



SDI Review Form 1.6

Journal Name:	<a href="#">Journal of Engineering Research and Reports</a>
Manuscript Number:	Ms_JERR_48519
Title of the Manuscript:	Validating Visual Modflow Numerical Model To Predict Future Impact Of Brine Disposal On Groundwater
Type of the Article	Original Research Article

**General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Compulsory</b> REVISION comments</p> <p>Assuming that the first stage (building and calibrating the model) is accepted, though I am very doubtful; the authors should have gone further by using this model to predict the fate of the brine on their seepage and verify if this prediction can be validated experimentally. This is the step that needs to give an acceptable sound to this report.</p>	<p>1- the abstract was not good. I have proposed a short one for you. It seems that this journal accept such short abstract.</p> <p>2- The title does not reflect the manuscript content. The title talks about the prediction while the report is only about the simulation. You should do the prediction</p> <p>3- You said that the aquifer has uniform and isotropic characteristics. Why do you use 5 layers for you simulation?</p> <p><b>4- Results of calibration</b> The outputs of the model are illustrated in Fig. 2 and Fig. 3. A comparison between the results obtained from the VMOD and the laboratory experiment of [8] for the concentration observation points COB3, COB4 and COB5 is shown in Fig. 2. ( you should give the table of the observed values and the table of simulated values).</p> <p>5- On the figure 2, we see that the discrepancy between observed and simulated values is high. What is the reason? Your calibration may not be good, see for example COB5 profiles.</p> <p>6- The correlation coefficient obtained from the model for these observation points were equal to 0.991, 0.995 and 0.981 respectively (This is very doubtful. Provide the table data and the reader could appreciate the errors).</p> <p>7. From figure 3, we can see that the water level in those piezometers is almost constant, and this is normal because of the small dimension of the seepage. This meant that there is no flow. If there is no flow, there is no brine movement. How do you explain the variation in salt concentration you plotted in figure 2?</p>	<p>done</p> <p>A virtual aquifer was proposed to predict the future impact of brine disposal on groundwater and we didn't represent a real portion of a coastal aquifer due to the lack of data and fund.</p> <p>We modified it to one layer and adjusted figure 1</p> <p>We added the tables from line 119 to 124</p> <p>The correlation between the experiment and the VMOD was 0.981 and this is a good correlation.</p> <p>The tables were added</p> <p>As mentioned from line 61 to 64 (A constant head boundary is placed at the right part of the seepage tank with fresh water head 24.5 cm measured from the seepage tank bed represented by overflow vertical pipe screened at the upper end to prevent soil</p>



SDI Review Form 1.6

		movement into the vertical pipe and opened at the lower end to drain excess water). So there is a flow and the head was adjusted to be constant.
<b>Minor</b> REVISION comments		
<b>Optional/General</b> comments	You will see more comments on the manuscript.	done