

RESPONSE TO COMMENTS SUMMARY
DRAFT HAZARDOUS WASTE PERMIT
UNIVERSITY OF ARIZONA PAGE TROWBRIDGE RANCH LANDFILL
EPA ID NO. AZD 980 665 814

Arizona Administrative Code (A.A.C.) R18-8-271.O requires ADEQ to respond to all significant comments made on any draft Permit within the public comment period. ADEQ has responded to all such comments in this Response to Comments (RTC) Summary.

On May 6, 2012, a public notice was placed in the *Arizona Daily Star* announcing the public comment period for the draft hazardous waste permit for the Page Trowbridge Ranch Landfill (PTRL) owned by the University of Arizona, located approximately seven miles west of Oracle, AZ and 30 miles north of Tucson. The public comment period opened on May 6, 2012, and closed on June 21, 2012. Two persons submitted comments.

The following is a listing of the public comments received. The comments are followed by ADEQ's response in **bold text**.

COMMENT 1 [Hector Conde, P.E.] – Strongly suggest that a public hearing be convened to get other opinions.

RESPONSE: ADEQ has decided not to hold a public hearing on the draft Permit. The rules addressing reasons for granting public hearing requests state that the Director will hold a hearing if he finds, on the basis of requests, a significant degree of public interest in the draft Permit, or if the Director believes that the hearing will serve to clarify one or more issues involved in the Permit decision, or if the public submits a written “notice of opposition” to the Permit before the close of the comment period. ADEQ reviewed the request for a hearing and concluded:

- a) **One request for a hearing is not considered to be a sufficient demonstration of “general interest” in the draft Permit. No other significant Permit-related issues were raised by the commenter or by other commenters that would be best addressed by scheduling a public hearing;**
- b) **The draft Permit was a renewal of a post-closure Permit for a closed landfill. No significant changes were made to the facility during the term of the Permit, and no significant new issues were raised by the Public during the term of the Permit.**
- c) **During the term of the Permit, ADEQ conducted annual inspections of PTRL and found that the Permittee maintained satisfactory compliance with the Permit Conditions. No violations were noted;**
- d) **No formal, written “notice of opposition” to the Permit was submitted.**

No change has been made to the Permit as a result of this comment.

COMMENT 2 [Fred Schneider, P.E. - Arizona Water Company] – ADEQ should require frequent inspections and maintenance as a condition for reissuance of the Permit.

RESPONSE: State and Federal rules and the draft Permit require the Permittee to perform periodic inspections of PTRL (inspection and maintenance requirements are described in

Permit Section II [Post Closure]). Details on inspections and maintenance of the facility are found in Permit Attachment B -Post-Closure Plan, Appendix B-1 [Post-Closure Inspection and Maintenance Plan]. Details on inspections and maintenance (I&M) of groundwater monitoring wells are found in Permit Attachment G (Expanded Groundwater Detection Monitoring Plan); details on I&M of the Soil Vapor Extraction (SVE) system are contained in Permit Attachment C (Operation and Maintenance Manual for the SVE System).

The Post-Closure Inspection and Maintenance Plan requires the Permittee to inspect, on at least a quarterly basis, well vault exteriors, roads, fencing, signs, landfill covers, drainage structures, and survey monuments. The interior of the wells will be inspected at least semiannually. Repairs, when required, must be performed as soon as possible. ADEQ believes the inspections and maintenance plan is clear, technically adequate and compliant with hazardous waste regulatory requirements. After review of over ten years of inspections and maintenance data ADEQ has found that the Permittee maintained satisfactory compliance with the inspections and maintenance requirements.

No changes have been made to the Permit as a result of this comment.

COMMENT 3 [Fred Schneider, P.E. – Arizona Water Company] – The Permit must require the Permittee to monitor groundwater on a quarterly basis.

RESPONSE: State and Federal rules (40 CFR 264.98) require the facility Permit to specify the frequency of sampling of groundwater, and provide no minimum frequency. Federal guidance on groundwater monitoring (RCRA Groundwater Monitoring Draft Technical Guidance, November 1992) suggests that for a detection monitoring program, groundwater monitoring may be performed semiannually, but acknowledges that the Permit may be more stringent. Considering that the existing groundwater monitoring system has not shown any impact to groundwater for over twenty years, ADEQ does not believe that more frequent sampling would be of any benefit at this time. The hazardous waste rules provide for expansions to the groundwater monitoring program in the event of detections. These expansions to the program may include more frequent sampling, incorporation of additional groundwater monitoring wells to the network, or more detailed analyses of groundwater results.

No changes have been made to the Permit as a result of this comment.

COMMENT 4 [Fred Schneider, P.E. – Arizona Water Company] – The Permit must expand groundwater monitoring to include the Robson Communities irrigation well and the two potable Saddlebrooke Ranch drinking water wells owned by Arizona Water Company.

RESPONSE: ADEQ will not require additional groundwater monitoring wells at this time. As noted in the response to comment #3 above, from 1984 to present, analysis of groundwater monitoring results at onsite PTRL wells have consistently shown that groundwater is not impacted. Also, as required by the existing Permit, the Permittee has completed a Corrective Action “Interim Measure” and constructed a soil vapor extraction (SVE) system to collect, monitor, and remove volatile organic compounds from the vadose zone at PTRL. The

Permittee submitted documentation providing operational parameters for the SVE system. ADEQ has reviewed the documentation and believes the SVE system is properly designed to remove vapors from beneath PTRL, thus reducing the risk that contaminants may migrate to groundwater. The Permittee has also submitted an Operation and Maintenance Manual, which the ADEQ has incorporated into the Permit. These documents are available on the ADEQ website at:

<http://www.azdeq.gov/environ/waste/hazwaste/ptrl.html>

As noted in the response to comment #3, above, in the unlikely event that monitoring at PTRL shows that groundwater has been impacted, the hazardous waste rules provide for expansions to the groundwater monitoring program. Presently, monitoring is conducted as part of an “Expanded Groundwater Detection Monitoring Program” (EGDMP), as described in Permit Part III and Permit Attachment G. If detections of constituents are noted in groundwater, the Permittee would be required to undertake Compliance Monitoring. Further detections of constituents in groundwater may lead to Corrective Action and a groundwater remedy. ADEQ believes these measures are sufficiently conservative and protective of human health and the environment.

The original Permit required the Permittee to consider an expansion of the existing groundwater monitoring network to include sentry wells. Permit Attachment G, Appendix G-2, contains the Permittee’s response to this Permit requirement. It evaluated the adequacy of the current groundwater monitoring network, and provided four reasons against addition of the Robson Communities irrigation well (the Robson well) to the PTRL groundwater monitoring network at this time. The reasons are: i) The Robson well is not located directly downgradient of the facility, ii) The well is not appropriately screened – it is screened over multiple depths that do not correspond to those of the site monitoring wells, iii) The well is not designed for sample collection as purging cannot be controlled; and iv) Chemicals used by the well owner to clean the well and pump cannot be controlled.

The commenter has challenged each of the reasons. In response, ADEQ acknowledges that they may not represent insurmountable obstacles to inclusion of the Robson well within the PTRL groundwater monitoring network; however, ADEQ believes they present a set of reasonable objections to use of the Robson well without considering significant modifications either to the well or its method of operation or maintenance:

- i) *The Robson well is not located directly downgradient of the facility* – ADEQ acknowledges that the Robson Communities property is located adjacent to PTRL, and that the Robson irrigation well is sited towards the eastern portion of the property. However, it is not clear to ADEQ if the Robson well is “directly downgradient” of PTRL. The groundwater elevation at PTRL is relatively flat. Historic groundwater flow direction has swung from south to southwest, possibly due to changes in regional pumping, variations in recharge, or other factors. Thus, considering the distance of the Robson well from PTRL, it may not be a reliable sentry well.
- ii) *The well is not appropriately screened* – In order to rely on the data collected in groundwater sampling, the screen must be located in the upper saturated zone. This is because contaminants from PTRL would contact groundwater at the uppermost extent of the aquifer. Downgradient of PTRL groundwater flow would spread the contamination

both laterally and vertically, but the contamination would still be found near the upper interface of the aquifer. Wells screened over large intervals of aquifer are not typically used for monitoring. ADEQ acknowledges that alternative methods of groundwater sample collection would minimize this issue.

- iii) *The well is not designed for sample collection as purging cannot be controlled.* – As the well is not owned by the Permittee it must perform sampling in a method that is compatible with the construction of the well. A pump may not fit in the annular space between the impeller and the well casing. Due to the depth of the well, alternative means of purging may not be practical. Since the well is not in the control of the Permittee, prior operation of the pump built into the well cannot be guaranteed.
- iv) *Chemicals potentially used by the well owner to clean the well and pump cannot be controlled by the Permittee* – ADEQ acknowledges that proper coordination with the well owner would minimize the impact of this issue, and normal operation of the well would most likely purge the well of residue from well cleaning and other maintenance.

No changes were made to the Permit as a result of this comment.

COMMENT 5 [Fred Schneider, P.E. – Arizona Water Company] – The Permittee should be required to prepare an Aquifer Characterization Report to delineate the aquifer.

RESPONSE: As part of the original and renewal hazardous waste Permit applications, the Permittee provided ADEQ sufficient information to characterize the aquifer, including information concerning the quality of groundwater underlying PTRL. The application for renewal of the Permit includes a summary of groundwater monitoring data for the period 1984 to present and information summarizing the condition of underlying soils. Also, the administrative record for the Permit contains information concerning subsurface soils that was collected at the time the PTRL was undergoing closure.

The Permit contemplates actions similar to the Aquifer Characterization Report (ACR) if groundwater contamination is detected. Section IV.F of the Corrective Action provisions of the Permit requires the Permittee to implement corrective actions beyond the facility boundary where necessary to protect human health and the environment. Upon discovery of groundwater contamination, the Permittee would notify ADEQ, conduct an assessment, develop and implement a RCRA Facility Investigation (which evaluates fate and transport), conduct a Corrective Measures Study, if warranted, and implement the Corrective Measures and Remedy approved by ADEQ. Protection of the public and private wells would be evaluated throughout the process.

The actions to be taken and the reports prepared appear similar to the ACR described in the comment. However, the Permit provisions are triggered by the actual detection of groundwater contamination rather than the possibility of groundwater contamination, as suggested by the comment. Also, it is important to note that soil vapor concentrations are monitored to detect contaminant movement well before groundwater is impacted. If the concentrations exceed the soil vapor trigger concentrations specified in Permit Attachment G, Table G-8, additional actions will occur. Lastly, groundwater contamination has not been

detected at the landfill. No further information concerning the characterization of the aquifer will be requested of the Permittee at this time.

Data concerning groundwater quality is available on the ADEQ website at: <http://www.azdeq.gov/environ/waste/hazwaste/ptrl.html> . Additional data concerning the vadose zone, the saturated zone, and drilling logs for PTRL groundwater monitoring wells are available in the ADEQ files (UA Page Trowbridge Ranch Landfill, RMS File# 27828, HWPU file volumes 9, 11, 13, and 17). These files may be viewed 8:30 a.m. – 4:30 p.m. by contacting the ADEQ Records Center, 1110 West Washington Street, Phoenix, AZ 85007, at: (602) 771-4380.

No changes were made to the Permit as a result of this comment.

COMMENT 6 [Fred Schneider, P.E. – Arizona Water Company] – The initial public notice of May 6, 2012 was not sent to the Arizona Water Company (AWC). AWC must be included on any and all notices and correspondence pertaining to PTRL.

RESPONSE: AWC has been added to ADEQ Hazardous Waste Public Notification list (the “PN List”) for the UA PTRL. The PN List is used to notify interested parties of new permit actions, including all formal permit modifications and closures. To review facility files, including new correspondence between UA and ADEQ, the public must contact the ADEQ Records Center (see the response to Comment #5, above for location and telephone number).

No changes have been made to the Permit as a result of this comment.

ADEQ-initiated changes to the Final Permit

The following changes were made by ADEQ to the Final Permit. These changes are minor clarifications and corrections, and updates so as to remain consistent with State and Federal rules promulgated since the date the Permit was drafted. None of the changes are deemed to be significant so as to require a public notice or an extension to the comment period.

- 1. Parts I through IV and all of the title pages for Attachments, Appendices, Tables and Figures: The header was updated to remove the date and the revision was updated from “Draft” to “0”.**
- 2. Part II.I.5: Updated, “The Permittee must maintain a contact list of Learning Sites within 1.0 mile of the facility,” to “The Permittee must maintain a contact list of Learning Sites within 1.0 mile of the facility, verified annually.”**
- 3. Part II.K: Updated, “Prepare and add a new EGDMP QAPP (Permit Attachment H) within 90 days,” to “Prepare and add a new EGDMP QAPP (Permit Attachment H) within 90 days of Permit issuance.”**

- 4. Attachment B, Appendix B-1: Changed back footer from “Appendix B-1” to “Appendix D” so that the permit would only include necessary changes of the documents provided in the application.**
- 5. Attachment C: On June 20, 2012, UA submitted a legible copy of a newer version of the Roots Blower Manual for the final Permit, as the previous version had some illegible pages.**
- 6. Attachment F, Appendix F-1: UA submitted a revised Contingency Plan on June 19, 2012, which:**
 - a. Separated emergency contacts from the body of the appendix into a separate exhibit. This renumbered some of the other the exhibits and the references in the body of the appendix were updated accordingly;**
 - b. Added the Arizona Radiation Regulatory Agency to receive reports, be contacted if a radiation release occurs, and be included on the distribution list for Plan updates;**
 - c. Removed the yellow highlights from the radiation portion of Exhibit 6 (Exhibit 5 in Draft Permit);**
 - d. Added brief outlines of the emergency equipment capabilities in Exhibit 6 (Exhibit 5 in Draft Permit) in accordance with 40 CFR 264.52(e); and**
 - e. Added the Arizona Radiation Regulatory Agency to Exhibit 7.**
- 7. Attachment G, Appendix G-2: In the Table of Contents, added internal Attachment D (Turner Laboratory, Inc. Quality Assurance Plan) and Attachment E (AirToxics Ltd. Laboratory Quality Assurance Plan) back into the Table of Contents. Instead of modifying the document, ADEQ will add a page at the beginning of this appendix that Attachments D and E were removed for the Final Permit.**
- 8. Attachment G: On page 3-11, Section 3.5.2, the reference to Figure G-1 associated with the HGC, 2004a report was changed back to Figure 1. It was accidentally changed when other figure references were updated.**
- 9. Attachment G: On page 3-24, Section 4, “graphs of concentrations at each soil vapor monitoring location for the previous five years,” was updated to, “graphs of concentrations of the constituents identified in Table G-8 of Attachment G, at each soil vapor monitoring location for the previous five years.”**
- 10. Attachment J, Appendix J-2: Replaced new Title 18, Chapter 8 with the official Arizona Secretary of State version dated May 25, 2012.**
- 11. Any Permit Attachment or Appendix text that was modified from its corresponding application section or appendix will have a page added to the front listing the modifications. Many of the changes were the result of organizing the application documents within the permit attachments.**