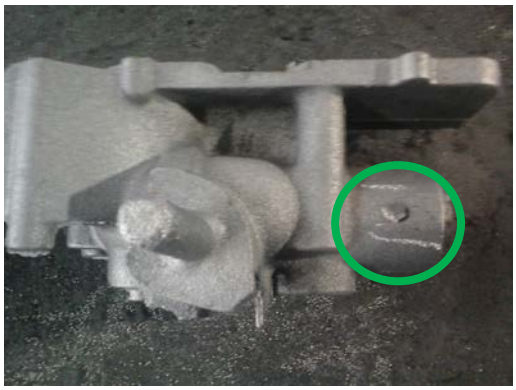
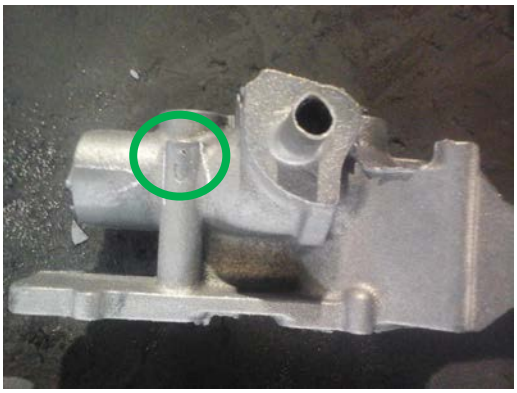
Connection Water Inlet

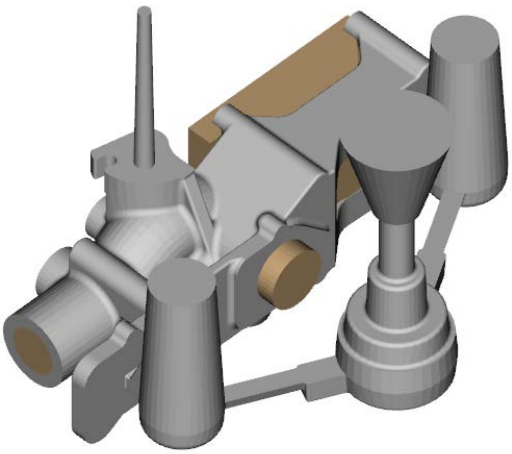
Cast Iron, Green Sand Casting

***Case*: The Cast iron body casting has an overall size 126 mm x 374 mm x 132 mm and weighs 12 Kg. It suffered from frequent rejections due to blow holes at the upper surfaces.**



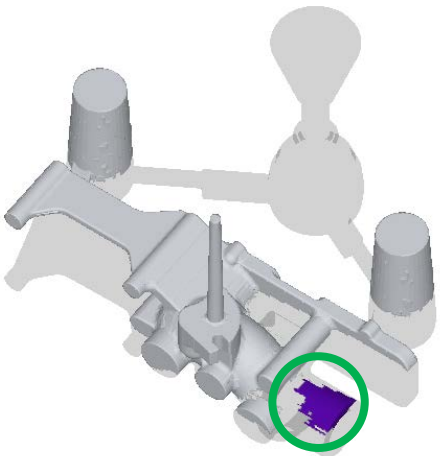
Blow hole is observed at two locations at top surface of the casting

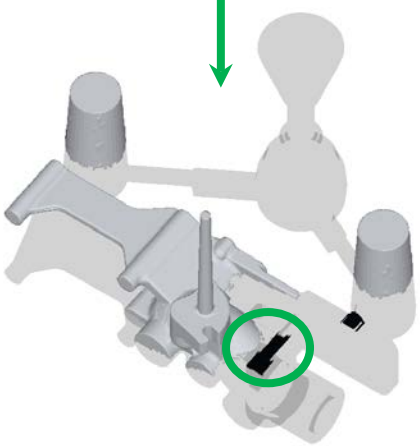




Initial Methoding of the part includes two hot feeders and one top vent. Fill time was given 8 sec.

Air Porosity analysis indicates presence of isolated air matching with the defect locations of shop floor.

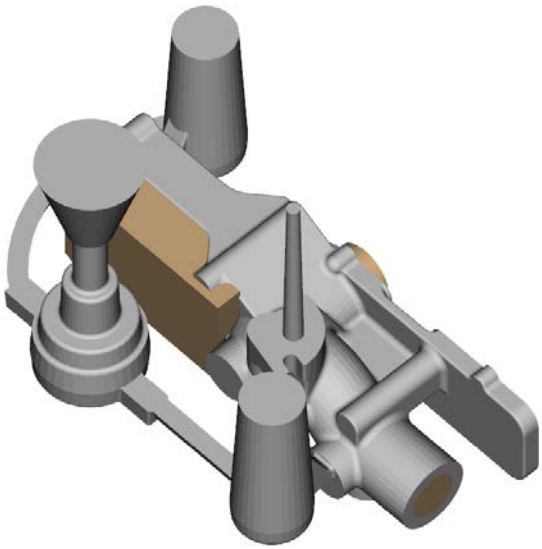


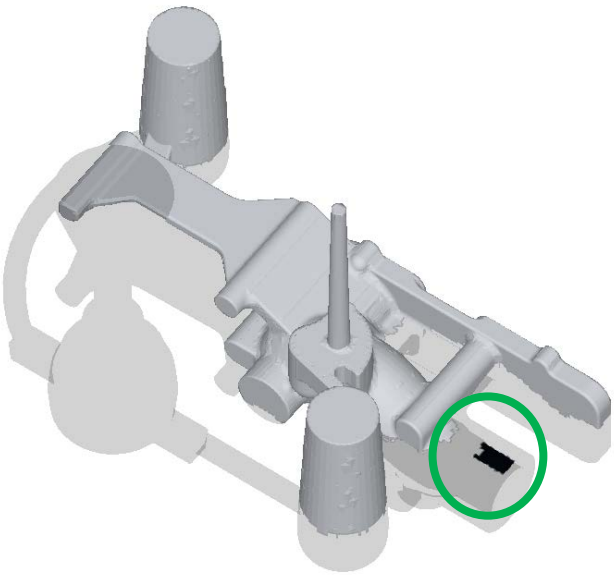


Connection Water Inlet

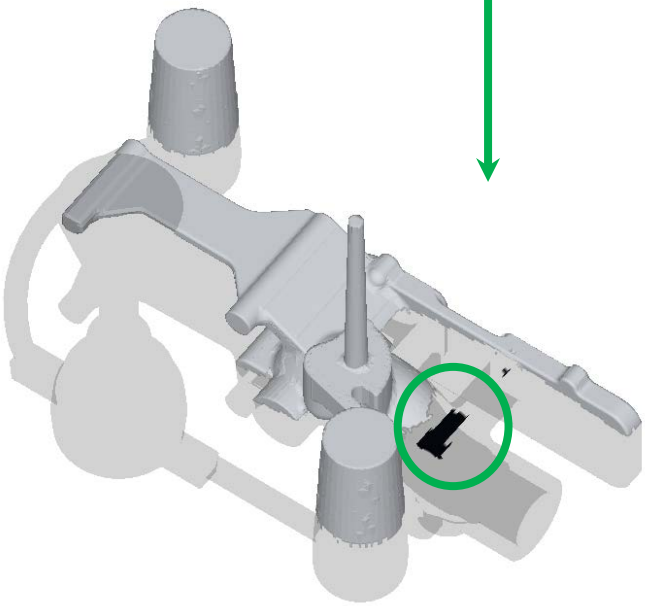
Cast Iron, Green Sand Casting

Methoding is changed to remove blow hole defects. A curved runner is used with two hot feeders and a top vent for escape of mold air. Fill time was maintained at 8 sec.





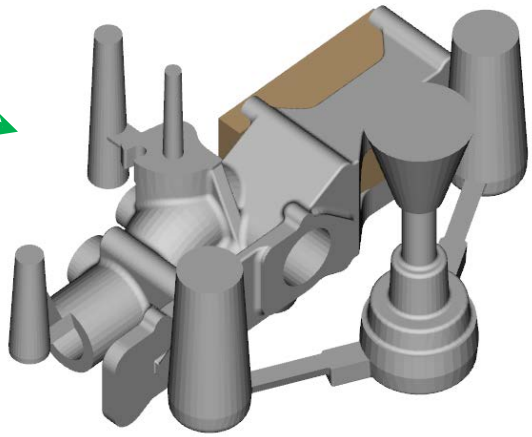
Simulation was done to understand the effect of new methoding. Air porosity analysis indicates presence isolated air pockets. These locations match with the isolations seen with the earlier methoding. The results suggest more changes have to be done in methoding to remove the defect.

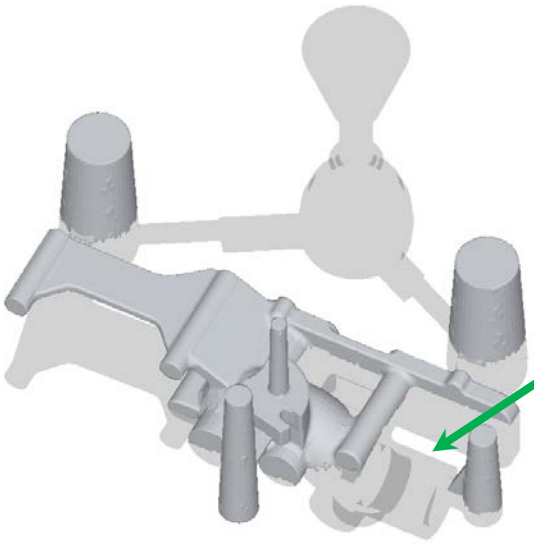


Connection Water Inlet

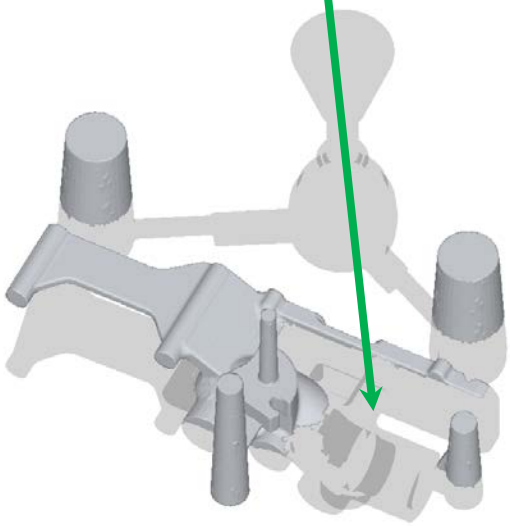
Cast Iron, Green Sand Casting

Methoding is again changed to solve the issue. Two flow-off are used with the initial methoding of two hot feeders. The fill time was increased to 10 sec.





Simulation results indicate good casting with no isolated air pockets. Changes in methoding were able to solve the blow hole defect.



Summary: **The revised methoding with flow-off was used to solve the blow hole defect. Simulation helped in saved large shop floor time and allowed user to analyze large no. of methodings to solve the defect**