



CASE STUDY:

HEARTH DIAGNOSTIC AND MONITORING

EQUIPMENT

- Blast Furnace Hearth Design

OBJECTIVE / GOAL

Identify current condition of the hearth refractory wall and determine allowable wear to meet target campaign goals for the blast furnace reline or repair.

Prepare a diagnostic for a blast furnace in operation for 10 years that has a target campaign of 20 years. Identify actions to safely operate until the target date.

PROCESS

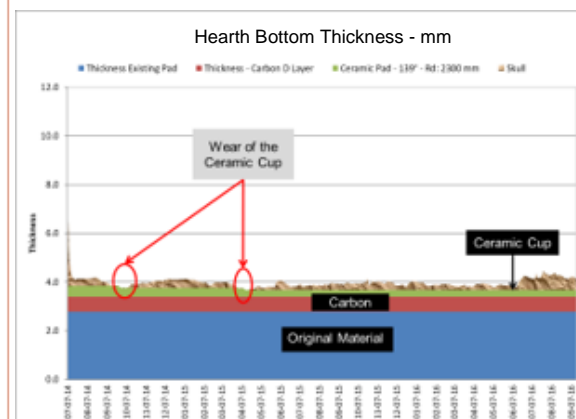
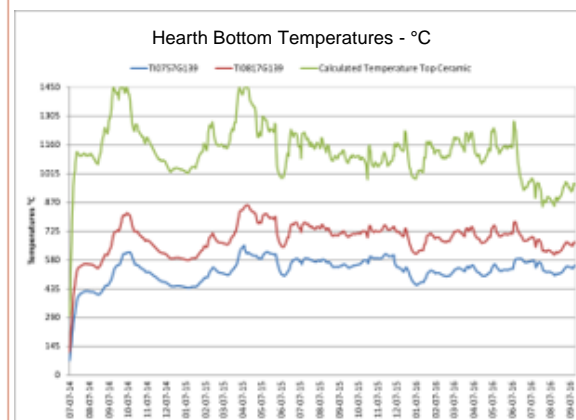
- Become familiar with the facility to be evaluated. Develop a questionnaire to gather critical information.
- Use diagnostic models to evaluate the furnace.
- Document all findings.
- Recommend actions to meet target campaign or plan a repair.

EVALUATION / PROPOSED SOLUTIONS

- Gather all information for the blast furnace during 10 years of operation. This includes drawings, material specifications, process and thermal data, historical operational issues, maintenance logs, field inspections and installation notes.
- Perform data analysis and model calculations to determine current conditions of the refractory.

IMPLEMENTED ACTIONS:

- Prepare a report including assumptions, calculations, observations, and recommendations.
- Follow up on recommendations and assist in the implementation of critical actions to achieve goal.



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