoenix, AZ 85007

Carol Gilbert, Administrative Assistant
Administrative Appeals Desk
Environmental Enforcement Section
Office of the Attorney General
1275 W. Washington
Phoenix, AZ 85007

ATTACHMENT 7

ATTACHMENT 7:

THE SAWMILL FIRE BURNED HABITAT OF LISTED SPECIES IDENTIFIED IN THE BIOLOGICAL OPINION

The Sawmill Fire is much larger than previous fires evaluated in the Rosemont EIS process. The fire has directly altered habitat conditions in four of the Biological Opinion's Key Reaches. Indirect impacts are expected on all five of the remaining wetlands and the Threatened and Endangered species they support, especially Cienega Creek 7, 13, and 15, all of which are downstream of the fire, via ash and sediment mobilized during subsequent flows. Impacts to listed species and aquatic resources should be evaluated prior to a decision.

Fire Size and Estimated Impact

At over 43,000 acres, the Sawmill Fire is almost twice the size of the largest fire identified in the FEIS analysis (Table 78, below). As such, the Sawmill Fire likely significantly changed baseline conditions in the Cienega Valley, in particular for the aquatic and riparian species that were the basis for the U.S. Fish and Wildlife Service's (USFWS) Biological Opinion (BO).

Table 78. Summary of past wildfires larger than 10 acres

Fire	Date Started	Acres	Affected Area Relative to Analysis Area (percent)
Gardner Fire	07/18/89	75	0.5
Fagan Fire	08/08/95	134	0.8
Florida Fire	07/07/05	23,186	142.5
Fagan Fire	04/30/07	533	3.3
Hilton Fire	2/11/12	432	2.7
Mulberry Fire	06/02/08	61	0.4
Melendrez Fire	05/29/09	5,791	35.6
Fish Fire	04/21/09	2,026	12.5
Greaterville Fire	05/02/11	2,331	14.3

Biological and Ecological Elements

The BO segmented Cienega Creek based on discrete hydrological and geographic units (Key Reaches) and reviewed impacts to Threatened and Endangered species at these reaches. Of the nine Key Reaches with significance to the BO, four were areas were directly impacted by the Sawmill Fire (Figure 1):

- Cienega Creek Reach 4. Approximately 0.8 mile long, located on Upper Cienega within the Las Cienegas NCA, immediately upstream of Mattie Canyon;
- Cienega Creek Reach 5. Approximately 0.8 mile long, located on Upper Cienega Creek, within the Las Cienegas NCA, downstream of Mattie Canyon and containing the USGS Sonoita stream gage.
- Empire Gulch Reach 1. Approximately 0.3 mile long, located within the Las Cienegas NCA immediately downstream from the Upper Empire Gulch Springs, near the Empire Ranch Headquarters.
- Empire Gulch Reach 2. Approximately 1 mile long, located within the Las Cienegas NCA immediately upstream of the Cienega Creek confluence.

Indirect impacts are expected to occur on all five of the remaining wetlands and the Threatened and Endangered species they support, especially Cienega Creek 7, 13, and 15, all of which are downstream of the fire.

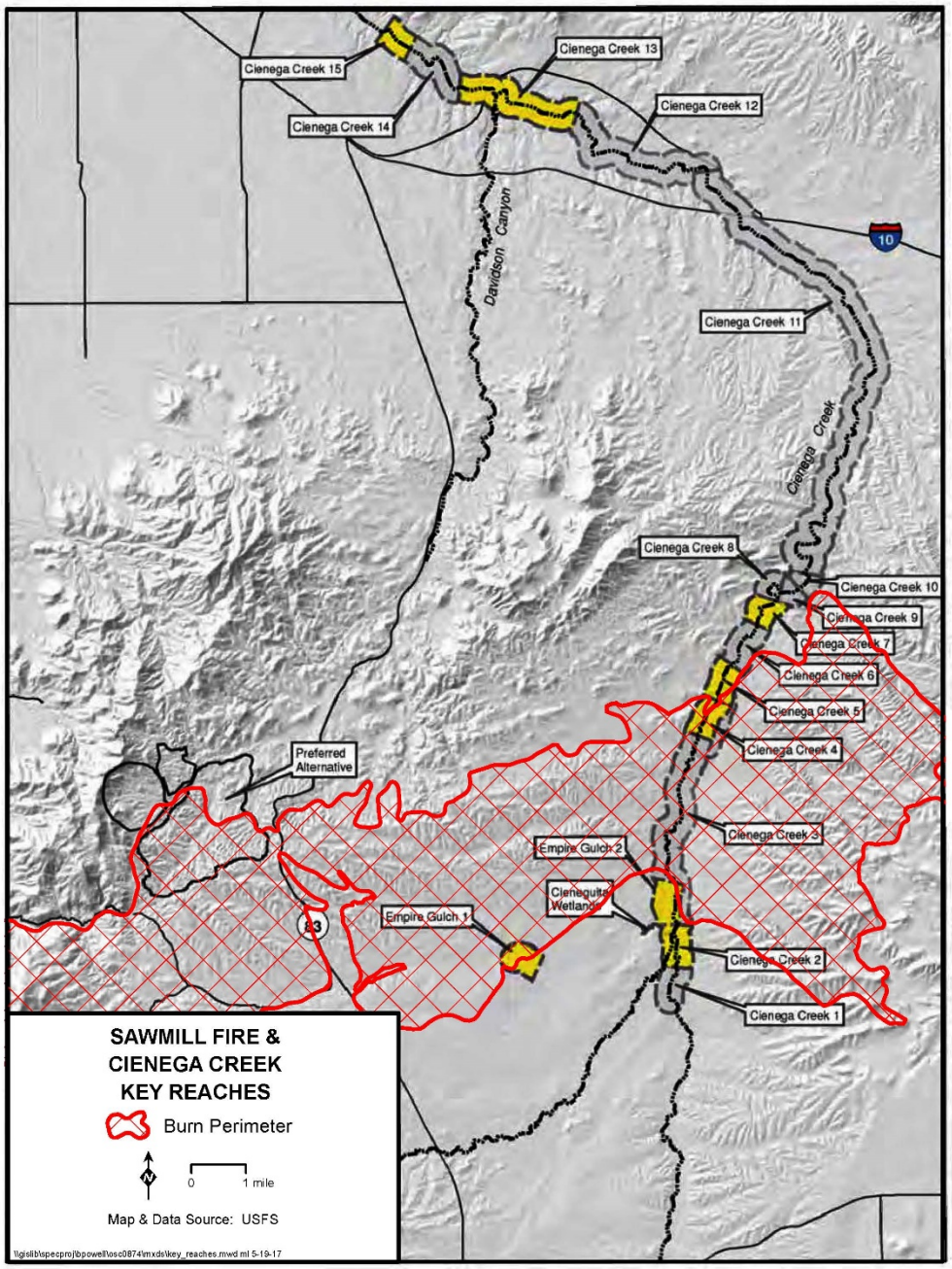


Figure 1. Key Reaches identified in the U.S. Fish and Wildlife Service's Biological Opinion (page 37) with the extent of the Sawmill Fire superimposed.

Fire Effects on Aquatic Habitat: Gila Chub, Gila topminnow, and Chiricahua leopard frog

The Sawmill Fire was primarily a low-intensity fire, but burned key riparian areas and upland areas that will contribute ash and sediment to the Cienega Creek system. With regard to Gila

chub, Gila topminnow, and Chiricahua leopard frogs, the BO considers "the present-day state of the hydrology to represent the baseline condition". All effects, whether the result of anticipated climate change alone, mine drawdown alone, and/or climate change and mine drawdown combined, are described in terms of their divergence from present, pre-project conditions". The Sawmill Fire fundamentally changed this baseline.

It is too early to know the fire's impacts on these species, but studies in other areas after large fires have noted the impacts on water quality and habitat. Studies have found that ash and debris flows following large fires can radically alter sediment loads and stream channel characteristics (Dunham et al. 2007; Cawson et al. 2013; Nyman et al. 2015; Tuckett and Koetsier 2016). We are concerned, in particular for the deeper pool for the both the chub and topminnow. There will likely be a change in baseline physical habitat for these species.

The BO places great emphasis on dissolved oxygen as key and limiting feature of the Cienega Creek environment. Bodner et al. (2007) noted "Fishless pools that were likely caused by low levels of dissolved oxygen have already been observed in Cienega Creek." While the fire cleared the canopy ash trees that may have been contributing to lower oxygen levels, the silt and ash from the fire may significantly impact dissolved oxygen levels. Low dissolved oxygen levels has been found to impact fish populations post fire (Earl and Blinn 2003; Hitt 2003; Lyon and O'Connor 2008; Reale et al. 2015). We encourage data collection through the summer and fall of 2017 to determine new baseline conditions for these species and their habitat.

Fire Effects on Southwestern Willow Flycatcher and Yellow-billed Cuckoo Habitat

The Sawmill Fire also impacted the large riparian trees and streamside undergrowth upon which the yellow-billed cuckoos and southwestern willow flycatcher rely, respectively. Early assessment of the fire's extent and damage have not been done, but we know that areas around the Empire Gulch were severely damaged. While understanding the impacts of the fire on fish and frog populaitons may be difficult to understand, the link between structural and floristic elements of bird habitat have a long and well documented body of literature (e.g., Karr and Freemark 1983; Hall and Mannan 1999; Powell and Steidl 2002; Hatten and Paradzick 2003). As with the fishes and frogs, we encourage studies in the spring and summer of 2017 to understand the changes in vegetation and bird populations so that baseline conditions can be reevaluated.

Additional Resources that Changed as a result of the Sawmill Fire

- **Jaguar**: The critical habitat pinchpoint over the saddle of the Santa Rita Mountains was entirely burned over. Listing document for the species and its recovery plan make no mention of whether jaguars avoid or favor burned over areas.
- **Soils:** Baseline soil quantities from reclamation may be impacted by the fire; this has not been taken into account.
- **Springs**: Approximately 6 springs are located within the burn area and which were analyzed as part of the EIS.
- **Stock tanks**: Not evaluated for ash flows. It is likely that Chiricahua leopard from habitat has been impacted along Box Canyon: Box Canyon Tank, Sycamore Canyon tank.

Literature Cited

Bodner, G., J. Simms, and D. Gori. 2007. State of the Las Cienegas National Conservation Area: Gila topminnow population status and trends 1989-2005. The Nature Conservancy, Tucson, Arizona.

Cawson, J. G., G. J. Sheridan, H. G. Smith, and P. N. J. Lane. 2013. Effects of fire severity and burn patchiness on hillslope-scale surface runoff, erosion and hydrologic connectivity in a prescribed burn. Forest Ecology and Management 310:219-233.

Dunham, J. B., A. E. Rosenberger, C. H. Luce, and B. E. Rieman. 2007. Influences of wildfire and channel reorganization on spatial and temporal variation in stream temperature and the distribution of fish and amphibians. Ecosystems 10:335-346.

Earl, S. R., and D. W. Blinn. 2003. Effects of wildfire ash on water chemistry and biota in South-Western USA streams. Freshwater Biology 48:1015-1030.

Hall, L. S., and R. W. Mannan. 1999. Multiscaled habitat selection by elegant trogons in southeastern Arizona. Journal of Wildlife Management 63:451-461.

Hatten, J. R., and C. E. Paradzick. 2003. A multiscaled model of southwestern willow flycatcher breeding habitat. Journal of Wildlife Management 67:774-788.

Hitt, N. P. 2003. Immediate effects of wildfire on stream temperature. Journal of freshwater ecology 18:171-173.

Karr, J. R., and K. E. Freemark. 1983. Habitat selection and environmental gradients: Dynamics in the "stable" tropics. Ecology 64:1481-1494.

Lyon, J. P., and J. P. O'Connor. 2008. Smoke on the water: Can riverine fish populations recover following a catastrophic fire-related sediment slug? Austral Ecology 33:794-806.

Nyman, P., H. G. Smith, C. B. Sherwin, C. Langhans, P. N. J. Lane, and G. J. Sheridan. 2015. Predicting sediment delivery from debris flows after wildfire. Geomorphology 250:173-186.

Powell, B. F., and R. J. Steidl. 2002. Habitat selection by riparian songbirds breeding in southern Arizona. Journal of Wildlife Management 66:1096-1103.

Reale, J. K., D. J. Van Horn, K. E. Condon, and C. N. Dahm. 2015. The effects of catastrophic wildfire on water quality along a river continuum. Freshwater Science 34:1426-1442.

Tuckett, Q. M., and P. Koetsier. 2016. Mid- and long-term effects of wildfire and debris flows on stream ecosystem metabolism. Freshwater Science 35:445-456.