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ALDRICH**

21 June 2013
File No. 37503-100

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

Attention: Ms. Danielle Taber, Project Manager
Voluntary Remediation Program and Remedial Project Unit

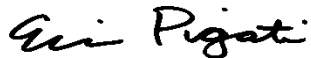
Subject: Response to Public Comments
Feasibility Study Work Plan
West Van Buren WQARF Site
Phoenix, Arizona

Dear Ms. Taber:

Please find enclosed the West Van Buren WQARF Site Working Group's Response to Comments for the March 2013 Feasibility Study Work Plan - Draft Final for the West Van Buren WQARF Site in Phoenix, Arizona. The comments are being transmitted via E-mail as well as overnight express.

Please call Scott Zachary at 619.993.1791 if you have questions or need additional copies.

Sincerely yours,
HALEY & ALDRICH, INC.



Eric Pigati
Senior Hydrogeologist



Scott Zachary
Vice President

Enclosures

CC:
G. Clement-G.M. Clement & Associates, Inc.
C. Thomas-Squires, Sanders & Dempsey L.L.P.
J. Drazek-Quarles & Brady LLP
B. Travers-Geosyntec Consultants
K. Gaylord-Jennings, Haug & Cunningham L.L.P.
P. Lagas-Haley & Aldrich, Inc.

Response to FS Work Plan Comments

On behalf of the West Van Buren WQARF Site Working Group (“Working Group”)¹, I am pleased to provide the Working Group’s responses to comments on its March 2013 Feasibility Study Work Plan. Comments were submitted to the agency by three parties, JBR Environmental Consultants, Inc., the technical consultant for Chevron USA; Fennemore Craig, P.C., attorneys for several potentially responsible parties (“PRPs”) at the West Van Buren WQARF Site; and Synergy Environmental, LLC, technical consultant for Roosevelt Irrigation District (“RID”).

The comments, some of which are lengthy and contain numerous footnotes, are set forth in their entirety below. Following each comment is the Working Group’s response to technical issues raised by each comment. We have not responded to legal arguments irrelevant to whether the Work Plan should be approved by ADEQ pursuant to Ariz. Admin Code R18-16-407 (J). As explained further below, ADEQ should approve the Working Group’s Work Plan, because the proposed work will comply with R18-16-407, the Working Group’s community involvement activities will be performed in compliance with R18-16-404, and the Work Plan provides for modifications as may be required by R18-17-407.

JBR Environmental Consultants, Inc. Comment

Comment:

In the West Van Buren WQARF Site Working Group’s March 2013 Feasibility Study Work Plan (“Work Plan”), it states that concentrations of TCA and TCE were detected slightly greater than detection limits in a soil sample collected at the Chevron U.S.A., Inc. facility located at 3050 South 19th Avenue (“Chevron Site”), as part of a Phase I investigation (See Page 16, second bullet item, of the Work Plan). The Work Plan references this information to Terranext’s August 2012 Remedial Investigation Report for the West Van Buren (WVB) WQARF Registry Site as the basis for its statement regarding TCA and TCE at the Chevron Site, which-in-turn, references this information to Kleinfelder’s July 1989 Phase I Report for the WVB Area (“Kleinfelder Report”), which was the original document presenting these sample results.

However, this information is incorrect and there have never been any TCA or TCE detections at the Chevron Site. Chevron notified the ADEQ in its letter dated January 30, 1989, that the sample referenced by Kleinfelder had in fact been collected from the neighboring Research

¹ The Working Group members are Air Liquide America Specialty Gases, LP; Arizona Public Service Company; City of Phoenix; Dolphin, Inc.; Freescale Semiconductor, Inc.; Holsum Bakery, Inc.; Honeywell International, Inc; ITT Corporation; Laundry and Cleaners Supply, Inc; Maricopa Land and Cattle Co.; Milum Textile Services Co; Penn Racquet Sports; Prudential Overall Supply; Salt River Project Agricultural Improvement and Power District; Schuff Steel Co; and Univar USA Inc.

Chemical facility (see enclosure). The Chevron January 30, 1989 letter also indicates that HVOCs were never stored or used at the Chevron Site.

On behalf of Chevron, JBR requests that the reference to the soil sample collected from the Chevron facility located at 3050 South 19th Avenue be removed from the WVB WQARF Site Working Group's Feasibility Study Work Plan.

Response:

The reference to soil samples collected on the Chevron U.S.A., Inc. facility (second bullet item on page 16 of the Final Draft FS Work Plan) will be deleted in the Final FS Work Plan.

Fennemore Craig, P.C. Comments

Comment 1:

There are three principal reasons why the Working Group's Work Plan should be disapproved. First, it is premature for anyone to be performing an FS. The Roosevelt Irrigation District ("RID") has received approval from ADEQ to implement its Modified Early Response Action ("MERA") that is to include, when completed, wellhead treatment systems on eight of its production wells. To date, however, RID has installed only four of the planned wellhead treatment systems. RID has also indicated that, as a result of installing wellhead treatment systems on certain wells, the production capacity for those wells has declined and modifications to the infrastructure may be required to compensate for the reduced pumping capacity. Any FS to be performed on the West Van Buren WQARF Site should await full implementation of the MERA and an evaluation of the extraction efficiency of all eight wellhead treatments after RID has completed whatever modifications to its infrastructure it intends to perform.

Response:

WQARF does not provide that final remedies or final feasibility studies should be postponed during the conduct of an early response action. Rather, early response actions are implemented concurrent with final FS work as necessary to address a current risk or to reduce the scope and cost of the final remedy. As further detailed in Appendix A, the record here demonstrates that the MERA is not necessary or cost-effective. The merit or lack of merit of the MERA, however, is not an issue that must be resolved before the FS can proceed. It would be legally and technically inappropriate to await "full implementation of the MERA and an evaluation of the extraction efficiency of all eight wellhead treatments after RID has completed whatever modifications to its infrastructure it intends to perform" before conducting this FS.

Comment 2:

Second, the Working Group failed to include in its Work Plan the identities of “persons whom the applicant believes to be responsible parties under A.R.S. § 49-283 and a summary of the basis for that belief.” A.A.C. R18-16-413.A.7. Instead, the Working Group claims that “ADEQ has indicated that its Potentially Responsible Party (PRP) search for the WVBA is ongoing and PRPs will not be identified until ADEQ issues the Proposed Remedial Action Plan.” Work Plan, p.6. Stakeholders were unaware that ADEQ had made such a representation; however, to the extent that it has, it is in clear contravention of its own regulations. See A.A.C. R18-16-413.A.7. Failure to comply with this regulatory requirement all but eliminates the opportunity to provide meaningful comments on the Work Plan.

Not only is it illogical to perform an FS before the potential sources are identified, it is contrary to Arizona law. ADEQ issued the Final Remedial Investigation for the West Van Buren WQARF Area in August 2012 (“RI”). Under A.R.S. § 49-287.03(E), the purpose of the RI was to “collect the data necessary to adequately characterize the site.” In fact, the very first requirement of an RI is to “[e]stablish the nature and extent of the contamination and the sources thereof.” Only after these basic requirements have been met is it appropriate to perform an FS. Otherwise, the requirements that the reference remedy be based on the information in the RI and that the FS be fully integrated with the results of the RI would be rendered nullities. See A.R.S. § 49-287.03(F) and A.A.C. RI 8-i 6-407.E.2.a.

Response:

The WQARF statute and rules require that the Remedial Investigation identify sources of contamination. See R18-16-406A1. ADEQ’s RI did so.

The 1998 reform of the WQARF program addressed concerns that early identification of PRPs allowed for error and led to stigma. The revised program calls for PRPs to be identified in the Proposed Remedial Action Plan, which is issued after completion of the Remedial Investigation and the Feasibility Study. See A.R.S. §49-287.04.

The WQARF rules also require that an applicant under R18-16-413 provide ADEQ with a list of the names and addresses of persons whom the applicant believes to be responsible parties under A.R.S. § 49-283 and a summary of the basis for that belief. The Working Group met that requirement by notifying ADEQ that it has not yet formed an opinion regarding any liable parties other than those identified in the Remedial Investigation. As the Feasibility Study proceeds, the Working Group intends to notify ADEQ of any newly formed opinions regarding potentially responsible parties, whether solvent or insolvent.

Comment 3:

The third reason that the Work Plan should be disapproved is that the groundwater model the Working Group claims to be using to support its FS is not adequate for that purpose. Although the Working Group claims that one of the steps it will implement is “[t]he preparation of a groundwater flow model” (Work Plan, p.3), members of the Working Group have represented to the U.S. District Court of Arizona that they are using the Univar groundwater model that was previously prepared by Harding Lawson for Univar and sold to ADEQ in or about 1999. See *Roosevelt Irrigation District v. Salt River Project Agricultural Improvement and Power District, et al.*, 810 F.Supp.2d 929, 969-70. (D. Ariz. 2011). That groundwater model, as it existed in 1999, is not satisfactory for the performance of an acceptable FS for the West Van Buren WQARF Area and Univar has represented to the court that “most, if not all, of the underlying assumptions and judgments that formed the technical foundation of the initial model remain the same.” *Id.* See also the attached technical comments addressing the Univar groundwater model from Conestoga-Rovers & Associates (“CRA”), consultants for the Stakeholders.

Response:

This comment is not relevant to approval of the FS Work Plan. The WVB FS groundwater model has been substantially updated from its original version in January 1997. The previous model as described in this comment will not be used during the FS. Therefore, specific responses to the CRA comments are unnecessary.

The updated WVB FS groundwater model will be used to better understand current groundwater flow conditions, to better understand groundwater flow conditions under reasonably foreseeable future groundwater use scenarios, and to simulate groundwater remedial alternatives that involve groundwater extraction. A model report summarizing the steps taken to update, calibrate and validate the WVB FS groundwater model will be prepared and submitted to ADEQ as part of the FS.

Synergy Environmental, LLC Comments²

Comment 1:

FS Work Plan Should Not Have Been Submitted for Public Comment

The Working Group’s FS Work Plan is not eligible for ADEQ approval and should not have been submitted for public comments because it fails to include the required information necessary for ADEQ’s approval pursuant to Ariz. Admin. Code (“AAC”) R18-16-413. The FS Work Plan also denies the general public the information required by state law to enable a more complete

² Footnotes to Synergy’s comments are omitted.

understanding of the FS Work Plan prior to formulating comments to ADEQ. In fact, pursuant to an ADEQ lead, dated March 7, 2013, which was issued 6 days after the Working Group submitted the FS Work Plan, ADEQ informed the Working Group that

... a written request for approval (which includes the FS Work Plan) must be submitted to the Department. The written request of approval shall contain all of the following information under [AAC] R18-16-413(A):

1. The *name* and address of the person submitting the request and the name [should be nature pursuant to the rule] of the relationship of the person to the site, if any.

...

7. A proposal for public notice and an opportunity to comment on the application for approval under this Section. The proposal shall include a list of the names and addresses of persons whom the applicant believes to be responsible parties under A.R.S. § 49-283 and a summary of the basis for that belief.

...

Following the submittal of this information to the Department, the WVB Working Group will conduct the FS process in compliance with the community involvement procedures ... [and] ADEQ will coordinate with the WVB Working Group on the public notice which will allow the public the opportunity to comment on the request for approval and the draft FS Work Plan. (emphasis added).

The information required by ADEQ to be submitted prior to the public comment period has not been submitted by the Working Group to ADEQ and/or has not been made available to the public. As ADEQ made clear in its March 7, 2013 letter to the Working Group, the public must be provided “the opportunity to comment on the request for approval.” The Working Group’s transmittal letter is described as a “responsiveness summary for ADEQ’s comment letter dated 01 February 2013” and is not a “request for approval” that contains the information required in ADEQ’s March 7, 2013 letter to the Working Group.

The information required by ADEQ and state law in a request for approval for the FS Work Plan helps the public place the proposed FS Work Plan in proper context prior to submitting comments to ADEQ. For example, the Working Group fails to identify the nature of their relationship to the WVBA WQARF Site. It would be important for the public to know who the Working Group has identified as the potentially responsible parties (“PRPs”) for the contamination and the basis for such a determination as required by state law. It also would be important for the public to be aware that the members of the Working Group are current or former owners/operators of the facilities where ADEQ or EPA records have identified there has been a release or threatened release of the same hazardous substances that have contaminated the WVBA WQARF Site (which facts qualify such parties as PRPs). Finally, the nature of the Working Group’s relationship with the WVBA WQARF Site would allow the public

to determine whether the FS Work Plan will provide the best option to address the contamination. For example, some of the parties in the Working Group have publically declared that one of the purposes of the FS Work Plan is to disprove the need for RID's ADEQ-approved Modified Early Response Action, which has currently treated 2.6 billion gallons of contaminated groundwater within the WVBA WQARF Site and has captured over 1,160 pounds of contaminants that otherwise would have been released to the environment.

ADEQ is not able to approve the FS Work Plan, at least until the Working Group engages in another public comment period once the legal requirements as set forth in ADEQ's March 7, 2013 letter have been submitted and made available to the public.

Response:

The Working Group responded to ADEQ's March 7, 2013 letter in a letter dated March 19, 2013 to Ms. Tina LePage that provided all of the information required by A.A.C. R18-16-413(A). Thus, Synergy's statement that the ADEQ-required information was not submitted prior to the public comment period is incorrect. Synergy apparently reviewed only the Working Group's March 4, 2013 transmittal letter for the Working Group's revised draft Final FS Work Plan that responded to ADEQ's February 1, 2013 comments. Because the Working Group's formal approval request under A.A.C. R18-16-413(A) was submitted before the public comment period commenced it was part of the ADEQ files available for public review and comment. The fact that Synergy apparently overlooked the Working Group's March 19, 2013 letter in the ADEQ file is not a reason to require another public comment period.

Further, the April 5, 2013 public notice clearly states that: ". . . the West Van Buren Working Group has submitted and seeks approval of a draft Final Feasibility Study Work Plan for the West Van Buren WQARF Site pursuant to A.A.C. R18-16-407 and 413." (emphasis added). The public notice underwent thorough review and revision by ADEQ as necessary to comply with applicable community involvement requirements. Indeed, ADEQ went to great lengths to ensure that the public notices for the Working Group's FS Work Plan and RID's FS Work Plan were substantially the same and complied with the rules. While the Working Group believes that another public comment period is not necessary for ADEQ to approve the Working Group's FS Work Plan, any deficiency in the Working Group's FS Work Plan public notice would apply equally to the public notice for RID's FS Work Plan. Thus, if ADEQ determines that an additional public comment period is required for the Working Group's FS Work Plan, then an additional public comment period is also required for RID's FS Work Plan.

The Working Group provided all of the information required by A.A.C. R18-16-413(A) in connection with its request for approval of its FS Work Plan. That information was available for public review and comment. No additional public comment is necessary.

Comment 2:

Working Group Continues to Mischaracterize and Disregard RID's Water Supply Interests in the WVBA WQARF Site

RID takes strong exception to the Working Group having a lead role in preparing a FS that would develop a groundwater remedy for the WVBA Site. The Working Group has continually and consistently ignored RID's position with respect to its rights to and requirements for water use and has opposed RID's voluntary actions to address, the widespread impact caused by their contamination of RID wells and water supply. As we have noted before, this opposition is not surprising since the Working Group has been identified as PRPs liable under federal law for the costs to address the contamination.

RID has no confidence that the technical consultant representing the Working Group, given that they are PRPs, would adequately consider RID's interests in developing remedial measures to address the reasonably foreseeable use of RID wells and water supply that are affected by the actual or threatened release of hazardous substances within the WVBA Site, as required by AAC R18-16-407(G). In fact, the FS Work Plan states that the technical approach to the FS Work Plan is to evaluate a focused-treatment remedy. Such a remedy would not be consistent with the statutory mandate in ARS 49-282.06(B)(4)(b) that

the selected remedial action shall address, at a minimum, any well that at the time of selection of the remedial action either supplies water for municipal, domestic, industrial, irrigation or agricultural uses or is part of a public water system if the well would now or in the reasonably foreseeable future produce water that would not be fit for its current or reasonably foreseeable end uses without treatment due to the release of hazardous substances. The specific measures to address any such well shall not reduce the supply of water available to the owner of the well. (emphasis added)

This statutory requirement has been adopted as a remedial objective for the WVBA WQARF Site, and there must be no uncertainties regarding the achievement of this remedial objective or the time-frame in which this remedial objective will be achieved. RID will not support any groundwater remedy that does not fully address the groundwater contamination impacts to its wells and water supply and/or does not meet legal requirements regarding water quality standards, water quantity protection, pollution prevention, and water supply reliability.

Response:

This comment appears to suggest that PRPs should not be allowed to develop an FS. The Working Group is legally entitled to take the lead in preparing an FS. The WQARF program is designed to allow PRPs to participate in work that needs to be conducted at a site. The fact that the Working Group has criticized RID's actions to date, as well as raised questions about RID's claims to the right to transform itself into a drinking water provider, is irrelevant to the

fundamental question of whether the proposed FS Work Plan complies with the law. The FS Work Plan proposed by the Working Group is in complete compliance with all regulatory and legal requirements.

The FS Work Plan clearly states that the interests of all water providers, including RID, will be considered in the development of the FS. Section 5.0 of the FS Work Plan states that the remedies evaluated as part of the FS must be capable of achieving the ROs established by ADEQ. As discussed in Section 5.3 of the Work Plan, the ROs include a requirement to protect, restore, replace, or otherwise provide a water supply for municipal use. Section 6.2 of the Work Plan states that remedial measures necessary to achieve ROs or to satisfy the requirements of ARS 49-282.06(B)(4)(b) will be identified in consultation with and considering the needs of the water providers or known well owners whose water supplies are affected. Contrary to the above comments, these statements and others in the FS Work Plan submitted by the Working Group demonstrate the requirements of ARS 49-282.06(B)(4)(b) will be met, and the interests of all the affected water providers will be adequately considered and addressed.

To the extent the comment suggests that WQARF requires all remedies to achieve restoration of all points of the aquifer itself to drinking water standards, it is incorrect. Aquifer restoration was a presumption contained in the original CERCLA National Contingency Plan that has proven to be infeasible or cost-ineffective in practice. WQARF was reformed in part to ensure that WQARF remedies did not repeat the errors of CERCLA. A.R.S. 49-282.06 (D), for instance, specifically provides that all WQARF remedies need not require restoration of all aquifers to drinking water standards, without regard to actual and foreseeable uses of the impacted aquifer.

Comment 3:

RID's ADEQ-Approved ERA and Modified ERA are Final Decisions

To further support RID's lack of confidence that the Working Group will abide by the statutory and regulatory requirements to protect RID's interests, the FS Work Plan mischaracterizes ADEQ's approvals of RID's ERAs. First, the FS Work Plan only refers to RID's original ERA Work Plan that was approved by ADEQ on June 24, 2010. In this context, the FS Work Plan states that "the ADEQ conditional approval letter includes the specific conditions, tasks, and outcomes that must be achieved by RID before the conditional approval becomes final." This statement is totally inaccurate. Such inaccuracy is unacceptable given that the Working Group was informed in an ADEQ letter, dated October 13, 2010, that "ADEQ's June 24, 2010 approval of RID's February 3, 2010 ERA Work Plan is a final decision." This must be corrected.

Additionally, the FS Work Plan should be corrected to reflect that RID submitted a Modified ERA Work Plan to ADEQ in October 2012 that was approved by the agency on February 1, 2013. The ADEQ approval letter requires that RID maintain historical pumping rates to ensure no adverse

impacts to groundwater quality and levels within the WVBA and for RID to implement measures to limit public exposure to volatilization and transfer of contaminants from contaminated water into the air. ADEQ's February 1, 2013 approval of the Modified ERA explicitly supersedes ADEQ's approval of the previous ERA Work Plan and its conditions.

Response:

The Working Group's FS Work Plan was submitted to ADEQ prior to RID's preparation of the Modified ERA. The Working Group will update its FS Work Plan to reflect the submittal by RID of the Modified ERA and ADEQ's February 1, 2013 approval letter.

Comment 4:

RID is Indispensable to an Effective Regional Groundwater Remedy

The FS Work Plan submitted by the Working Group PRPs correctly notes that RID is the only water provider having production wells within the WVBA that are impacted or threatened by groundwater contamination. RID has 32 wells in or adjacent to the WVBA site that pump around 75,000 acre-feet of groundwater per year, on average. According to recent ADEQ sampling and analysis conducted in April 2013, 22 of the 25 RID wells sampled had detectable VOCs and 15 of these 25 wells exceeded MCLs for at least one of the VOCs that are WVBA contaminants of concern. Put simply, the RID well field is, impacted by WVBA groundwater contamination on a massive scale. Moreover, without a replacement supply, RID must operate its wells in the WVBA, and it is the pumping of contaminated groundwater to the surface conveyance system that results in the uncontrolled release of VOCs into the environment.

RID has a compelling interest in seeing that the WVBA groundwater remedy addresses appropriately the widespread impact to its production well field and protects this critical water supply for RID's and its customers' current and future end uses. RID has repeatedly informed the ADEQ and all PRPs that RID wells in the WVBA Site are a vital future drinking water supply as RID land use transitions from agricultural to urban. The essential need to protect and restore the RID wells and water supply is underscored by comments submitted to ADEQ in support of RID's Early Response Action which emphasize that "... there is no issue more important to the quality of life and economic viability in West Valley communities than dependable sources of usable water."

RID is the only party that can effectively address the regional groundwater remediation of the WVBA Site and adjacent contaminated sites. RID owns and operates the wells and associated water supply infrastructure that are impacted and will not entrust any outside party with control of its operations, least of all the PRPs that have failed to take responsibility for the contamination they caused. In fact, pursuant to AAC R18-16-411(G), RID "may, in its sole discretion, elect to construct, operate, or construct and operate the water treatment, well replacement or alternative supply component of the remedy ... which is designed to address its

use. This election shall not alter the responsibility of ... any person ... to fund all or a portion of the remedy.”

RID’s commitment to address and protect WVBA water resources has been amply demonstrated by contractually agreeing to implement the ERA, conduct the FS and implement the final groundwater remedy. In addition, RID has expended over \$10 million in response costs to conduct the required work to date. This should clearly demonstrate to ADEQ that RID is dedicated to accomplishing what it will take to implement an effective regional groundwater remedy for the WVBA Site.

Response:

The Working Group agrees that the final remedy for the WVBA site should and must achieve compliance with ADEQ’s Remedial Objectives, and has expressly committed in its Work Plan to evaluating remedies that do so. Further, the Working Group has unequivocally committed to funding and conducting the final FS (at a cost exceeding \$400,000) and to reimbursing ADEQ for its oversight costs (Agreement to Conduct Work Between ADEQ and the Working Group, January 15, 2013). Members of the Working Group have advanced ADEQ \$10,000 as an initial deposit for the oversight costs they have committed to pay without contingency.

Conversely, the Agreement to Conduct Work between ADEQ and RID, dated October 8, 2009, does not obligate RID to implement the final FS unless RID is able to raise the funds to do so from third parties, presumably in its ongoing CERCLA litigation against the Working Group and others.

RID’s past expenditures are not relevant to approval of the Working Group’s Work Plan. However, since they are being advanced here, we are forced to add that there is nothing in the record demonstrating that RID’s expenditures qualify as reasonable, necessary, or cost-effective. As is explained in Appendix A, just the opposite is the case.

Comment 5:

The Working Group FS Work Plan Should be Limited to Source Control

Since RID is indispensable to the groundwater remedy and has properly submitted a FS Work Plan for ADEQ’s approval, pursuant to AAC R18-16-413, ADEQ should approve RID’s FS Work Plan to develop a regional groundwater remedy. If the Working Group submits all of the required information as set forth in ADEQ’s March 7, 2013 letter in a subsequent FS Work Plan and written request for approval, ADEQ should require that the Working Group’s FS Work Plan be limited to addressing facilities and properties that are a continuing source of groundwater contamination.

Pursuant to Section 1.4 of the FS Work Plan, the Working Group process will include analysis of individual WVBA facilities that may be continuing VOC sources to groundwater. RID believes this is a very critical factor that should be diligently evaluated since the significance of dense

non-aqueous phase liquids (DNAPL) on groundwater remediation cannot be understated. This point was appropriately emphasized by Dr. Rolf Halden at the April 15, 2013 WVBA Community Advisory Board meeting, when he stated that the presence of DNAPL in unsaturated soils and groundwater will continually bleed contaminants into the dissolved VOC plume that will persist for centuries.

Terranext did not identify the presence of DNAPL at any of the source areas in the Final RI Report, although the data provided in that report suggests they are present. At a minimum, the high reported PCE concentrations in soil, soil gas, and groundwater at the ALSCO and Dolphin facilities suggest the presence of DNAPL. RID believes that the Working Group PRPs, as owners and operators of some of the facilities within the WVBA WQARF Site, are in the best position to obtain access and evaluate the potential occurrence of DNAPL and the effect this may have on aquifer restoration. Therefore, any FS Work Plan submitted by the Working Group PRPs should be limited to source control and targeted source area cleanup, which will compliment RID's FS Work Plan to address the regional groundwater contamination.

Response:

The statement in this comment that "RID is indispensable to the groundwater remedy" appears to presume that the remedial alternatives evaluated in the FS will require the use of RID's wells. Wellhead treatment of groundwater pumped from RID wells screened across contaminated and uncontaminated zones has not been evaluated in a neutral Feasibility Study. Hence, whether it would ever achieve the ROs for this Site and whether it would become a preferred option when compared to other remedial alternatives in the rigor of an FS evaluation has not yet been determined. Under Arizona law, the FS must objectively review a wide range of remedial measures and technologies, select a reference remedy and at least two alternative remedies, and evaluate those remedies in accordance with the requirements of A.A.C. R18-16-407. Pursuant to A.R.S. 49-282.03(C) and A.A.C. R18-16-413, the Work Plan submitted by the Working Group is designed to conduct an FS for the regional groundwater remedy for the WVB WQARF Site in accordance with these requirements. Only after that is done will it be determined that RID's wells will be utilized.

Furthermore, RID is not the only stakeholder at this Site. There will be many measures included in a final remedy for the site that assure that all water providers' needs will be met. Likewise, there will be measures to address impacted wells of all water providers and well owners.

As part of the FS, an evaluation of all the existing data will be conducted to identify facilities that may be continuing sources of hazardous substances to the regional groundwater. This evaluation is necessary to ensure that the remedial alternatives evaluated in the FS for the

regional groundwater plume adequately address any continuing sources that could limit the effectiveness of a particular remedial alternative or its ability to achieve the ROs. For example, the ChemResearch facility has been identified by ADEQ as a continuing source of VOCs and chromium to the regional groundwater plume. Typical treatment technologies used to remove VOCs in groundwater will not remove chromium, resulting in chromium remaining in the effluent discharged from the treatment system. To adequately address VOCs and chromium present in groundwater downgradient of the ChemResearch facility, specific remedial measures may need to be employed to contain or minimize the migration of contaminants from this facility.

Oversight of source control activities at individual facilities or properties in the WVB area has always been and remains the responsibility of ADEQ. ADEQ has the enforcement authority and the technical expertise needed to work with facility owners and operators to characterize and remediate releases of hazardous substances at their properties. The two facilities mentioned by Synergy in this comment, ALSCO and Dolphin, were thoroughly characterized and remediated under the direct oversight of ADEQ. The presence of DNAPL was not identified at either facility during the characterization process, and the soil and groundwater at both facilities were remediated to levels below applicable groundwater protection standards for soil and upgradient VOC concentrations in groundwater.

Comment 6:

The Working Group Continues to Raise Irrelevant Issues and Make Untrue Assertions

As noted before, state law requires that

the selected remedial action shall address, at a minimum, any well that at the time of selection of the remedial action either supplies water for municipal, domestic, industrial, irrigation or agricultural uses or is part of a public water system if the well would now or in the reasonably foreseeable future produce water that would not be fit for its current or reasonably foreseeable end uses without treatment due to the release of hazardous substances. The specific measures to address any such well shall not reduce the supply of water available to the owner of the well. ARS 49-282.06(B)(4)(b). (emphasis added)

This statutory requirement has been adopted as a remedial objective for the WVBA WQARF Site, and there must be no uncertainties regarding the achievement of this remedial objective or the time-frame in which this remedial objective will be achieved. As noted by ADEQ during the adoption of the final remedial objectives, the groundwater end uses identified in the final remedial objectives report are the current and reasonably foreseeable end uses that must be protected, at a minimum, by any selected remedy. The final remedial objectives clearly include RID's revised Land and Water Use Study Questionnaire identifying municipal use as a reasonably foreseeable end use that must be protected. Failure of the Working Group PRPs to

acknowledge the protection afforded RID's wells under state law and under ADEQ's final remedial objectives for the WVBA WQARF Site provides no confidence to RID (nor ADEQ) that the Working Group will conduct the FS Work Plan to ensure that the reference remedy meets the remedial objectives as required by state law.

Response:

The FS Work Plan expressly states that the interests of all water providers, including RID, will be considered in the development of the FS. Section 5.0 of the FS Work Plan states that the remedies evaluated as part of the FS must be capable of achieving the ROs established by ADEQ. As discussed in Section 5.3 of the Work Plan, the ROs include a requirement to protect, restore, replace, or otherwise provide a water supply for municipal use. Section 6.2 of the Work Plan states that remedial measures necessary to achieve ROs or to satisfy the requirements of ARS 49-282.06(B)(4)(b) will be identified in consultation with and considering the needs of the water providers or known well owners whose water supplies are affected. Contrary to the above comments, these statements and others in the FS Work Plan submitted by the Working Group satisfy the requirements of ARS 49-282.06(B)(4)(b). The interests of all the affected water providers will be adequately considered and addressed.

Comment 7:

The FS Work Plan provides a brief explanation of the current groundwater use and future plans for use by water providers in and near the WVBA WQARF Site. The explanation regarding RID is biased and inaccurate. In particular, the FS Work Plan falsely asserts that RID's ability to pump groundwater from wells within the WVBA WQARF Site and transport the water to its lands is somehow a restricted right that infringes on the City of Phoenix's future use of the aquifer and will terminate at some future date in accordance with certain contract terms with SRP.

The issue of RID's long-term water rights, in addition to ancillary issues of conformance with Arizona Department of Water Resources ("ADWR") water law, have been thoroughly discussed and the false assertions by the PRPs have been refuted in numerous RID letters to ADEQ, the most recent being a RID letter to ADEQ, dated January 24, 2013. This letter responded to many comments generated by the City of Phoenix (COP) on behalf of other PRPs on the Modified ERA Work Plan. With regard to RID water rights, the City asserted RID's authority to pump groundwater from the WVBA WQARF Site comes from an agreement with the SRP (hereafter referred to as the Salt River Valley Water Users Association, or SRVWUA) that expires no later than 2026. This assertion is false. For clarification, as follows is a brief recap of the salient terms of RID/SRVWUA agreements on this matter:

- The SRVWUA and RID (through its predecessor Carrick and Mangham) entered into a contract in 1921 to establish terms for RID to acquire well sites, land and receive power for a groundwater production well field in what is now the WVBA. The 1921 agreement

required RID to pump a minimum of 70,000 acre-feet per year (AFY) of groundwater from these wells for 99 years and for the SRVWUA to sell electric power to RID's predecessor for 99 years.

- Carrick & Mangham assigned the 1921 Agreement to RID in 1923. In accordance with the 1921 agreement, the SRVWUA deeded wells and property to RID, in fee, without reservations of any sort. As owners of the wells and water infrastructure, RID had the legal right, as a matter of Arizona water law, at that time and until the 1980 Groundwater Management Act, to withdraw groundwater and to put it to any beneficial use, and did so beginning in 1928.
- Modifications made to the 1921 agreement in 1927 expanded RID's requirements to pump a minimum of 85,000 AFY of groundwater from wells in what is now the WVBA, but removed any specified time frame for meeting that obligation. The SRVWUA's requirement to supply hydro-electric power needed to pump water from RID wells was specified as 99 years from the effective date of this amended agreement.
- A supplemental agreement reached in 1950 between the SRVWUA and RID generally capped the annual amount of water that could be pumped but did not limit the duration of pumping.

RID has repeatedly attempted to correct the unsupported allegations made by SRP, COP and others that RID's right to pump groundwater in the WVBA will expire. Since the Working Group has chosen to ignore RID's position, RID must restate, once again, the RID/SRVWUA agreements do not terminate RID's right to pump groundwater from the WVBA in 2026 or at any other future date. RID's right to pump continues pursuant to state law.

In a similar attempt to distort water use issues, the FS Work Plan insinuates that ADWR will not allow pumping by RID that would negatively impact the COP's Designation of Assured Water Supply (AWS). This is a baseless claim. RID has operated wells in what is now the WVBA for over 80 years. Arizona passed the Groundwater Management Act in 1980 that codified RID's right to withdraw groundwater from the wells that are now within the WVBA and transport this groundwater for the benefit of landowners within the RID service area. RID has long-standing usufructory rights under state law that will not be subrogated to another water provider. Moreover, the fundamental point that seems to be implied is unfounded. The groundwater modeling conducted by ADWR for the City's AWS designation included ongoing pumping of RID wells in the WVBA throughout the 100-year evaluation period.

Response:

The Working Group has expressly agreed in its Work Plan to ensure that its proposed remedial alternatives achieve the Remedial Objectives selected by ADEQ. The Working Group's FS Work Plan provides for identification and evaluation of contingent remedies to be implemented when any water provider, including RID, needs to pump wells in the impacted portions of the aquifer for provision of drinking water. It is true that someday impacted groundwater in central Phoenix will be a source of drinking water. Indeed, one of the stakeholders, the City of Phoenix, has a water management plan that assumes this, albeit several decades out.

RID is not today a provider of drinking water and unless it overcomes a number of legal obstacles, may never become a drinking water provider in the future. There is no need for ADEQ to interject itself into a dispute about the water rights implications of a contract that began nearly 100 years ago. RID is not currently required to treat water to drinking water standards because it has no customers for such uses and, as noted already, is currently discharging treated water into a canal containing sewage treatment plant effluent.

Comment 8:

Other Technical Issues

The FS Work Plan identifies the need to evaluate the potential impact of chromium in soil and groundwater originating from the source at the ChemResearch facility on a regional groundwater remedy. RID does not follow the logic that would suggest chromium contamination from a single source is an important element of the regional groundwater remedy evaluation. The data reported by Terranext in the 2012 Final RI Report do not indicate a regional concern. Instead, the data reported indicate that total chromium concentrations observed are generally of limited and localized extent. For example, RID is not aware of any data that indicate the concentration of total chromium exceeds the AWQS at any RID wells that have been tested in the WVBA. However, to resolve any remaining concerns regarding the impact of chromium on the regional groundwater remedy, RID suggests that all RID wells in the WVBA be sampled and analyzed for total and hexavalent chromium as part of the FS process. Any potential need for source control measures to address chromium contamination should be included in the Working Group's revised FS Work Plan that must be submitted to comply with the legal requirements set forth in ADEQ's March 7, 2013 letter and as previously described in these comments.

Response:

In order to fully understand the extent of the partially defined chromium contamination in groundwater, which appears to be associated with the ChemResearch facility, ADEQ should

require ChemResearch to install and sample monitor wells sufficient to define its plume. Chromium contamination can potentially impact a regional groundwater remedy because its treatment may require a different technology than may be proposed in a final remedy to treat volatile organic compounds. Granular activated carbon, although an effective technology to remove volatile organic compounds from groundwater, is not an appropriate technology to remove chromium.

Comment 9:

The FS Work Plan indicates the need to prepare a groundwater flow model to better understand current and future groundwater flow conditions and the impact of simulated pumping associated with remedial alternatives. RID agrees that a groundwater flow model is an important tool to characterize groundwater and contaminant movement associated with the WVBA Site. In fact, based on a previous request by ADEQ to develop a groundwater model to estimate the effects of changed RID pumping rates associated with the original ERA, RID has expended considerable resources to update the ADEQ Central Phoenix Plume Model for this stated purpose. RID has updated this model and ensured it is in good working order for use in the FS process. RID contends that the groundwater modeling effort should be led by RID in accordance with the FS Work Plan submitted to ADEQ on February 8, 2013. Given the significance and level of effort associated with development and applied use of a groundwater flow model, RID does not understand why no further mention of this activity is given in the Working Group FS Work Plan. The FS Work Plan should provide more detail in regard to how the model will be developed, validated, calibrated and applied to the FS process. This information, including the underlying assumptions in developing the model, should be provided to the public so that the public may comment as to whether the groundwater flow model is useful during the FS process.

Response:

The Working Group agrees that a model is necessary to better understand current and future groundwater flow conditions and the impact of simulated pumping associated with remedial alternatives. The Working Group has no information on RID's update of the Central Phoenix Plume Model or access to that updated model. The documentation regarding how the model was developed, validated and calibrated, including the underlying assumptions in developing and updating the model should be provided.

The Working Group is legally entitled to take the lead in preparing an FS and will do so transparently and neutrally. The WQARF program is designed to allow PRPs to participate in work that needs to be conducted at a site. The Working Group has expended considerable resources to update a model that was developed specifically for the WVBA WQARF Site.

The updated WVB FS groundwater model will be used to better understand current groundwater flow conditions, to better understand groundwater flow conditions under reasonably foreseeable future groundwater use scenarios, and to simulate groundwater remedial alternatives that involve groundwater extraction. A model report documenting the steps taken to develop, update, calibrate and validate the WVB FS groundwater model will be prepared and submitted to ADEQ as part of the FS.

Comment 10:

The FS Work Plan explains that an evaluation of risk will be conducted to assess contaminant transport and fate under various remedial action scenarios. RID believes this forward-looking risk evaluation is necessary and appropriate to fulfill the WQARF requirements of the FS process and can be conducted in a way to provide comparative measures of potential exposure and associated public and ecological risk with remedial approaches considered. However, RID would like to point out that such an analysis will have limited significance in the numerical quantification of risk to public health and the environment given the narrowly defined scope of this evaluation. Nevertheless, the remedy selected at the WVBA WQARF Site should provide the same protection to the residents in the WVBA WQARF Site that is required at other cleanup sites in Arizona to ensure protection of the public from the volatilization of hazardous substances.

Response:

Synergy's statement that the risk evaluation "will have limited significance in the numerical quantification of risk to public health and the environment [because of] the narrowly defined scope of this evaluation" is not accurate, Section 7.1.2 of the Working Group's FS Work Plan accurately identifies those elements that must be included in a risk evaluation pursuant to A.A.C. r-18-16-407(H)(3)(b) and, therefore, cannot be accurately characterized as "narrowly defined."

Comment 11:

Conclusion

Based on state law and the information contained in ADEQ's March 7, 2013 letter, the Working Group PRPs are obligated to provide a "written request for approval" that contains all of the elements required by law. As noted by ADEQ, this should be completed prior to the public comment period so it "will allow the public the opportunity to comment on the request for approval and the draft FS Work Plan." These requirements have not been met in a request for approval or the FS Work Plan, and, therefore, ADEQ is unable to approve the Working Group's FS Work Plan until the applicable legal requirements have been met and a proper opportunity

for the public to comment on the Working Group's written request for approval and the FS Work Plan has been completed. As noted in these comments with respect to the Working Group PRPs, RID respectfully requests that ADEQ ensure (1) all legal requirements applicable for an approvable FS Work Plan are identified, provided and implemented by the Working Group PRPs, (2) the WVBA WQARF Site remedial objectives are achieved to protect RID's wells and water supply that have been impacted or are threatened to be impacted by groundwater contamination, and (3) public health and safety and the environment are protected at the same levels as provided at other federal or state remediation sites in Arizona to ensure environmental justice for the minority communities within the WVBA WQARF Site.

Response:

Because the foregoing responses adequately address the submitted comments, ADEQ should approve the Work Plan. The Work Plan satisfies all of the requirements of R-18-16-407. In particular:

--It is not premature for the Working Group to conduct an FS;

--ADEQ's Remedial Investigation adequately identified the universe of PRPs, and WQARF allows the Working Group to supplement the list of PRPs if it identifies any additional PRPs prior to the agency's issuance of a Proposed Remedial Action Plan;

--The Working Group is not using an out-dated version of the West Van Buren groundwater model, but rather one that has been rigorously updated, calibrated, and validated, as will be fully detailed in a report to be submitted to ADEQ;

--The Working Group timely made available to ADEQ and the public all of the information necessary for approval of the Work Plan;

-- The Working Group has repeatedly and properly committed to consider the interests of water providers, including RID, as provided in ARS 49-282.06 (B)(4)(b);

--The Working Group agrees that the final remedy must comply with ADEQ's Remedial Objectives, and has never claimed otherwise;

-- The Working Group has committed to completing an FS that reviews a full range of remedial options, and the final remedy may or may not require the cooperation of RID or the use of its wells;

-- ADEQ has ample authority to require individual facility source control where that is necessary; and

Appendix A: Supplemental Response of the Working Group to Comments Made by Synergy Environmental, LLC on Issues Not Directly Related to the Working Group's Work Plan

On behalf of Roosevelt Irrigation District ("RID"), Synergy Environmental, LLC submitted comments that addressed not only the West Van Buren Working Group's Feasibility Study ("FS") Work Plan, but also RID's own proposed Modified Early Response Action ("MERA"). Only those comments related to the Work Plan are relevant to this administrative record, and the Working Group has responded above to those comments. Addressed in this Supplemental Response are Synergy's comments regarding the MERA.

Synergy's comments do not accurately describe the MERA or the findings made by ADEQ with regard to it. ADEQ's limited and conditional approval of the MERA Work Plan was not intended to be the final word on the objectives stated in the Work Plan. ADEQ did not consider, among other things, the purported "ancillary benefits" described in the MERA Work Plan.¹ ADEQ approved an applicant's desire to spend money to treat low levels of contaminants in groundwater² in order to mix it with wastewater treatment plant effluent after which the water will be used for irrigation,³ without consideration of a human health risk

¹ The October 2012 MERA Work Plan identified purported ancillary benefits as including "reducing the scope and cost of the selected groundwater remedy and maximizing the beneficial use of groundwater" (p. 1) but the ADEQ declined to evaluate the validity of this statement or related statements at p. 4-5 of the MERA Work Plan.

² In Phase I of the MERA, three wells (RID-89, -92, and -95) are planned for wellhead treatment. The tetrachloroethene (PCE) levels in the most recent sample results (Table 1, MERA Work Plan, October 2012) were, respectively, 8, 13, and 4.1 ppb, and the TCE levels were 26, 64, and 60 ppb. The drinking water standards for PCE and TCE are 5 ppb. Table 3 to the MERA Work Plan reflects that of the most recent groundwater samples in the ten RID wells that will be used for treatment or blending in Phase 2 of the MERA, six of them meet the drinking water standard for PCE, three of them range between 5.2 to 6.4 parts per billion (ppb), and the tenth sample result was 21 ppb. For trichloroethene, four of the sample results are below the drinking water standard, five other samples range between 5.3 ppb and 7.7 ppb, and the last sample result was 44 ppb. RID is planning to spend in excess of \$18 million in capital costs and \$1.5-2.0 million per year to treat groundwater that is at or very close to the drinking water standard in order to mix it with untreated groundwater so that as a blend, the water quality will be below 5 ppb for both TCE and PCE, and then mix it with wastewater treatment plant effluent in RID's canal system for irrigation use.

³ Section 3.2.3 of the MERA Work Plan provides: "The RID Main Canal conveys a mixture of treated wastewater from the COP 23rd Avenue WWTP, the Litchfield Park Service Company

assessment or the environmental merit of the work in relation to remedial alternatives and without any apparent need for treatment.⁴

Consistent with this conclusion, ADEQ specifically stated that it did not review whether the MERA is consistent with any federal laws or regulations. The MERA is not necessary to prevent an imminent or acute risk to public health or the environment. No human health risk assessment consistent with federal law and regulations has been conducted. Based on data presented in the West Van Buren final Remedial Investigation Report, without any treatment, water quality in the RID canals meets applicable surface water quality standards and is suitable for irrigation use. In other words, there is no meaningful evidence of any risk to anyone that will be eliminated by the MERA, and there can be no evidence that the MERA is necessary to address human health risks until a properly conducted risk assessment has been completed. Even under the more aggressive federal Superfund approach, the MERA would never be approved because a remedial action may not be undertaken until a Feasibility Study has been undertaken and every remedial alternative is subjected to the rigorous nine-factor analysis prescribed by the National Contingency Plan⁵ in relation to a proper evaluation of risk assessed

WWTP, remediated water from the PGA-N Superfund site and groundwater pumped from the WVBA Site and adjacent areas to its service area in Goodyear and Buckeye. Although water uses by RID may vary year to year, historically the RID Main Canal typically receives around 80,000 acre-feet per year (AFY) of withdrawn groundwater from wells in the WVBA vicinity including over 50,000 AFY of impacted groundwater from RID wells within the WVBA Site and approximately 30,000 AFY of groundwater from RID wells within the WVBA Site that are currently not impacted by the groundwater contamination. The majority of this groundwater pumping occurs during the peak irrigation demand season that extends from early March through the end of September. The RID also receives a nominally continuous flow of treated wastewater that provides approximately 20,000 to over 30,000 AFY of additional water supply to the RID Main Canal.”

⁴ The Remedial Investigation Report prepared for the ADEQ explains that water in RID’s canal system already meet Arizona water quality standards: “Due to the significant base flow from the 23rd Avenue Wastewater Treatment Plant and from RID wells pumping uncontaminated groundwater, the effect of RID well discharge of groundwater containing VOCs into the canal is not appreciable; VOC concentrations are diluted to below AWQs within 125 feet of the point of discharge. Beyond 125 feet of the point of discharge, the diluted/reduced VOC concentrations stabilized, and remained persistent a minimum of two miles downstream of the discharge point.” Remedial Investigation Report, Terranext (August 2012), p. 4-23

⁵ Under 40 CFR § 300.430(e)(9)), those factors are:

1. Overall protection of human health and the environment

under standards prescribed by Federal law. Until a properly undertaken FS and risk assessment is completed, under Federal law, no remedial action can be undertaken and no determination can be made whether any particular remedial action like the MERA is a wise or a wasteful exercise.

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2. Compliance with ARARs (applicable or relevant and appropriate standards)
 3. Long-term effectiveness and permanence
 4. Reduction of toxicity, mobility or volume
 5. Short-term effectiveness
 6. Implementability
 7. Cost
 8. State acceptance
 9. Community acceptance.

-- The Work Plan calls for completion of an appropriate risk assessment that will evaluate all potential pathways, including potential future drinking water use of the impacted portions of the aquifer