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SUPERIOR COURT OF ARIZONA

MARICOPA COUNTY

IN RE THE GENERAL ADJUDICATION OF ALL RIGHTS TO USE WATER IN THE GILA RIVER SYSTEM AND SOURCE	Civil Nos. W-1, W-2, W-3 and W-4 Contested Case No. W1-103 **ASARCO LLC'S OBJECTIONS TO THE ARIZONA DEPARTMENT OF WATER RESOURCES' SUBFLOW ZONE DELINEATION REPORT FOR THE SAN PEDRO RIVER WATERSHED DATED JUNE 30, 2009** (Assigned to the Hon. Eddward P. Ballinger, Jr.)

DESCRIPTIVE SUMMARY: ASARCO LLC files its objections to the Arizona Department of Water Resources' Subflow Zone Delineation Report for the San Pedro Rive Watershed dated June 30, 2009.

STATEMENT OF CLAIMANT NUMBERS: ASARCO LLC – Nos. 39-U8-62699 et al.

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ASARCO LLC ("ASARCO") hereby objects to the Arizona Department of Water Resources' Subflow Zone Delineation Report for the San Pedro River Watershed, dated June 30, 2009 ("Subflow Report"). The Subflow Report fails to satisfy the standards established by *In re General Adjudication of All Rights to Use Water in Gila River Sys. & Source*, 198 Ariz. 330, 9 P.3d 1069 (2000), *cert denied*, 533 U.S. 941 (2001) ("*Gila IV*"), and must be rejected.

I. BACKGROUND

A. The Department's Subflow Report

The Supreme Court affirmed "in all respects" the Superior Court's Order (July 6, 1994) ("1994 Order") establishing criteria to determine whether underground water is appropriable as "subflow." *Gila IV*, 198 Ariz. at 344 ¶ 48, 9 P.3d at 1083. Following the Supreme Court's decision, this Court directed the Department of Water Resources ("Department") to prepare a report "identifying and describing the procedures and processes it proposes to use to establish the limits of the subflow zone within the San Pedro River watershed." Minute Entry at 1 (filed Jan. 22, 2002) ("January 22, 2002 Minute Entry"). The Department issued that report on March 22, 2002. *See* Subflow Technical Report San Pedro River Watershed (March 22, 2002) ("2002 Report").

The approach proposed in the 2002 Report deviated from the Supreme Court's directives.[1] ASARCO and other claimants objected to the Department's 2002 Report, and briefed issues regarding the Department's proposed procedures before the Special Master and this Court. *See* Report of the Special Master on the Arizona Department of Water Resources' Subflow Technical Report, San Pedro River Watershed; Motion for Approval

[1] The Supreme Court's directives are discussed in detail *infra* at II.A. The Department proposed to proceed with an assumption that the entire lateral extent of the floodplain Holocene alluvium is saturated, 2002 Report at 17; it proposed to use "predevelopment conditions" to determine the subflow zone, 2002 Report at 5-7; and it proposed to assume that the relevant *Gila IV* factors are subsumed within the scope of the lateral extent of the saturated floodplain Holocene alluvium, 2002 Report at 17.

of Report; and Notice of Subsequent Proceedings (July 16, 2004); Order Re: Report of the Special Master on the Arizona Department of Water Resources' Subflow Technical Report, San Pedro River Watershed and Motion for Approval of Report at 41-42 (Sept. 28, 2005) ("2005 Order"). ASARCO argued before the Special Master and this Court that the Department must adhere to all the Supreme Court's directives enumerated in *Gila IV* for delineating the subflow zone.[2] This Court, however, approved, and directed the Department to proceed with, the use of assumptions and procedures that are inconsistent with *Gila IV*. *See infra* at II.A., II.B., II.C.; *see also* 2005 Order at 8-24.

This Court directed the Department to prepare a technical report delineating the subflow zone for the San Pedro Watershed. *See* 2005 Order at 41-42. The 2005 Order authorized claimants to object to and comment on the Department's Subflow Report within 180 days of the filing of that Report. *Id.* at 42. The Department filed the Subflow Report on June 30, 2009.

ASARCO disagrees with this Court's determinations in the 2005 Order. This Court's instructions to the Department resulted in a report that does not comply with the Supreme Court's directives regarding subflow. ASARCO restates many of the arguments it made previously before this Court to ensure that those arguments are preserved for appeal.

B. Legal Principles Governing the Determination of Subflow

Underground waters are presumed to be percolating and, therefore, not subject to appropriation. *See Maricopa County Mun. Water Conservation Dist. v. Southwest Cotton Co.*, 39 Ariz. 65, 85, 4 P.2d 369, 376 (1931) ("*Southwest Cotton*"); *In re General*

[2] *See* ASARCO Incorporated's and Arizona Water Company's Objections to the Arizona Department of Water Resources' Subflow Technical Report, San Pedro River Watershed (June 17, 2002); ASARCO Incorporated's and Arizona Water Company's and Tucson Electric Power Company's Supplemental Brief on Subflow-Related Issues (March 3, 2004); Objections of ASARCO Incorporated and Arizona Water Company to the Report of the Special Master on the Arizona Department of Water Resources' Subflow Technical Report, San Pedro River Watershed; Motion for Approval of Report; and Notice of Subsequent Proceedings (Oct. 1, 2004).

Adjudication of All Rights to Use Water in Gila River Sys. & Source, 175 Ariz. 382, 392, 857 P.2d 1236, 1246 (1993) ("*Gila II*"); *Gila IV*, 198 Ariz. at 335 ¶ 6, 9 P.3d at 1074. Subflow is a "narrow concept," *Gila II*, 175 Ariz. at 393, 857 P.2d at 1247, generally defined as "'those waters which slowly find their way through the sand and gravel constituting the bed of the stream, or the lands under or immediately adjacent to the stream, and are themselves a part of the surface stream.'" *Gila IV*, 198 Ariz. at 334 ¶ 4, 9 P.3d at 1073 (citing *Southwest Cotton*, 39 Ariz. at 96, 4 P.3d at 380).

One who asserts that underground water is part of a stream's subflow must prove that fact by clear and convincing evidence. *Gila IV*, 198 Ariz. at 335 ¶ 6, 9 P.3d at 1074. The Department's "determination that a well is pumping appropriable subflow constitutes clear and convincing evidence." *Id.* The Supreme Court, recognizing the significance of the Department's determination, emphasized that "it is critical that any test used for determining the boundaries of a subflow zone be as *accurate and reliable as possible*." *Id.* (emphasis added).

Inherent in the use of a technical test to satisfy the clear and convincing evidence standard is the requirement that the test be conducted properly. *See Anonymous v. Anonymous*, 10 Ariz. App. 496, 499-500, 460 P.2d 32, 35-36 (1969). Accordingly, the Department's determinations represent clear and convincing evidence *only if* the Department employs the "proper test" and relies on "appropriate criteria." *See Gila IV*, 198 Ariz. at 355 ¶ 6, 9 P.3d at 1074.

The Supreme Court explained why proceeding with a defective subflow test in this Adjudication is unacceptable:

> The 50%/90 day rule was formulated to instruct DWR in the preparation of hydrographic survey reports, and merely creates a rebuttable presumption that wells meeting the test are pumping subflow. Nonetheless, *if the test is defective, its use would adversely affect the adjudication.* It would plant errors in every hydrographic survey report, which would have to be litigated according to the procedures set out in the Rules

> for Proceeding Before the Special Master, Rules 6.00-16.00. This would exacerbate an already lengthy and costly process. Perhaps even more significantly, *use of a flawed test for identifying wells pumping subflow could cause significant injustice*. Many surface owners unable to mount a challenge could effectively lose their right to pump percolating groundwater, simply because their wells were improperly presumed to be pumping appropriable subflow. Considering the time, expense, and importance of accurate hydrographic survey reports, and the complex lawsuits over their correctness, it would be *a senseless waste* to use a flawed presumption for identifying wells pumping subflow.

Gila II, 175 Ariz. at 388-89, 857 P.2d at 1242-43 (emphasis added). The Supreme Court later cautioned that:

> [U]se of an inaccurate test to determine whether a well is pumping subflow would not satisfy the clear and convincing evidentiary standard and would improperly shift the burden to the groundwater user to show that its well is not pumping subflow.

Gila IV, 198 Ariz. at 335 ¶ 6, 9 P.3d at 1074 (emphasis added).

For the reasons discussed below, the Department's Subflow Report fails to meet the standards established by the Supreme Court and must be rejected.

II. DISCUSSION

The Department described its process for delineating the subflow zone for the San Pedro Watershed as follows:

> ADWR delineated the subflow zones by first identifying those stream reaches that it determined had perennial or intermittent streamflow at predevelopment, and then applied the lateral extent of the floodplain Holocene alluvium. To map the subflow zone, the lateral extent of the floodplain Holocene alluvium was adjusted by 100- and 200-foot setbacks to account for side recharge from saturated basin fill and tributary alluvium, respectively . . . .

Subflow Report at 6-1. The Department's process, as approved by this Court, truncates the analysis required by the Supreme Court and elevates expediency of the process over accuracy and reliability of the outcome. *See Gila IV*, 198 Ariz. at 335 ¶ 6, 9 P.3d at 1074.

A. The Department's Subflow Report Fails to Consider All the Relevant Criteria for Delineating the Subflow Zone

The Supreme Court did not authorize the delineation of the subflow zone using the methodology approved by this Court and employed by the Department. *Compare Gila IV*, 198 Ariz. at 344 ¶ 48, 9 P.3d at 1083 *with* Subflow Report at 6-1 *and* 2005 Order at 9-11. In affirming the 1994 Order, the Supreme Court stated:

> The subflow zone is defined as the saturated floodplain Holocene alluvium. *DWR, in turn, will determine the specific parameters of that zone in a particular area by evaluating all of the applicable and measurable criteria set forth in the trial court's order and any other relevant factors.*

Gila IV, 198 Ariz. at 344 ¶ 48, 9 P.3d at 1083 (emphasis added). The Supreme Court expressly included in its opinion the "applicable and measurable criteria" for delineating the subflow zone listed in the 1994 Order:

> 1. A "subflow" zone is adjacent [to] and beneath a perennial or intermittent stream and not an ephemeral stream.
>
> 2. There must be a hydraulic connection to the stream from the saturated "subflow" zone.
>
> 3. Even though there may be a hydraulic connection between the stream and its floodplain alluvium to an adjacent tributary aquifer or basin-fill aquifer, neither of the latter two or any part of them may be part of the "subflow" zone.
>
> 4. That part of the floodplain alluvium which qualifies as a "subflow," beneath and adjacent to the stream, must be that part of the geologic unit where the flow direction, the water level elevations, the gradations of the water level elevations and the chemical composition of the water in that particular reach of the stream are substantially the same as the water level, elevation and gradient of the stream.
>
> 5. That part of the floodplain alluvium which qualifies as a "subflow" zone must also be where the pressure of side recharge from adjacent tributary aquifers or basin fill is so reduced that it has no significant effect on the flow direction of the floodplain alluvium. . . .
>
> 6. Riparian vegetation may be useful in marking the lateral limits of the "subflow" zone[,] particularly where there is

> observable seasonal and/or diurnal variations in stream flow caused by transpiration. However, riparian vegetation on alluvium of a tributary aquifer or basin fill cannot extend the limits of the "subflow" zone outside of the lateral limits of the saturated floodplain Holocene alluvium.
>
> 7. All wells located in the lateral limits of the "subflow" zone are subject to the jurisdiction of this adjudication no matter how deep or where these perforations are located. However, if the well owners prove that perforations are below an impervious formation which preclude[s] "drawdown" from the floodplain alluvium, then that well will be treated as outside the "subflow" zone.
>
> 8. No well located outside the lateral limits of the "subflow" zone will be included in the jurisdiction of the adjudication unless the "cone of depression" caused by its pumping has now extended to a point where it reaches an adjacent "subflow" zone, and by continual pumping will cause a loss of such "subflow" as to affect the quantity of the stream.

Id. 198 Ariz. at 338 ¶ 18, 9 P.3d at 1077 (quoting 1994 Order at 64-66). The Court also included the further explanation of the criteria applicable to delineating the subflow zone found in the 1994 Order:

> Also, in order to fulfill the definition of "subflow," the geologic unit must be saturated because of the need for a hydraulic connection between the stream and the "subflow." Further definition requires "subflow" to be a part of the surrounding floodplain of the stream basin. Those parts of the alluvial plain which it may be a part of or which it is connected to must be the alluvial plain of a perennial or intermittent stream and *not* an ephemeral stream or a part of the alluvial plain of a tributary aquifer even if there is an alluvial connection. Where the alluvial plain of tributary aquifers or ephemeral streams connects to the floodplain Holocene alluvium of the stream itself and provides tributary or basin fill recharge, that tributary aquifer must also be excluded because its flow direction is different and often perpendicular to the stream-flow direction.
>
> The evidence here shows that the only true geologic unit which is beneath and adjacent to the stream is the floodplain Holocene alluvium. *When it is saturated*, that part of the unit qualifies as the "subflow" zone, where the water which makes up the saturation flows substantially in the same direction as the stream, and the effect of any side discharge from tributary aquifers and basin fill is overcome or is

> negligible. Because low-flow streams like the San Pedro meander back and forth in a series of "S" curves within a wider principal or dynamic channel, flow direction must be the general overall direction of the stream. As [DWR expert] Steve Erb testified, as long as the subflow's direction is within 45 degrees of that general stream flow direction, the flow direction requirement is met.
>
> *If we add the following additional criteria, then even more certainty and reliability is provided. First,* the water level elevation of the "subflow" zone must be relatively the same as the stream flow's elevation. *Second,* the gradient of these elevations for any reach must be comparable with that of the levels of the stream flow. *Third,* there must be no significant difference in chemical composition that cannot be explained by some local pollution source which has a limited effect. *Fourth,* where there are connecting tributary aquifers or floodplain alluvium of ephemeral streams, the boundary of the "subflow" zone must be at least 200 feet inside of that connecting zone so that the hydrostatic pressure effect of the side recharge of this tributary aquifer is negligible and the dominant direction of flow is the stream direction. *Fifth,* where there is a basin-fill connection between saturated zones of the floodplain Holocene alluvium and a saturated zone of basin fill, the boundary of the "subflow" zone must be 100 feet inside of the connecting zone so that the hydrostatic pressure effect of the basin-fill's side discharge is overcome and the predominant direction of flow of all of the "subflow" zone is the same as the stream's directional flow . . . .

Gila IV, 198 Ariz. at 337-38 ¶ 17, 9 P.3d at 1076-77 (quoting 1994 Order at 56-58) (emphasis added).[3]

This Court previously rejected the notion that the Department could ignore one or more of the *Gila IV* factors in delineating the subflow zone. In clarifying its expectations regarding the scope of the Department's work, this Court stated:

> The Court has considered ADWR's position that the decision of the Arizona Supreme Court in "Gila IV" requires that the subflow zone be initially delineated by simply mapping the saturated lateral limits of the floodplain of this alluvium. Many claimants object to this procedure and assert that ADWR's current proposal is not legally sufficient. The Court notes that *the guidelines set forth in Gila IV direct ADWR to*

[3] Steve Erb, referred to by the Supreme Court as "DWR expert," was the Chief of the Adjudication Section for the Department when he testified before the Superior Court. *See* 1994 Order at 4.

> *use all criteria geologically and hydrologically appropriate for subflow determination in each watershed.* Even if ADWR is correct about the tasks mandated by Gila IV to determine the subflow zone, the work required to address the other considerations mentioned in Gila IV will serve to *confirm the accuracy* of ADWR's determinations. Therefore, in determining the subflow zone in the San Pedro River watershed ADWR shall use a methodology that addresses the appropriate use, if any, of *each of the criterion listed in Gila IV*, as well as any other relevant factors that will be helpful in insuring that ADWR's subflow zone determination is completed using all reasonable means to arrive at results that are as accurate as possible.

January 22, 2002 Minute Entry at 1-2 (emphasis added). This Court later reversed course and determined that the Department need consider only the saturated floodplain Holocene alluvium to determine the limits of the subflow zone. *See* 2005 Order at 8-11. This shift in position constitutes an erroneous departure from the Supreme Court's directives in *Gila IV*. *See Gila IV*, 198 Ariz. at 344 ¶ 48, 9 P.3d at 1083.

The Subflow Report does not contain the analysis required by *Gila IV*. It lacks any meaningful evaluation of conditions such as the underground water level gradient within the saturated floodplain Holocene alluvium; differences in water levels between the Holocene alluvium and the river; direction of underground water flow[4]; and water chemistry. These (and the other) factors have a significant, and determinative, effect on the delineation of the subflow zone. *See Gila IV*, 198 Ariz. at 338 ¶ 18, 9 P.3d at 1077 ("That part of the floodplain alluvium which qualifies as a "subflow" [zone], beneath and adjacent to the stream, *must be that part of the geologic unit* where the flow direction, the water level elevations, the gradations of the water level elevations and the chemical composition of the water in that particular reach of the stream are substantially the same as the water level, elevation and gradient of the stream." (emphasis added)).[5]

[4] The Department applied the setbacks designed to account for discharge from the saturated basin fill and tributary alluvium, which may impact flow direction. *See* Subflow Report at 5-1, 5-2. The Subflow Report does not otherwise consider flow direction.

[5] This Court authorized the Department to consider the criteria of *Gila IV* to be encompassed by the saturated extent of the floodplain Holocene alluvium. 2005 Order

The Supreme Court's direction that the Department consider all the *Gila IV* factors, not just identification of what the Department assumes to be the saturated floodplain Holocene alluvium, is made clear by the Court's statement that the added work will provide even more certainty and reliability. *See Gila IV*, 198 Ariz. at 337 ¶ 17, 9 P.3d at 1076. It is completely implausible that the Court would require that "the test used for determining the boundaries of a subflow zone be as accurate and reliable as possible," *id.* 198 Ariz. at 335 ¶ 6, 9 P.3d at 1074, yet allow the Department to ignore the factors that would promote the required degree of accuracy.

B. The Department's Assumption that the Entire Extent of the Floodplain Holocene Alluvium Is Saturated Is Inconsistent with *Gila IV* and the Hydrologic Reality of the San Pedro River Watershed

The Department, as permitted by this Court, assumed that the entire lateral extent of the floodplain Holocene alluvium is saturated for the purpose of delineating the subflow zone. Subflow Report at 2-4; 2005 Order at 41. This assumption is invalid and inconsistent with the hydrologic reality of the San Pedro River watershed.

The Department's own subflow witness, Mr. Burtell, conceded that portions of the floodplain Holocene alluvium along the San Pedro River may not be saturated:

> Q: And in fact, it's not all saturated; is it?
>
> A: As I just said, it's the assumption that we made in the report.
>
> Q: But I'm asking, in fact, if you go out in the field and you test all of the floodplain Holocene alluvium is not, in fact, saturated; correct?
>
> A: It's not a yes or no question. There are times when it will be saturated and there are times when it's possible that it will not be saturated.

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at 9-10. However, as discussed *infra* at II.B., this Court directed the Department to assume that the entire floodplain Holocene alluvium is saturated. This Court's instructions, taken as a whole, culminated in designation of a subflow zone inconsistent with the standard imposed by *Gila II*. *See Gila II*, 175 Ariz. at 392, 857 P.3d at 1246 ("As we stated above, it [the determination of whether a well is pumping subflow] turns on whether the well is pumping water that is more closely associated with the stream than with the surrounding alluvium.").

Transcript of Proceedings at 43, *In re Subflow Technical Report, San Pedro River Watershed* (Oct. 21-22, 2003) ("Trans."). Mr. Burtell further referenced "testing in the San Pedro River basin that shows the variability of the saturation of Holocene. . . ." *Id.* at 44. The Department acknowledged this fact in the Subflow Report. Subflow Report at 3-3 ("During entrenchment, the water table in saturated alluvium adjacent to a stream channel may be lowered and, for a brief period, increase the baseflow of the stream. Over time, the water table will reach a new equilibrium." (citation omitted)). Salt River Project's expert, Mr. Ford, also conceded that the saturated portion of the floodplain Holocene alluvium is not always conterminous with the lateral extent of the floodplain Holocene alluvium. Trans. at 256-58.

The flawed saturation assumption expands the narrow concept of subflow far beyond that approved by the Supreme Court. *See Gila IV*, 198 Ariz. at 342 ¶ 36, 9 P.3d at 1081. The Court expressly rejected the notion that the entire floodplain Holocene alluvium would necessarily constitute the subflow zone of a particular area:

> Contrary to the groundwater users' argument, the saturated floodplain Holocene alluvium does not automatically or necessarily encompass the entire younger alluvium. *Equating the two would fail to take into account the pertinent criteria that must be applied and satisfied for determining the "saturated" subflow zone in a particular area. See Southwest Cotton*, 39 Ariz. at 96, 4 P.2d at 380 (noting that "the water from the surface stream must necessarily fill the loose, porous material of its bed to the point of complete saturation before there can be any surface flow"). It also would conflict with our rejection in *Gila River II* of any unqualified, blanket rule that invariably would include "all of an alluvial valley's wells" or "all waters pumped any place in the younger alluvium" in the definition of subflow. 175 Ariz. at 391, 393, 857 P.2d at 1245, 1247.

Gila IV, 198 Ariz. at 342 ¶ 36, 9 P.3d at 1081 (emphasis added).[6] The Court further noted

[6] The Department assured this Court and the Supreme Court, through the testimony of Steve Erb, that it "does not include as part of a floodplain aquifer any area where the floodplain alluvium is above the water table." *Gila IV*, 198 Ariz. at 342 n.7 ¶ 35, 9 P.3d at 1081 n.7. The Supreme Court cited and relied on this assurance in dismissing the groundwater users' concerns in the passage quoted above. The Department's full

that "the saturated floodplain Holocene alluvium occupies only very narrow portions of the alluvial basins." *Id.*

The full saturation assumption is tantamount to including all younger alluvium wells in the Adjudication, a prospect "at odds with" the Supreme Court's view of subflow. *Gila II*, 175 Ariz. at 391, 857 P.2d at 1245 ("To say that all of an alluvial valley's wells may be pumping subflow is at odds with *Southwest Cotton's* statement that subflow is found within or immediately adjacent to the stream bed.").[7] Proceeding on the basis of an assumption that is contrary to evidence cannot yield results that are as accurate and reliable as possible as required by the Supreme Court. *See Gila IV*, 198 Ariz. at 335 ¶ 6, 9 P.3d at 1074.

C. The Subflow Report's Use of Predevelopment Conditions To Determine the Subflow Zone Is Inconsistent with *Gila IV*

The errors attendant the full saturation assumption and the failure to consider all the *Gila IV* factors are compounded by the Court's directive that the Department use predevelopment conditions[8] to determine the subflow zone. *See* Subflow Report at 2-1, 2-2; 2005 Order at 20-21.

The Department's application of the predevelopment conditions directive merits some explanation. The Subflow Report lacks any information on historical data demonstrating the saturation of the floodplain Holocene alluvium under predevelopment conditions. Rather, the Department assumed that the entire lateral extent of the floodplain

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saturation assumption is a complete about-face from the assurance on which the Supreme Court relied. This Court erred in approving that assumption.

[7] The Subflow Report demonstrates the massive reach of this assumption: "[T]he width of floodplain Holocene alluvium along the San Pedro River is typically hundreds of feet wide and can reach almost one mile in some areas." Subflow Report at 4-3.

[8] The Department considered predevelopment conditions to be those conditions "existing during an identifiable chronological year or range of years immediately prior to regular, discernable diversion or depletion of streamflows resulting from human activity." Subflow Report at 2-2; *see also* 2005 Order at 21. Nowhere in the Subflow Report does the Department indicate the year(s) or range(s) of years it considered as the predevelopment baseline.

Holocene alluvium historically was (and still is) saturated. Subflow Report at 2-4; *see supra*, at II.B. The Subflow Report also provides no data on the other *Gila IV* factors under predevelopment conditions. *See supra*, at II.A. It is therefore inaccurate to say that the Department considered "predevelopment conditions" to determine the subflow zone.

The Department did gather historic data to make its determinations on perennial, intermittent and ephemeral reaches of the San Pedro River, Aravaipa Creek, and Babocomari River. Subflow Report at 3-1-3-22.[9] The existence of a perennial or intermittent stream, however, is only one of the many factors the Department must consider in determining the subflow zone. *See Gila IV*, 198 Ariz. at 338 ¶ 18, 9 P.3d at 1077.

Furthermore, the use of predevelopment conditions is inconsistent with the Supreme Court's standards for determining subflow. In *Gila II* the Court struck down the 50%/90 day test, in part, because the rule set arbitrary limits rather than focusing on the nature of the water being pumped. 175 Ariz. at 392, 857 P.2d at 1246; *see also Gila IV*, 198 Ariz. at 336 ¶ 12, 9 P.3d at 1075.

In *Gila IV*, the Court reaffirmed that

> the determination of whether a particular well is pumping subflow depends on "whether the well is pumping water that is more closely associated with the stream than with the surrounding alluvium," . . . and "'whether *'drawing off the subsurface water tend[s] to diminish appreciably and directly the flow of the surface stream.*'" . . . That determination, in

[9] That data included: historic accounts of streamflow conditions; location of historic irrigation ditch diversions and ore mills; early streamflow data; analysis of 1935 aerial photographs; and recent streamflow data. *Id.* at 3-19. The Department included charts that illustrated its findings in Figures 3-20-3-23. Despite the existence of conflicting evidence, *see, e.g.,* Figure 3-21b, the Department determined that the San Pedro River was perennial or intermittent from the International Border to its confluence with the Gila River. Subflow Report at 3-19-3-21; *id* at Figures 3-21a-3-21d. The Department determined that the Babocomari River was perennial or intermittent from stream mile 21 to its confluence with the San Pedro River. Subflow Report at 3-21-3-22; *id.* at Figure 3-22. The Department determined that Aravaipa Creek was perennial or intermittent from stream mile 36 to its confluence with the San Pedro River. Subflow Report at 3-22; *id* at Figure 3-23.

> turn, necessitates a comparative evaluation of such factors as "elevation, gradient, [flow direction,] and perhaps chemical makeup."

198 Ariz. at 341 ¶ 30, 9 P.3d at 1080 (citations omitted; underlined emphasis added). The Supreme Court required that there be "a hydraulic connection to the stream from the saturated 'subflow' zone." *Id.* 198 Ariz. at 338 ¶ 18, 9 P.3d at 1077. If the Department's subflow test is to be as "accurate and reliable as possible," *id.* 198 Ariz. at 335 ¶ 6, 9 P.3d at 1074, the factors determining the nature of the water being pumped can only be considered under current conditions. As the Ninth Circuit observed in affirming the Federal Energy Regulatory Commission's decision to employ an existing project baseline rather than a pre-project baseline in evaluating the environmental impacts of a proposed relicensing: "It defies common sense and notions of pragmatism to require the [Federal Energy Regulatory] Commission or license applicants to 'gather information to recreate a 50-year-old environmental base upon which to make present day development decisions.'" *American Rivers v. FERC*, 201 F.3d 1186, 1197 (9th Cir. 2000). By applying unsubstantiated and therefore arbitrary estimates of unknown predevelopment conditions, the Subflow Report likely will result in the characterization of wells as capturing subflow that do not in fact withdraw appropriable subflow.

This Court approved the Department's use of predevelopment conditions, in part because it believed predevelopment conditions would "ensure the adjudication adopts a jurisdictional standard that assures surface water users that their rights are not prejudiced by the mere passage of time . . . ." 2005 Order at 21. That rationale unfairly shifts the burden to groundwater users and fails to account for the impacts of riparian vegetation, surface water diversions, and other factors on streamflows in the San Pedro River watershed. *See* Subflow Report at 3-4 ("Development of dense strands of woody riparian vegetation during the 20th Century has increased natural watershed use in the San Pedro River Watershed and, during the growing season, likely decreased the baseflow of its

major streams . . . . Across the watershed, ADWR (1991) estimated that water use by riparian vegetation in 1990 was substantial and totaled 52,600 acre-feet or almost 44% of the overall natural and cultural water uses that year." (citation omitted)); Subflow Report at 3-4 ("A decrease in the frequency, magnitude, and duration of storms across the watershed may also explain the decline in annual river flows over the period."); Subflow Report at 3-7 ("'[I]n the lower portion of its course, the river is in places dry, owing to the diversions made by a large number of small canals.'" (citation omitted)).

Finally, the statement that the Department's subflow zone is a "jurisdictional standard," 2005 Order at 21, that "merely sets parameters with respect to the Court's water use inquiry," *id.* at 16, discounts the significance the Supreme Court accorded to the Department's determination. *See Gila IV*, 198 Ariz. 335 ¶ 6, 9 P.3d at 1074 (noting that when the Department applies the appropriate standards for delineating the subflow zone, its determination that a well is located in that zone "constitutes clear and convincing evidence" that the well is pumping appropriable subflow). This shifting of the burden to the groundwater user is only appropriate if the Department's determinations are as accurate and reliable as possible. *See id.* The Report's reliance on arbitrary and unknown predevelopment conditions does not meet that standard.

III. CONCLUSION

For the foregoing reasons, ASARCO urges the Court to reject the Department's Subflow Report and order that the Subflow Report be revised to incorporate all the relevant criteria for determining subflow as required by *Gila IV*.

DATED this 23rd day of December, 2009.

FENNEMORE CRAIG, P.C.

By _____
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mailed this 23rd day of December,
2009, to all persons on the
Court-approved mailing list for
the Gila River Adjudication
dated July 27, 2009

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