June 13, 2016

Waste Management of Arkansas, Inc.
Jefferson County Class I Landfill
Attn: David Conrad
100 Two Pine Drive
North Little Rock, AR 72117

RE: Approval of Groundwater Sampling and Analysis Plan with Addendum Items for Waste Management of Arkansas, Inc., Jefferson County Class I Landfill
Permit Number: 0308-S1-R1   AFIN: 35-00170
Document ID: 69733   Cross Reference: 57913

Dear Mr. Conrad:

The Environmental Quality - Office of Land Resources (ADEQ) Regulated Waste Program has reviewed the Jefferson County Class I Landfill Groundwater Sampling and Analysis Plan (SAP) dated July 8, 2010, (Document ID 57913). This SAP is approved with the following items as an addendum to the SAP:

1. Section 2.2.3 states, “These readings will be taken three minutes apart as requested by ADEQ.” Instead, the facility needs to follow the requirements of the EPA guidance documents referenced in the same section (EPA/540/S-95/504, "Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures" and EPA/542/S-02/001 “Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers”).

2. Section 2.2.3 states, “Purging may be considered complete when...
   - At least three of the field measured water quality parameters (pH, specific conductance and temperature) have stabilized for three (3) successive readings.”

   EPA document EPA/540/S-95/504 mentions using only three field measured water quality parameters: “In lieu of measuring all five parameters, a minimum subset would include pH, conductivity, and turbidity or DO.” The subset suggested by the facility does not meet the EPA guidance. The facility needs to follow the referenced EPA documents.

3. Section 2.2.3 states, “Purging may be considered complete when:...
   - At least one volume of the tubing and pump will be purged before readings are counted, the volume of tubing and pump will be written on field datasheets along with cumulative volumes and times of parameter readings.
   - There are at least 3 minutes minimum between parameter readings.”

   Per EPA document EPA/542/S-2/001, the volume should include the tubing, pump, and flow-through cell, and the intervals for recording readings are commonly every three to
five minutes, based on the volume. The facility needs to follow the referenced EPA documents.

4. Section 2.3 states, “Sample containers, preservation, handling, and analysis will meet the specifications described by ‘Test Methods for Evaluating Solid Waste Physical/Chemical Methods, third edition, Final Update 3, May, 1997’ or an equivalent substitute as approved by ADEQ SWMD and/or ADEQ Technical Branch.” Section 3 also contains a similar reference. Per APC&EC Regulation 22.1203(b), analytical methods utilized should conform to SW846 or the most current EPA approved analytical method.

5. Section 6.2 states, “A report...will be submitted to the ADEQ on a semi-annual basis, as a condition of the facility’s solid waste management permit.” The permit (0308-S1-R1) does not specify when reporting is required. Per APC&EC Regulation 22.1203(k), groundwater monitoring reports (GWMRs) shall be submitted to the SWMD within 90 days from the date of the last recorded sampling event. Should the facility enter quarterly assessment monitoring, GWMRs will be required on a more frequent basis.

6. Section 6.2 discusses the required elements to be included in GWMRs. APC&EC Regulation 22.1203(k) requires the following additional items: certification from a qualified groundwater scientist, a potentiometric surface map – including water level measurements – showing the locations of the monitoring wells at the facility, documentation of SSIs, and discussion to include findings and conclusions. Additionally, ADEQ requests the facility submit with each GWMR a historical database of analytical data collected at the facility.

7. Section 6.2 also references an annual sampling event. The facility no longer performs annual sampling.

8. Section 6.2 states, “As stated in the ADEQ recommendation document entitled ‘Discussion of Groundwater Issues Regarding MDL, PQL, and Statistical Evaluation’, a verified SSI is not declared as such until the results of the verification resample are known...’” This document is also referenced in Section 7.3.1. The reference and text throughout the SAP should reflect the policies outlined in the EPA’s Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance dated March 2009 (Unified Guidance).

9. Sections 7.2, 7.3, and 7.3.1 discuss the statistical methods to be used by the facility. The references used for the statistical procedures are listed as the Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities (Interim Final Guidance Document, USEPA, February 1989), the July 1992 addendum to that document, and the ASTM D6312-98 Standard Guide for Developing Appropriate Statistical Approaches for Groundwater Detection Monitoring Programs (1998). Per APC&EC Regulation 22.1203(6)&(7), the statistical method selection should follow current EPA guidance directives and the most current statistical methods as recommended in EPA guidance publications. The reference and text throughout the SAP should reflect the methods outlined in the EPA’s Unified Guidance. One statistical method presented in the SAP, the Poisson distribution, is not part of the Unified Guidance. All groundwater statistical methodologies will be performed in a manner that complies with APC&EC Regulation
No. 22 and are consistent with recommendations for specific situations per the Unified Guidance or most current, relevant EPA statistical publication.

10. The reporting limits proposed for arsenic and antimony in Table 3 are elevated at 20 µg/L and 6 µg/L, respectively. APC&EC Regulation 22.1203(g) states any Practical Quantitation Limit or Method Detection Limit that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine operating conditions using current laboratory standards. The facility must use detection limits that meet the requirements of APC&EC Regulation 22.1203(g) in Table 3.

11. Please note that Figure 1, “Site Layout Map” has two (2) wells labeled as MW-10. The facility needs to provide correct maps in the groundwater monitoring reports.

If you have any questions or comments, please contact me at (501) 682-0606, with email sadler@adeq.state.ar.us or Jenny Pearson at (501) 682-0598, with email pearsonj@adeq.state.az.us.

Sincerely,

Bill Sadler
Geology Supervisor
Regulated Waste Program
Office of Land Resources

cc: Jodi Taylor, Waste Management of Arkansas, Inc.
    Dan McCullough, P.G., SCS Engineers
DATE: May 11, 2016


FROM: Jenny Pearson

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COMMENTS: