### Conclusion

Inappropriate gradient cooling leads to cracks in the HAZ and base metal interfaces, resulting in significant grain size of ferrite and pearlite phases. Further, the contaminated water that contains chloride, sulfate, and other foreign elements has aggravated the initiation of pits, which grow continuously due to the electrochemical reaction.

Acknowledgements

This work was conducted during the author's previous employment in Numaligarh Refinery Ltd., India. The author has no potential conflict of interest to disclose.

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