

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ)
RESPONSE TO PUBLIC COMMENTS ON THE
WORLD RESOURCES COMPANY
DRAFT HAZARDOUS WASTE PERMIT

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. The response to comments must:

- Specify which provisions, if any, of the draft Permit have been changed in the final Permit decision, and the reasons for the change, and
- Briefly describe and respond to all significant comments on the draft Permit raised during the public comment period, or during any public hearing.

ADEQ has responded to all such comments in this Response to Comments (RTC) Summary.

On October 12, 2014, a public notice was advertised in the *Arizona Republic* announcing the public comment period for the draft hazardous waste permit for the World Resources Company (WRC) facility located at 8113 West Sherman Street, Tolleson, Arizona 85353. The public comment period opened on October 12, 2014, and closed on November 28, 2014. Two persons submitted comments. No request for a public meeting or public hearing was submitted by any member of the public.

The following is a list of the public comments received. The following is a compilation of all comments, followed by ADEQ's response in **bold text**.

COMMENT 1 [WRC; 10/29/2014]: Part II.C.4 – For those waste loads that WRC accepts as described in Part IV.K.3, paragraph 2, which will be handled as a set-aside on the Hazardous Waste Management Unit (HWMU), WRC proposes the following language for Part II.C.4:

“For waste that fails the variance criteria (i.e., after an initial sequence of non-conforming loads), the Permittee must analyze a new sample of the generator's sludge to verify compliance with the variance, before resuming shipments of the generator's waste stream. The analysis of the next four loads of this waste stream that will be set-aside on the HWMU will be completed within seventy-two (72) hours after arrival of this waste at the facility.”

RESPONSE: ADEQ agrees to the change. The suggested edit has been incorporated in the text, except in the last sentence, the second “will” in WRC's proposed language is changed to “shall.”

The following change has been made to the Permit at II.C.4, page II-2:

“4. Waste Stream Certification – Applicable Time Limits

For waste that fails the variance criteria (i.e., after an initial sequence of non-conforming loads), the Permittee must analyze a new sample of the generator's

sludge to verify compliance with the variance, before resuming shipments of the generator's waste stream. The Aanalysis of the next four loads of this incoming waste streams that will be set-aside on the HWMU shall be completed within seventy-two (72) hours after arrival of this the waste at the facility."

COMMENT 2 [WRC; 10/29/2014]: Part III, Table III-A – Table III-A still lists “container/liner wash water and rinsate,” in the description of waste column under HWMU Free Liquid Container Storage. As per WRC’s previous comment 16.b and ADEQ’s agreement, this language was removed from Part III.B.2(c), and should also be removed from the table.

RESPONSE: ADEQ agrees to the change. The suggested edit has been incorporated in the text.

The following change has been made to the Permit at III, Table III-A, HWMU Free Liquid Container Storage, Description of Hazardous Waste, page III-2:

“Hazardous waste metals-bearing and/or corrosive decontamination fluids, hazardous debris wash water and rinsate, ~~container/liner wash water and rinsate~~, clean-up fluids from releases and groundwater monitoring fluids containing listed hazardous waste F006 and F019 and characteristic waste codes.”

COMMENT 3 (WRC; 10/29/2014): Part IV.D.6 – WRC requests that ADEQ reword the second sentence of this section to state, “Opacity must be an average of 5% or less as determined by a six-minute observation using United States Environmental Protection Agency (U.S. EPA) Reference Method 9 (see Permit Attachment 20).”

RESPONSE: ADEQ agrees to the change. The suggested edit has been incorporated in the text.

The following change has been made to the Permit at IV.D.6, page IV-9:

“6. The Permittee must conduct weekly opacity testing of the TCU stack and discharge location(s) when the TCU is in operation. Opacity must be an average of less than 5% or less as determined by a six-minute observation using U.S. EPA Reference Method 9 (see Permit Attachment 20). TCU shutdown is required in the event of an exceedance at the stack or discharge.”

COMMENT 4 [WRC; 10/29/2014]: Part IV.D.8 – This section was modified to reference the Arizona Testing Manual, March 1992. WRC does not believe this will conflict with the procedures required under the Maricopa County Air Quality Department (MCAQD) permit as both the ADEQ Manual and MCAQD guidance in turn refer to standard federal test procedures (40 Code of Federal Regulations (CFR) § 60, Appendix A).

RESPONSE: Acknowledged.

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

COMMENT 5 (WRC; 10/29/2014): Part IV.F.5 – WRC requests that the wording concerning the mesh canopy repair be changed to be consistent with the MCAQD air permit language, which states: “Within seven (7) days of discovery, the Permittee shall commence the repair of any rip, tear, or other flaws, in the canopy that have an approximate linear dimension greater than six (6) inches.”

RESPONSE: ADEQ agrees to the change. The suggested edit has been incorporated in the text, except that “calendar” will be added prior to “days.”

The following change has been made to the Permit at IV.F.5, page IV-12:

“5. The Permittee must inspect and maintain the fabric mesh canopy and support system to ensure effective wind dispersal control. The fabric mesh canopy doors must be closed unless in use. Within seven (7) calendar days of discovery, the Permittee shall commence the repair of any rip, tear, or other flaws, in the canopy that have an approximate linear dimension greater than six (6) inches. Holes and tears greater than six inches shall be repaired within seven (7) calendar days of discovery. Repairs are made in accordance with Permit Attachment 6 (“Inspection Schedule”), Section 6.3. Details about the fabric mesh canopy are found in Attachment 1, Site Plan SP-S01 and Exhibit 1-4, Permit Attachment 4, Sections 4.1.1 and 4.3 and Permit Attachment 7 (“Procedures to prevent Hazards”), Section 7.3.6.”

COMMENT 6 [WRC; 10/29/2014]: Part VI.B.1.f – WRC believes that ADEQ is thinking about the plug for the storm water drain at the southeast drainage (next to Receiving Gate B) that flows into a pipe under the HWMU. There is a plug that would be used to cover this inlet of storm water conveyance (see attached photo of SE drain and plug) in the unlikely event of a spill and the presence of storm water. However, area of concern (AOC) 2 is the storm water conveyance that is located at the southeast corner of the Maintenance Shop, and has an approximately 3’ x 3’ ground-level grate. WRC employs a PIG® DrainBlocker® Drain Cover to cover this storm water conveyance in the unlikely event of a spill and the presence of storm water. Three pictures of this are provided.

RESPONSE: ADEQ agrees to the change. ADEQ notes that Part VI.B.1.f is actually VI.B.f. The suggested edit has been incorporated in the text.

The following change has been made to the Permit for the first paragraph at VI.B.f, page VI-3:

“(f) Stormwater is collected in a catch basin located at the southwest portion of the truck delivery area. It is transported through a storm conveyance system around the HWMU and along the southwest property line in a concrete lined ditch to the storm water retention area at the south end of the property. WRC employs a PIG®

DrainBlocker® Drain Cover ~~A rubber plug is used~~ to cover the approximately 3 feet by 3 feet ground-level grate at the inlet of the storm water conveyance in the unlikely event of a spill during delivery of hazardous waste and the presence of storm water in the front of the facility.”

COMMENT 7 [WRC; 10/29/2014]: Attachment 10, Contingency Plan

- a. Site Maps SP-C01 and SP-S02 – During WRC’s annual HAZWOPER refresher course it was determined that these maps need to be updated as to the location of chemicals, Material Safety Data Sheet (MSDS) binders, and emergency equipment. Updated versions have been provided.
- b. Emergency Coordinators – Please remove information concerning Kimberly Myers from section 10.1.3.2.

RESPONSE: The suggested edits have been incorporated in Permit Attachment 10, Contingency Plan.

- a. Site maps SP-C01 and SP-S02 have been updated.
- b. Information concerning Kimberly Myers has been removed from the Permit at Attachment 10, Section 10.1.3.2, page 4. In accordance with subsequent correspondence dated November 5, 2014, Mr. Raymond Corcoran will replace Ms. Kimberly Myers as an Alternate Emergency Coordinator and Section 10.1.3.2 has been updated. A Character/Background Check Form has already been submitted to and accepted by ADEQ for Mr. Corcoran.

COMMENT 8 (WRC; 10/29/2014): Appendix O – Please remove and destroy the ADEQ Character/Background Reference Forms for Kimberly Myers as she will no longer be employed by WRC as of November 7, 2014.

RESPONSE: The Permit has been updated with the new information. The referenced Character/Background Check Form will remain in ADEQ’s confidential files in accordance with State and Federal public records requirements.

COMMENT 9 [WRC; 11/24/2014]: Part I.E.10.d – WRC requests that the last two sentences of Part I.E.10(d) be deleted. They are not necessary because Part II.C.2 requires permit-required analyses to be performed using Arizona Department of Health Services (ADHS) licensed (certified) laboratories and A.A.C. R9-14-617.8 requires licensed (certified) laboratories to document in their final reports the approved methods used in the analyses and specific information regarding any analysis not obtained in accordance with an approved method.

RESPONSE: The requirement to inform the laboratory in writing that it must operate under the conditions set forth in the Permit is found in the U.S. EPA model permit for commercial hazardous waste treatment storage and disposal facilities. The standard condition is broadly worded and is a reasonable requirement in a number of circumstances covered by the Permit. For example, a laboratory performing analyses of

samples generated during closure of the facility should abide by the requirements of the Quality Assurance Project Plan (QAPP) approved for the closure. For other routine circumstances, however, there may not be a need to provide such notice to the laboratory. If the Permittee believes there are no applicable conditions that the laboratory must be made aware of, such notification will not be necessary. The requirement to include a copy of the letter in the final analytical report for notification and certification verification purposes is redundant and has been deleted.

The following change has been made to clarify the Permit at I.E.10.d, page I-7:

“(d) Each parameter test that an in-state or out-of-state laboratory (including the Permittee’s Quality Control Laboratory) can perform for Hazardous Waste analysis to comply with the requirements of the Permit must be licensed (certified) by the Arizona Department of Health Services (ADHS) [A.R.S. Title 36, Chapter 4.3, Article 1, Section 36-495.01]. Additionally, if a contract laboratory is used to perform analyses, then the Permittee shall maintain documentation showing the resolution of any inconsistency between the laboratory’s proposed services and inform the laboratory in writing that it must operate under the applicable conditions of set forth in this Permit. ~~For notification and certification verification purposes, a copy of that letter must be included with the final analytical report.”~~

COMMENT 10 [WRC; 11/24/2014]: Part I.E.13.c – WRC requests that “submission” on the first line of Part I.E.13(c) be replaced with “report.”

RESPONSE: Permit Condition I.E.13.c expects a “written submission” in lieu of a “written report” as it may be in the form of an email or a memorandum and does not need to be certified in accordance with 40 CFR § 270.11(d)(1) and Permit Part I.E.11. Under some circumstances a 15-day Report may be more appropriate as it may contain additional information (e.g., analytical laboratory results, investigation/failure analysis results, remedies, etc.) that might not be available within five days of the incident. The report must be certified by the permittee’s authorized representative and by the supervising engineer, if appropriate.

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

COMMENT 11 [WRC; 11/24/2014]: Part II.C.2 – WRC requests that “required by this Permit be” inserted on the first line of Part II.C.2 between “testing” and “performed.”

RESPONSE: ADEQ agrees to the change. The suggested edit has been incorporated in the text, except that the language will be inserted after “performed” and before “at” and “be” will not be included.

The following change has been made to the Permit at II.C.2, page II-2:

“2. ADHS Certification

All testing performed as required by this Permit at onsite or off-site laboratories, in-state or out-of-state, must be conducted by laboratories licensed (certified) by the ADHS for the applicable analytical methods in use at the onsite or offsite laboratory.”

COMMENT 12 [WRC; 11/24/2014]: Part II.J.1 – WRC requests that “but not limited to” be deleted from the third line of the first paragraph under “Operating Record” because it could be interpreted to impose unlimited requirements on WRC.

RESPONSE: ADEQ agrees to the change. The phrase, “but not limited to,” is intended to mean these and any additional records that describe operations at the facility and how they comply with the permit and regulations. The suggested edit has been incorporated in the text.

The following change has been made to the Permit at II.J.1, page II-6:

“1. Operating Record

The Permittee shall maintain a written (or electronic as noted below) operating record at the facility, in accordance with A.A.C. R18-8-264.A and 40 CFR 264.73 and the terms of this Permit, to include but not be limited to:”

COMMENT 13 [WRC; 11/24/2014]: Part II.P – WRC requests that “but not limited to:” be deleted from the second line of Part II.P and be replaced with “including.” The phrase “not limited to:” is not needed because the first line of Part II.P includes the requirement that “all applicable requirements” be met.

RESPONSE: ADEQ agrees to the change. The suggested edit has been incorporated in the text.

The following change has been made to the Permit at II.P, page II-11:

“P. LAND DISPOSAL RESTRICTIONS

The Permittee shall comply with all the applicable LDR requirements of 40 CFR Part 268, including not limited to: the required notices, use of the hazardous waste debris rule, and storage prohibitions of A.A.C. R18-8-268.A, and 40 CFR § 268.7, 268.45, and 268.50.”

COMMENT 14 [WRC; 11/24/2014]: Part III.B.2.c – WRC requests that the last three lines of Part II.B.2(c) be deleted and replaced with “fluid, when a required waste determination in accordance with Permit Attachment 5 (Waste Analysis Plan) shows that the free liquid is a hazardous waste.” The requested language adds clarity by eliminating the pronoun “it.”

RESPONSE: ADEQ agrees to the change. The suggested edit has been incorporated in the text. In addition, semicolons will be used so that the requested phrase is distinguishable from other fluids.

The following change has been made to the Permit at III.B.2.c, page III-3:

“(c) A maximum of 300 gallons of the container storage capacity may be used for facility-generated free-liquid container storage, including: treatment fluids; decontamination wash water and rinsate; emergency-related clean-up fluids; ~~Hazardous Debris Container Treatment Unit decontamination fluid, with~~ when a required waste determination in accordance with Permit Attachment 5 (“Waste Analysis Plan”), Section 5.2.1, shows it that the free liquid is a hazardous waste.”

COMMENT 15 [WRC; 11/24/2014]: Part IV.K.3 – WRC requests that “under the procedures set forth below” be deleted from the next to the last line of the last paragraph of Part IV.K.3 and be replaced with “in accordance with the procedures set forth in Permit Attachment 5 (Waste Analysis Plan), Section 5.3.2.” The change is requested because there are no procedures below the last paragraph of Part IV.K.3. WRC assumes that ADEQ intended to reference Section 5.3.2 of the Waste Analysis Plan.

RESPONSE: ADEQ agrees to the change. The suggested edit has been incorporated in the text.

The following change has been made to the Permit for the last sentence of the last paragraph at IV.K.3, page IV-15:

“If, however, any one of the four loads fails the variance criteria, the Permittee must, first, determine within five (5) operating days either (a) to send the load as a hazardous waste to a smelter for recycling or (b) to reject the load ~~under the procedures set forth below~~ in accordance with the procedures set forth in Permit Attachment 5 (Waste Analysis Plan), Section 5.3.2, and, second, suspend further shipments of that waste stream.”

COMMENT 16 [WRC; 11/24/2014): Part VI.B – WRC requests that the last sentence of the first paragraph of Part VI.B be deleted and replaced with “Maps of all identified SWMUs and AOCs are provided as Figures SP-S01 and SP-MW01 in Attachment 4 of this Permit.” The requested sentence adds a reference to Figure SP-MW01 because Figure SP-S01 does not show the drains mentioned in Parts VI.B(e) and (f).

RESPONSE: ADEQ agrees to the change. The suggested edit has been incorporated in the text.

The following change has been made to the Permit at VI.B, page VI-1:

“RCRA Facility Assessment

An RFA was conducted and prepared for the Permittee by ADEQ with a draft report summarizing the findings and recommendations on May 30, 2007. Three (3) SWMUs and two (2) areas of concern (AOCs) were identified. ~~A map~~ Maps of all identified SWMUs and AOCs ~~is~~ are provided as Figures SP-S01 and SP-MW01 in Attachment 4 of this Permit.”

COMMENT 17 [WRC; 11/24/2014]: Part VI.D.4.a – WRC requests that all text of Part VI.D.4(a) be deleted and replaced with “Any sampling plan required under this Part shall comply with the relevant portions of 40 CFR 260 et seq. and relevant provisions of this Permit, including Part I.E.10 and Parts VI.L.1 and L.2.” The requested language clarifies that such sampling plans only require that relevant portions of SW-846 and 40 CFR 260 et seq. be addressed. Additionally, Parts VI.L.1 and 2 provide a more extensive listing of information requirements than provided in ADEQ’s proposed Part VI.D.4(a) thus eliminating the need for the list provided in ADEQ’s proposed Part VI.D.4(a).

RESPONSE: ADEQ agrees to the change. Permit Part VI.D.4.a has been partly modified to provide additional detail concerning these considerations.

The following change has been made to the Permit at VI.D.4.a, page VI-5:

“(a) Sample Collection and Management

Any sampling plan required under this Part submitted by the Permittee shall comply with include all relevant portions elements of U.S. EPA SW-846, and A.A.C. R18-8-260 et seq. (40 CFR Part 260 et seq.) and relevant provisions of this Permit, including Part I.E.10 and Parts VI.L.1 and L.2, not limited to:

- **Specifying the sampler and sampler procedure for use;**
- **Specifying sampling points based on a statistical basis, logic, and strategy;**
- **Trip blanks, duplicates, spikes, splits, and other field control samples; and**
- **Sample management procedures for the field notebook, collection form, preservatives and capping, and other chain-of-custody components.”**

COMMENT 18 [WRC; 11/24/2014]: Attachment 15, Concrete Management Plan, Section 2.8 – WRC requests that “and included in Appendix H of this Permit” be inserted following “Demonstration” on the first line of the second Paragraph of Section 2.8. WRC requests the tables included in the Demonstration (especially Table 5) as described be included somewhere in the Permit because new data will be added to date in Table 5 as described in the fourth paragraph of Section 2.8.

RESPONSE: The Demonstration of Compliance with the language quoted in the comment and Table 5 are found in Appendix K of the permit application, not Appendix H. The suggested edits have been incorporated in the text, except reference to “Appendix K” will be omitted and replaced with “Attachment 15” and Table 5 will be added to Attachment 15.

The following change has been made to the Permit at Attachment 15, for the second paragraph of Section 2.8, page 5:

“Existing data (Table 5 of ~~the Demonstration~~ this Attachment 15) indicate that average concentrations of metals, except arsenic, ~~are well~~ have been below the clean closure criteria, i.e., the concentrations are well below minimum GPLs and well below residential pre-determined soil remediation standards. Arsenic is unique because its pre-determined residential and non-residential standards are both 10 mg/kg and that is the lowest concentration of all metals for which pre-determined soil remediation standards have been established. Still, as explained below, it is unlikely that the average arsenic concentration will exceed 10 mg/kg within the foreseeable future. Whenever it exceeds the predetermined 10 mg/kg standard, a risk-based standard will be developed in accordance with R18-7-206 and submitted to ADEQ for approval.”

COMMENT 19 [WRC; 11/24/2014]: Appendix H – WRC requests that the Reserved status of Appendix H be changed to accommodate the inclusion of Tables 1-5 of the Demonstration. As mentioned above, Table 5 is essential. However, it is a summary of some of the data provided in Tables 1-4. Thus, for the sake of completeness, WRC requests that all five tables be included in Appendix H.

RESPONSE: ADEQ agrees to the change, but notes that the Demonstration of Compliance and Tables 1-5 are in Appendix K of the permit application, not Appendix H. Tables 1 through 5, and the “Tables” table of contents, were added to Permit Attachment 15, the Concrete Management Plan. The headers on the tables were changed from “Appendix K” to “Attachment 15.” The table of contents has been updated to reflect “Attachment 15” and the revision has been added.

COMMENT 20 [Shoremets; 11/25/2014]: Extension Request – Commenter requests 60 day extension to the public comment period because 45 days was insufficient time to investigate the record and comment on the draft Permit (e.g., the Ambient Air Monitoring Plan is still pending).

RESPONSE: ADEQ will not extend the public comment period. ADEQ provided a 45-day public comment period in accordance with A.A.C. R18-8-271.I (40 CFR § 124.10), comments submitted by the commenter are addressed in the administrative record, including the draft Permit, and the commenter has not provided an adequate demonstration for an extension.

COMMENT 21 [Shoremets; 11/25/2014]: General Comment – The Permit reads as if the facility to be permitted has always been permitted, constructed and managed under applicable hazardous waste management statutes and regulations. It has not. Shoremets’s understanding is that the Consent Agreement and Consent Order (CACO) was issued to address numerous hazardous waste violations arising out of WRC’s construction and operation of the facility.

RESPONSE: The administrative record shows that the facility has not ever been permitted and has been subject to the requirements of the CACO since September, 1996. The CACO was available as part of ADEQ's administrative record, and no request was received by ADEQ from the commenter for the CACO or any other part of the administrative record.

COMMENT 22 [Shoremet; 11/25/2014]: General Comment – The public has had no assurance over the last three decades and more that the facility has not threatened, and does not threaten, human health or the environment. The permit to be issued by ADEQ is the only mechanism under which the public can be confident that the facility is not a significant threat to human health or the environment.

RESPONSE: The administrative record for the Permit shows that the facility's operations have not adversely affected human health and the environment.

- **ADEQ performed a Resource Conservation and Recovery Act (RCRA) facility assessment (RFA) in 2007 in order to evaluate for any potential releases of solid waste or hazardous waste at the facility. Three (3) solid waste management units (SWMUs) and two (2) areas of concern were noted. The final RFA report, dated May 30, 2007, noted that no releases were present at the facility. Annual facility inspections performed by ADEQ have not noted any evidence of new releases requiring further corrective action.**
- **Annual and periodic compliance inspections have been conducted by ADEQ and U.S. EPA, respectively, to ensure the facility abides by the requirements in the CACO, which includes adherence to A.A.C. R18-8-265 (40 CFR § 265) with elements similar to a permitted facility. Inspections will continue to be conducted under the Permit.**
- **WRC has been operating under a MCAQD permit.**
- **Groundwater monitoring reports have been submitted to ADEQ on a semiannual basis since 1997, with groundwater monitoring wells installed and monitored since 1993. Only nitrate has been detected in samples above Arizona Water Quality Standards (AWQS). Nitrate exceedances are attributed to agricultural land use in the general vicinity of the site.**
- **Additional administrative and engineering controls were implemented during the permit application process, as described in the Fact Sheet.**
- **Concrete and subsurface soil was sampled and analyzed from 1993 through 2007. Sampling will continue to be conducted in accordance with the Concrete Management Plan contained in the Permit. Samples to date show there is a low potential for contaminant migration to groundwater since there was no exceedance of metal residential soil remediation levels (R-SRLs) or groundwater protection levels (GPLs) encountered, except for arsenic, which is similar to background concentrations.**

- **Supplemental precautions are required as permit conditions with timelines, including the Ambient Air Monitoring Program Study and Plan, installation of an additional groundwater monitoring well and additional facility controls.**

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

COMMENT 23 [Shoremets; 11/25/2014]: General Comment – Even with the history of risk posed by the facility, the ADEQ has chosen not only the least protective way to regulate the HWMU at the facility, but under an impermissible standard. The draft permit should be extensively revised and not issued in its current form. The draft permit must be withdrawn. The primary flaw in the draft permit is that the HWMU is to be regulated as a miscellaneous unit rather than one or more waste piles. In so doing ADEQ purports to unlawfully absolve WRC of liner and leachate detection, collection and removal system requirements and thereby put human health and the environment at risk. This flaw is fundamental to both the draft permit and the legal and responsible operation of the facility.

RESPONSE: The administrative record provides ADEQ’s rationale for regulating the facility under the Subpart X requirements (e.g., see (REF: ADEQ letter HWP EX-1944; January 26, 2006), instead of as a waste pile (Subpart L). ADEQ believes that the Subpart X requirements offer more protection to human health and the environment:

- **Subpart X requires that a permit for a miscellaneous unit must contain such terms and protective provisions as necessary to protect human health and the environment, including provisions from Subpart L or any other subpart deemed applicable, in accordance with 40 CFR § 264.601. Accordingly, the Permit includes applicable requirements for a waste pile, such as adherence to the requirements under 40 CFR § 250(c) (e.g., no free liquids accepted, surface water run-on protections, control wind dispersal, and no leachate generation).**
- **Subpart X provides a broad regulatory basis for air emissions and ambient air monitoring, in accordance with 40 CFR § 264.601(c), which authorizes the Permit to address factors such as:**
 - **The volume and physical and chemical characteristics of the waste in the miscellaneous unit, including its potential for emissions and dispersal of gases, aerosols, and particulates;**
 - **The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;**
 - **Operating characteristics of the miscellaneous unit;**
 - **Atmospheric, meteorologic, and topographic characteristics of the miscellaneous unit and the surrounding area;**
 - **The quality of the existing ambient air;**
 - **The potential of health risks caused by human exposure to waste constituents from the miscellaneous unit; and**

- **The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.**

As described in the administrative record, including the Fact Sheet and elsewhere in this Response to Comments summary, the Permit contains a number of conditions that address the above factors.

- **If regulated under Subpart L the HWMU would be considered an “existing unit”, and would be exempt from minimum technological requirements (MTRs) because the facility was in existence before the regulatory deadline of November 8, 1984 (the date of enactment of the Hazardous and Solid Waste Amendments – HSWA).**
- **As described in the Fact Sheet, WRC submitted a demonstration of compliance under 40 CFR § 264.251(b) for an exemption to the LCRS requirement. It showed that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents to the ground water. ADEQ has granted the exemption. ADEQ considered the following in its determination:**
 - **The nature and quantity of the wastes;**
 - **The proposed alternate design and operation;**
 - **The hydrogeologic setting of the facility, including attenuative capacity and thickness of the liners and soils present between the pile and ground water or surface water;**
 - **All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water; and**
 - **Whether the Closure Plan is sufficient to provide confirmation that a release did not occur.**
- **WRC Concrete Management Plan provides a systematic process for evaluating and responding to data generated from the collection and analysis of concrete and soil samples, with appropriate response actions if any damage to the HWMU is discovered or if analytical results show there may have been a release. The demonstration of compliance is part of the administrative record for the draft Permit.**
- **The draft Permit requires WRC to perform annual groundwater monitoring.**
- **The draft permit includes a number of omnibus conditions (A.A.C. R18-8-270.A, M, N and O (40 CFR 270.32)) relative to ground water monitoring, air monitoring, and facility monitoring, maintenance and controls that are designed to protect human health and the environment. These omnibus conditions are described in the Fact Sheet for the draft permit and are supported in the administrative record.**

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

COMMENT 24 [Shoremet; 11/25/2014]: Specific Comment – The HWMU meets the definition of a pile in accordance with A.A.C. R18-8-264.A (40 CFR § 264 Subpart L), it does not meet the definition of a miscellaneous unit A.A.C. R18-8-264.A (40 CFR § 264 Subpart X).

RESPONSE: See the response to Comment 23.

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

COMMENT 25 [Shoremet; 11/25/2014]: Specific Comment – WRC should be required to install a leachate detection, collection and removal system. In Attachment 4, Section 4.1.1.2, page 4-4, the permit says that the facility predates the 1992 leachate collection and removal system (LCRS) requirements, so they are not applicable. The facility should be treated as a new facility because this is the first time the facility will have a permit.

RESPONSE: ADEQ notes that the reference to the LCRS language in the comment is located in Attachment 4, Section 4.1.1.3. WRC submitted a demonstration of compliance in accordance with R18-8-264.A (40 CFR § 264.251(b)) as part of their permit application, and as described in the Fact Sheet and response to Comment 23. If regulated under Subpart L, the facility would be regulated as an existing unit, not as a new, lateral expansion or a replacement unit, and therefore would be exempt from a liner and leachate control system in accordance with the 40 CFR § 264.251(a) language, “...(except for an existing portion of a waste pile)...”

The following change has been made for clarification to the Permit Attachment 4, Section 4.1.1.3, page 4-4. The revision located in the header of Attachment 4 will be updated from “4” to “5”:

“4.1.1.3 Leachate Detection, Collection, and Removal System

The HWMU was not constructed with a leachate detection, collection, and removal system under the concrete surface because the HWMU was constructed prior to 1992 and, therefore, is was not required to follow the 1992 minimum technical requirements (MTRs). A demonstration of compliance was also submitted in accordance with Arizona Administrative Code R18-8-264.A (40 CFR 264.251(b)).”

COMMENT 26 [Shoremet; 11/25/2014]: Specific Comment – Without a LCRS there is risk to groundwater impact. The groundwater monitoring system has defects, inspection procedures are flawed, water from storms may migrate under the pad and flash floods have occurred in the Phoenix area. Only a proper LCRS can address this issue.

RESPONSE: See the responses to Comment 23.

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

COMMENT 27 [Shoremet; 11/25/2014]: Specific Comment – WRC should be required to comply with the Action Leakage Rate, response action and monitoring and inspection requirements of the waste pile requirements.

RESPONSE: The Action Leakage Rate required by 40 CFR § 264.252 applies to units subject to 40 CFR § 264.251(c) and (d). WRC's HWMU is considered a miscellaneous unit in accordance with 40 CFR § 264 Subpart X. This regulation states that "Permit terms and provisions must include those requirements of subparts I through O...that are appropriate for the miscellaneous unit being permitted." Consistent with 40 CFR § 264, Subpart L, WRC submitted a demonstration of compliance under the waste pile regulations in accordance with 40 CFR § 264.251(b), as previously described above in the response to Comment 23. WRC's demonstration of compliance with 40 CFR § 264.251(b) shows that they meet the requirements of 40 CFR § 264.251(d), migration prevention to groundwater and surface water and detection of leaks through the top liner as effectively as a liner and leachate collection system, as described in the response to Comment 23.

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

COMMENT 28 [Shoremet; 11/25/2014]: Specific Comment – The groundwater monitoring plan is flawed.

- Due to the depth of groundwater, vacuum lysimeters need to be installed to effectively monitor the vadose zone / upper alluvial unit (UAU); and

RESPONSE: ADEQ does not agree that lysimeters are required to monitor potential effects to groundwater. With the concrete, soil and groundwater monitoring requirements, as well as the climate in Tolleson, Arizona, there is sufficient monitoring information required by the Permit to protect soil and groundwater in the area:

- Soil cores/sampling and groundwater monitoring are the preferred methods of monitoring the site due to drought/dry weather conditions at the site, as it is located in the vicinity of Phoenix, Arizona (EPA's Approach to Vadose Zone Monitoring at RCRA Facilities; Neal D. Durant, Vernon B. Myers and Lawrence A. Eccles; Winter 1993, Groundwater Monitoring & Remediation, pp. 151-158). In addition, soil-core monitoring provides more information for less mobile constituents (e.g., heavy metals) and can be focused to areas where the unit may be compromised. Neither soil-pore liquid monitoring nor soil-core monitoring should replace saturated zone monitoring (e.g., groundwater monitoring) since saturated zone monitoring can detect the presence and degree of saturated zone contamination, and not just a specific small location;
- No contaminants of concern (i.e., volatile organic compounds, metals, cyanide or hexavalent chromium) have been detected above Arizona R-SRLs, GPLs in soil or AWQS, other than nitrate in groundwater, which is attributable to

agricultural activities in the area, and arsenic concentrations in soil similar to background concentrations, as described in the Fact Sheet;

- The performance of lysimeters is susceptible to drought or dry weather conditions, such as in the Phoenix, Arizona area, limiting their usefulness and limited if no, sample volumes would be expected (Utilization of Pressure-Vacuum Lysimeters for Unsaturated Zone Monitoring, Todd Giddings, Ph.D., 1983, Proceedings from Characterization and Monitoring of the Vadose Zone. National Water Well Association, Worthington, Ohio, pp. 545-553); and
- Placement of lysimeters around the perimeter four-acre facility is unreasonable and unnecessary based on the other monitoring requirements in place.
- Monitoring wells, MW-9, -10, and -11, have well screens of 100 feet – these well screens are excessively long.

RESPONSE: ADEQ understands that the preference is to have shorter well screen lengths in monitoring wells. However, as relayed in the document, *EPA's Technical Enforcement Guidance Document (EC-G-2002-130)*, referenced by Shoremet in the November 25, 2014 letter, pages 78 and 81 relay that consideration must be given for collection of groundwater samples over the anticipated active life of the facility and post-closure period (i.e., 30 or more years). Therefore, ADEQ does not consider the well screens used at WRC to be excessive:

- WRC's initial eight wells were abandoned due to drought conditions and groundwater pumping in the area, as described in Permit Attachment 9. Wells MW-1 through MW-8 had screen lengths of approximately 20 to 25 feet. Sampling results for these wells identified no contaminant levels above AWQS other than nitrate, as described in responses to Comments 22 and 28 (above);
- Groundwater contaminant concentrations have all been well below AWQS, except for nitrate and turbidity;
- Water levels dropped more than 40 feet since 1994 as shown on Figure F-H01 of Permit Attachment 9. The newer well screens for MW-9, MW-10 and MW-11, which are approximately 100 feet to take the water table fluctuations and decreases into consideration (e.g., drought conditions, groundwater pumping for irrigation, etc.) during the anticipated life of the facility, meet the requirements in Section 3.3 of U.S. EPA EC-G-2002-130 (i.e., allow sufficient groundwater flow, minimize passage of formation materials, and ensure sufficient structural integrity of the well). These deeper wells also appear to have addressed the issue of turbidity in the samples by providing a sufficient water column for collecting samples despite water level changes; and

- **With respect to the passage quoted by Shoremet from the U.S. EPA document, even in the monitoring wells with shorter screens, there was no indication of historical or current releases from the HWMU to the subsurface and groundwater to date. If any contaminant exceedances are encountered, or there is an indication that a release through other means such as concrete and soil sampling, depth-specific samples could be collected using passive diffusion bags or other methods or the installation of additional monitoring wells could be required.**

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

COMMENT 29 [Shoremet; 11/25/2014]: Specific Comment – The facility description in Attachment 1 neglects important traffic and facility access issues:

- a. No traffic patterns on site;
- b. No volumes including number of vehicles;
- c. No traffic control signs, signals and procedures; or
- d. No information on adequacy of access roadway surfaces and load-bearing capacity for traffic.

RESPONSE: The information listed in the comment is available in Attachment 1 of the permit application. Although it is a necessary component of a complete permit application, the information is not needed within the Permit.

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

COMMENT 30 [Shoremet; 11/25/2014]: Specific Comment – The facility integrity is questionable:

- Load bearing capacity of the pad is not provided. Thickness of the concrete is not known;

RESPONSE: Permit Attachment 4, 4.1.1.2, provides information that the thickness of the concrete is 4-6 inches and 4 inches for the eastern and western portions of the pad, respectively. The construction of the HWMU halves is also provided in the Appendix K, Attachment 1 (Drawings F-H02.1, F-H02.2 and F-H03) of the permit application. The construction includes reinforced concrete, asphalt, aggregate base course (ABC) material and compacted native soil. The soil bearing capacity of the soil and the thickness and construction of the pad showing 12 inches of additional concrete where the thermal concentrating unit (TCU) is located were provided in Appendix C of the permit application.

- Effectiveness of the concrete sealant is unknown;

RESPONSE: An MSDS and chemical resistance study, crack sealing capability testing and acid testing results were submitted with the permit application in Appendix F for the concrete sealant, ChemTec One. In addition, the cracks and expansion joints are

maintained and repaired using Sikadur 31 and 35 and DuroCaulk. The Manufacturers' product data sheets and specifications are provided in the administrative record.

- **Pumps that handle stormwater may not be able to handle the density of the slurry coming off of the pad and may not have sufficient net positive suction head (NPSH);**

RESPONSE: As referred to in Drawing 13-041 RB, WWTU Storm Water Pickup Construction, included in Appendix F-F of WRC's permit application and found in Attachment 19 of the draft permit, WRC uses the on-site Wilden T-15 double diaphragm positive displacement pump:

- **Wilden double diaphragm pumps can be operated to reduce the potential for insufficient NPSH (i.e., cavitation). WRC preserves the parts and life of the pump by adhering to the manufactures recommendations for the pump's operation. In addition, the WWTU stormwater pickup system is designed and operated to shut off the pump whenever the sensors do not detect the presence of water, preventing the pump from pumping air. No issues with insufficient NPSH/cavitation have been noted;**
 - **The Wilden T-15 has been operated at the WRC facility for approximately four years and during that time, they have not had to replace any of the diaphragms, which supports that the pump has been operated to minimize the effects of cavitation. WRC also maintains a spare Wilden T-15 pump onsite that could be placed in service should the current pump break down;**
 - **Although, the pump is specifically designed for being able to move slurry in mining operations, the stormwater that is pumped at WRC has the consistency of water. It is unlikely insufficient NPSH would be encountered;**
 - **WRC has and will continue to rent additional pumps for backup and to assist the onsite Wilden T-15 pump to help move large volumes of precipitation in a timely manner.**
- **Pad integrity is questioned if up to 1,000 gallons per day of free-flowing liquid is produced by draining piles of waste. A LCRS is required;**

RESPONSE: The 1,000 gallon daily estimate is identified in Attachment 4, Section 4.2.2, which states, "The result of this analysis shows that the HWMU is capable of containing a 25-year storm with significant residual capacity for daily sources associated with operation of the HWMU, which are estimated at 1,000 gallons per day." The source of the maximum estimate of 1,000 gallons of free-liquids produced by HWMU operations is primarily the result of cleaning the HWMU concrete pad, railcars, roll-offs, and vehicle wheels. Relatively small amounts of leachate are

produced by the waste. The surface of the HWMU is sloped to the south so that free-liquids do not stand on the pad, but drain to the set of pickup points for transfer to the WWTU as described in Permit Attachment 4 and as shown in drawings provided in Permit Attachment 19. In addition to the above, drum and liner cleaning solutions are pumped directly from their containers to the WWTU. As a result, a small volume of allowable free-liquids are expected on the HWMU.

- Inspections of the pad may not be reliable. The entire pad is only inspected annually, and inspections may be hampered by crusted hazardous waste over and in cracks. In addition, a person cannot see a 0.125 crack if filled with waste. A LCRS is required; and

RESPONSE: In accordance with the Permit Attachment 15 (Concrete Management Plan), the entire pad is inspected a minimum of annually with daily inspections of sections of the pad that are not covered by waste or other materials. Square footage of the exposed sections vary depending on the time of year and the portion on which treatment is being conducted, such as for solar drying, blending or staging for off-site transport. During various times throughout the process, the pad is cleaned and squeegeed to minimize slip hazards (e.g., after loading material, aisles between material loads, after cleaning truck wheels and roll-offs, after cleaning railcars, removal of minimal leachate, etc.) in accordance with Permit Attachments 3 and 4. Employee responsibilities listed in the training requirements (Attachment 8) include “pathways are kept clean, unobstructed and dry between all lots of recyclable material, as well as the total cleanliness of the HWMU”. As a result, these cleaning requirements allow for improved daily inspection of the pad.

- Attachment 4, Figure F-H02.2 and F-H02.1 show 20 mil high density polyethylene (HDPE) liners extending up the exterior of the berm. This will degrade when exposed to sunlight for more than 100 hours. The permit doesn’t protect the exposed liner.

RESPONSE: Although the drawings do not reflect it, the portions of the liner shown above the ground surface are actually covered with soil and capped with either asphalt or concrete. Even if they were not covered and were exposed to the sun, degradation of these edges would not affect the integrity of the portions of liner in the subsurface.

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

COMMENT 31 [Shoremot; 11/25/2014]: Specific Comment – The fencing is inadequate. The block wall is only 5.5 feet high. The west property line at the north is controlled by a chain link fence that is only 5.5 feet high. These barriers are inadequate.

RESPONSE: WRC meets the security requirements in accordance with A.A.C. R18-8-264.A (40 CFR § 264.14(b)), including the fencing requirement around the active portion of the facility (i.e., HWMU), “An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active

portion of the facility.” The fencing is described in Permit Attachment 7, 7.1.2, which has a table describing most of the fencing. This section also includes the description of additional fencing, “A 6-foot high block wall extends from the north property line to the south end of the processing area. This wall is approximately 30 feet inside the west chain link fence. This wall then continues along the south end of the processing area to a point where it connects to the chain link fence on the east end of the south property line. Barbed wire has been added to the top of the block wall and chain link security fence along the east, south, and west barrier of the HWMU to achieve a maximum 7-foot high physical deterrent capable of minimizing the unauthorized entry of persons onto the active portion of the facility. Directly adjacent to the north side of the HWMU, from the east side barrier wall to the west side barrier wall, WRC installed a 7-foot high chain link fence security barrier as a means of preventing entry to the active portion of the facility by unauthorized persons.” The fencing configuration is also shown on Site Plan SP-S01, located in Attachment 1, Facility Description.

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

COMMENT 32 [Shoremets; 11/25/2014]: Specific Comment – There is no description of the Ambient Air Monitoring Program in the draft permit – this item is labeled as “pending”.

RESPONSE: As described in the Fact Sheet and in Permit Part II.V, the Ambient Air Monitoring Program Study and Ambient Air Monitoring Plan will supplement historical and ongoing air quality data and modeling prepared by WRC. The study will evaluate possible upgrades to the existing fence-line ambient monitoring network, including the number, type and, locations of monitors, quality assurance, and response outcomes. Once approved, the study will provide the framework for the Ambient Air Monitoring Plan, which will provide details on the equipment, sampling and analysis methods, operating and maintenance procedures, quality assurance, benchmarks, and response outcomes. The study and the plan will be incorporated into the permit in Permit Attachment 14 (Ambient Air Monitoring Program).

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

COMMENT 33 [Shoremets; 11/25/2014]: Specific Comment – Storm water calculations are inappropriate. Attachment 19 says the calculations assume a 25-year 24-hour event. However, Maricopa County Flood Control District, *Drainage Policies and Standards for Maricopa County*, stipulates a 100-year 2-hour rainfall event for design of storm water storage facilities. The permit cites Section 3.4 of the manual for volume calculations for P which is defined for 100-year 2-hour depth, but substitutes a 25-year, 24-hour storm event.

RESPONSE: State and federal regulations, A.A.C. R18-8-264.A (40 CFR § 264.251(h)), specify that the owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 25-year 24-hour storm. Although Maricopa County requires a 100-year 2-hour rainfall event for design of stormwater storage facilities, the use of the 25-year 24-hour storm is

more protective, since a greater volume of rainfall is predicted. The volume of precipitation from a 100-year 2-hour rainfall event is 1,208.8 cubic yards compared to a 25-year 24-hour storm which is 1,661.7 cubic yards according to Attachment 17 of the permit. Both of these events are able to be contained, since the excess capacity of the containment for precipitation is 1,994.7 cubic yards with the maximum permitted capacity of hazardous waste on the HWMU present.

No change has 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. Permit (Table of Contents and Part I through VI): The header was updated from “Draft Permit” to “Final Permit.”
2. II.B.3, page II-1: A permit condition was added under “Required Notices” that, “Treatment, Storage and Disposal Facility (TSDF) Annual Registration and Fees As of the effective date of this Permit, the Permittee shall register annually as a TSDF and provide annual fees in accordance with A.R.S. § 49-929.”
3. II.J.1, page II-7: Add additional Operating Record requirements at the end of II.J.1 as follows:
 - “(j) Records supporting variance requirements were adhered to or failed and how the shipment was managed as a result.
[Permit Part IV and Permit Attachments 2 and 16]
 - (k) Operational control records for the hazardous waste units showing that the facility is compliant in meeting maximum allowable contaminant level requirements (e.g., Concrete Management Program, HWMU sweeping schedule, operation of TCU, fabric mesh canopy maintenance, other emission controls, etc.).
[A.A.C. R18-8-264.A (40 CFR § 264.602) / Permit Part IV]”
4. II.J.2.c, page II-7: Update the name of the report to be consistent with IV.C.4 as follows:

“(c) The Permittee shall comply with the Annual ~~Subpart X~~ ~~Operations Control~~ Report requirements in Part IV.C.”

5. II.M, page II-10: Change the second to the last sentence of Part II.M as follows:
“Changes in financial assurance mechanisms, including new providers, must be approved by the Director pursuant to A.A.C. R18-8-264.A and L and 40 CFR 264.143 and be submitted as a Class 1 permit modification request for Director approval in accordance with 40 CFR 270.42.”
6. II.V, page II-12: Change the heading from “Documents to be Submitted” to “Schedule of Compliance.”
7. II.V.1.b.ii, page II-13: A typographical error was corrected to change the first line of the section to “The Ambient Air Monitoring Plan shall ~~must~~ include:.”
8. II.V.1.b.ii, page II-13: Update the first bullet to, “Monitoring equipment design and operation details;.”
9. III.B.1, page III-2: Update the first column of Table III-A to remove one of the asterisks, “HWMU Free Liquid Container Storage **.”
10. III.F.2, page III-6: Add the additional language as follows:
“2. Portable containment systems shall be used for containers holding free-liquids: and shall be maintained to be free of cracks or gaps and sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed.”
11. IV.D.7, page IV-9: Update the first sentence of this section so that the name of the report is consistent with II.J.2.d as follows:
“7. The Permittee must submit an Annual TCU Operatingons Report as required in accordance with Part II.J.”
12. IV.E.1, page IV-10: Update the language as follows:
“1. The Permittee shall maintain the HWMU and containment systems in accordance with the descriptions and requirements contained in...”
13. IV.E.2, page IV-10: Update the language as follows:
“2. The Permittee must ensure the HWMU and containment systems are sealed with a penetrant sealant and fill materials...”
14. IV.E.3, page IV-10: Update the language in the first sentence as follows:
“3. The Permittee shall inspect the HWMU and all containment systems on a weekly basis and sumps and stormwater/rainwater collection areas each operating day...”
15. IV.E.6, page IV-11: Update the language in the second paragraph as follows:

“ ‘Damage’ is defined as any physical deformation that compromises the structural soundness and/or integrity of the unit. With regard to the HWMU, “damage” includes physical or chemical deformation that compromises the integrity and capacity of the HWMU and secondary containment structure and systems or integrity of the mesh fabric canopy structure and dust control capability. Damage also includes any deformation that compromises the TCU, MSU and mechanical blender systems, including the filter systems associated with them. Surficial cracks which are readily repaired and do not breach the HWMU and secondary containment are not considered reportable damage under this provision; however, repair to such surficial cracks shall be made in accordance with Permit Attachment 4 (“Miscellaneous Unit Description”), Section 4.4, and Attachment 15 (“Concrete Management Plan”).”

16. Attachments:

- a. “20. U.S. EPA REFERENCE METHOD 9” was added to the Attachments Table of Contents.
- b. The headers for the cover pages of the attachments were updated from “Draft Permit” to “Final Permit.”

17. Attachment 10: Updated revision numbers in headers from “6” to “8.”

18. Attachment 15: Fix typographical errors for regulatory references throughout the attachment as follows:

- a. Page 4, note 2: Change “R18-8-261.24” to “Arizona Administrative Code (A.A.C.) R18-8-261.A (40 CFR 261.24).”
- b. Page 4, note 3: Change “R18-8-268-48” to “A.A.C. R18-8-268 (40 CFR 268.48).”
- c. Page 4, note 6: Change “R18-8-268-48” to “A.A.C. R18-8-268 (40 CFR 268.48).”
- d. Page 5: Change “R18-7-206” to “A.A.C. R18-7-206.”
- e. Page 6: Change “R18-7-206” to “A.A.C. R18-7-206.”
- f. Page 7: Change “R18-8-206” to “A.A.C. R18-7-206.”
- g. Page 7: Change “R18-8-205” to “A.A.C. R18-7-205.” There are two locations on this page.
- h. Updated revision numbers in headers from “2” to “3.”