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Journal Name:	Journal of Energy Research and Reviews
Manuscript Number:	**Ms_JENRR_51246**
Title of the Manuscript:	**Effect of Thermodynamic Parameters on the Concentration of Pollutants in Produced Water from Crude Oil Production**
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:

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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)*
Compulsory REVISION comments	Since only 21.21% of listed references are recent (less than 5 years), therefore this manuscript needs more recent reviewed references and critical review is inadequate, especially the review on the thermodynamic parameters impact on the produced water properties and behaviour. The current research gap is not up to date and highlighted. Concept of methodology used in the study is not clearly highlighted. Sampling points are not sufficient since there is a pressure and temperature drop between manifold and inlet of heater, inlet and outlet of heater, and inlet and outlet of water injection pump. There is also separator and piping system between sampling points which will influenced the fluid composition and flow behaviour and impact data or results of the study. What is the process or processes involved prior to each sampling point? All these processes is important since there is a possibility of contaminant induced along the line which is not originally from the produced water since there is not composition analysis of the sample at each sampling points. What is the distance of line between the sampling points? What is the dimension of the piping system? All these important are required in the flow study since they will influence the composition, properties and behaviour of the fluid flowing within the system. What specific standards are used in the laboratory testing, i.e. what ASTM and APHA spec. number? How many reading taken for each sample? How the simulation work was carried out? Since there is no clear method used in the simulation work and no validation of the simulation results with the actual field data, so the simulation work and their results are questionable. Some statement or sentences in section 2.4 are not important or relevant to the topic. What is the unit used in Table 1? Figure 4b shows that at the sampling conditions (37^{o}C and 14.7 psi) the nitrate concentration at WIJ pump is below Department of Petroleum Resources limits, therefore the statement made in lines 221 is not always true, especially for nitrates.	I appreciate some of the reviewer's comments which have helped add quality to the paper. I will however want to state that every research has a scope, or a boundary and this work is not an exception. 1. The sampling points as stated in the body of the work are selected for the purpose of monitoring the change that may have occurred due to heat or pressure differential. The pressure difference between piping are considered minimal. 2. The crude oil production facility starts from the manifold. The sample collected from the manifold is tested in the laboratory and the composition determined. This sample is collected several times and the average value taken. 3. The distance between the sampling points is not important in this research. The equipment before and after the sampling point is important. The flow rate parameter is not considered here. 4. The analytical methods employed are stated in Table 4. The tests and analysis were conducted in line with API RP 45 and the methods contained in reference 32. 5. The unit for Table 1 is stated in the description of the content of the table. Notwithstanding, I will want to say, thank you very much!
Minor REVISION comments	Some of the tables and figures are not used, mentioned and elaborate in the text. Make sure all tables and figures are used and elaborate in the text particularly the important point of the tables and figures. Only 21.21% of listed references are recent (less than 5 years), therefore this manuscript needs more recent reviewed references. Two of the listed references are not cited in the text (no. 31 & 32) and one (no.34) is cited in the text but not listed in the references listing.	All comments have been reflected in the revised manuscript.
Optional/General comments	Based on the comments, the manuscript need more work and major revision before can be considered for further process. All knowledge findings are already know but the case study results will increased the data and information on the produced water treatment plant which can be used for future system development and design.	

PART 2:

	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)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	