



ARKANSAS  
Department of Environmental Quality

July 10, 2017

Certified Mail 91 7199 9991 7037 4843 7908

Mr. Floyd Cotter, P.E., Project Manager  
SCS Engineers  
7311 West 130<sup>th</sup> Street, Suite 100  
Overland Park, Kansas 66213

**RE: NABORS Class 1 Landfill**  
**ADEQ Review of the First Quarter 2017 Groundwater Monitoring Report and**  
**Explosive Gas Report**  
**Permit No: 0249-S1-R2** **AFIN: 03-00051**  
**Document ID: 72156** **Cross Reference: 72060**

Dear Mr. Cotter:

The Arkansas Department of Environmental Quality Office of Land Resources (ADEQ) Regulated Waste Operations has performed a technical review of the First Quarter 2017 Groundwater Monitoring Report (GWMR) and Gas Monitoring Report (Document ID 72060). These documents were provided to ADEQ by SCS Engineers through work associated with Contract Number 4600033394. After review, ADEQ has the following comments:

1. Section 3.2.2 states: "*Data evaluation consisted of the establishment of 95% Lower Confidence Limits (LCLs) and 95% Upper Confidence Limits (UCLs).*" Please modify the methodology that is being used to perform the confidence interval statistics. The methodology described in this section can lead to confidence interval statistics that do not have enough power to be considered a valid assessment. A similar comment has been made in the last two ADEQ reviews of NABORS GWMRs (Document IDs 69902 and 71567). For some of the analyses made, the confidence level would be lower, as computed per the Unified Guidance (EPA 2009) Section 7.4.1 "False Positives and Statistical Power in Assessment" and Section 22.1.1 "Pre-Specifying Power in Compliance/Assessment." Please change the methodology and wording in the text to describe a statistical methodology consistent with the Unified Guidance.
2. Figure 2 – Potentiometric Surface Map: Please show the a) groundwater elevation beside each well and b) spring locations.
3. Gas Monitoring Report: Please state the type of gas monitoring equipment used for collecting the gas monitoring data.

Please incorporate Comment 1 listed above within a modified First Quarter 2017 GWMR and re-submit within thirty (30) calendar days of receipt of this letter. Please discuss the methodology to be used for confidence intervals with ADEQ prior to re-submittal of the GWMR. The remainder of the comments may be incorporated into the next GWMR. If you have any questions or comments, please contact me at (501) 682-0606 or by email at [sadler@adeq.state.ar.us](mailto:sadler@adeq.state.ar.us).

Sincerely,



Bill Sadler, P.G.  
Geology Supervisor  
Regulated Waste Operations  
Office of Land Resources

cc: Dan McCullough, P.G., Chimney Rock Consulting  
Dillion Baird, P.E., SCS Engineers

# ADEQ

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## REGULATED WASTE OPERATIONS, OFFICE OF LAND RESOURCES ROUTING SLIP

DATE: July 7, 2017

Subject: NABORS Class 1 Landfill  
ADEQ Review of the First Quarter 2017 Groundwater Monitoring and  
Explosive Gas Report

From: Bill Sadler

<u>Route in turn to:</u>	<u>Action Needed</u>	<u>Date Received</u>	<u>Date Reviewed</u>	<u>Initials</u>
WLee	<input checked="" type="checkbox"/> Concurrence <input checked="" type="checkbox"/> Review	<u>7/7/17</u>	<u>7/7/17</u>	<u>WLee</u>
JRich	<input checked="" type="checkbox"/> Concurrence <input checked="" type="checkbox"/> Review	<u>7-7-17</u>	<u>7-10-17</u>	<u>JR</u> w/edit
THynum	<input type="checkbox"/> Concurrence <input type="checkbox"/> Review	<u>                    </u>	<u>                    </u>	<u>JR</u>
	<input type="checkbox"/> Concurrence <input type="checkbox"/> Review	<u>                    </u>	<u>                    </u>	<u>                    </u>
	<input type="checkbox"/> Concurrence <input type="checkbox"/> Review	<u>                    </u>	<u>                    </u>	<u>                    </u>

**\*Note:** Marking the Concurrence box indicates the individual agrees with the applicable text as it relates to their individual discipline and Work Section (e.g., Engineer; Risk Assessor; Geology; Compliance; Policy/Management), as applicable. Marking the Review box indicates the individual has read the document.

**Return to Bill Sadler for distribution**

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**COMMENTS:**