

# GET MORE VALUE FROM YOUR STEAM CONDENSATE

- ◆ Full suite of activated carbon to cover all your steam condensate purification needs
- ◆ Low silica leaching prevents scaling
- ◆ Better mineral oil removal maximizes return to the boiler's feed water and prevents foaming/deposit problems
- ◆ Reduced energy costs by preventing silicate deposits that hinder heat transfer
- ◆ Reduced water costs by reducing bed volumes required to bring a new granular activated carbon (GAC) filter online

## Performance

We offer high quality activated carbon that delivers exceptional mineral oil removal and extremely low silica leaching levels for purifying steam condensate in pressurized steam generation processes at refineries within the oil & gas industry. Our activated carbons enable refineries to:

- ◆ Lower operating costs by reducing energy and water consumption
- ◆ Maximize plant uptime
- ◆ Extend the useful life of boiler and turbine assets

Refineries in the oil & gas industry reuse condensed steam for boiler feed water in pressurized steam generation processes. Reliable and cost efficient steam condensate processes require:

- ◆ Highly pure and consistent steam condensate quality
- ◆ Low silica leaching levels to prevent scaling in the boiler which results in heat transfer resistance

Boilers are used to heat water and supply hot water and steam. Boiler water circuits are closed loop systems where, ideally, the water is continually circulated. If the boiler feed water becomes contaminated due to mineral oils from leaking seals, for example, it must be discarded and pre-treated make-up water must be added. This can be costly as water is expensive in some regions of the world, and it may also cause plant downtime. In addition, refineries seek to minimize the use of make-up water to lower their energy costs, as fresh make-up water must be heated to produce steam. Our GAC products offer exceptional removal of mineral oils and organic contaminants which maximizes the return of steam condensate to the boiler's feed water. This reduces energy and water costs.



Purity requirement	High purity	Standard purity	Low purity
Product name	NORIT® ROY 0.8	NORIT GCN PLUS	NORIT GAC 830W
Purity	Washed	Washed	Unwashed
Silica leaching	Extremely low	Low	Average
Impurity removal	Extremely high	High	Average

NORIT ROY 0.8 granular activated carbon maximizes the reuse of condensed steam for boiler feed water in pressurized steam generation processes and lowers operating costs by:

- ◆ Improving energy efficiency by minimizing the heat transfer resistance caused by silica scaling in high pressure boiler systems (Figure 1)
- ◆ Enabling high purity, high quality condensate by removing mineral oil in steam caused by leaking seals (Figure 2)

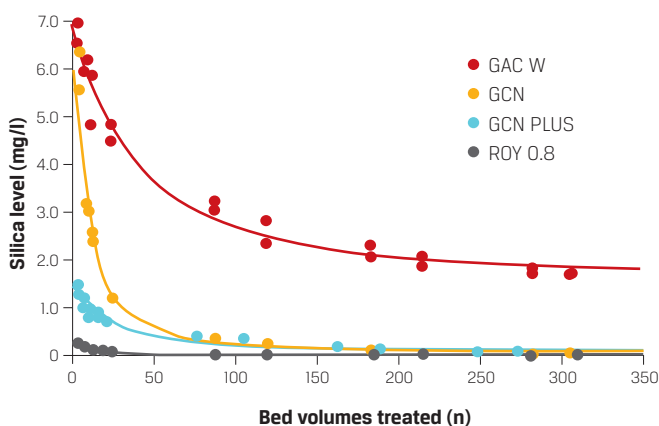


Figure 1. Silica leaching at 90 °C

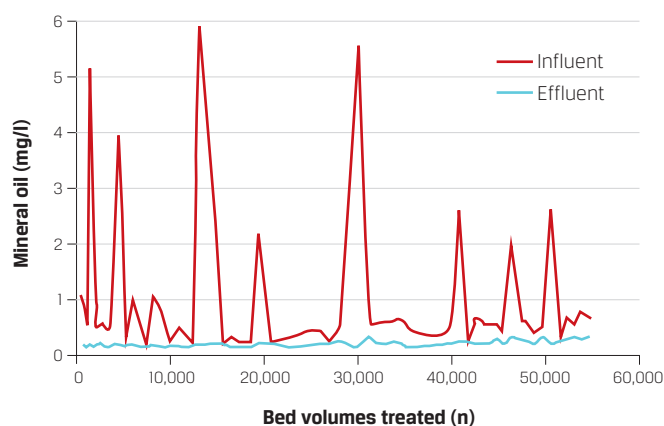


Figure 2. Mineral oil removal from condensate

Steam condensate purification with our NORIT ROY 0.8 activated carbon helps refineries in the oil & gas industry:

- ◆ Quickly commission virgin and refilled carbon filters by minimizing the bed volumes needed to bring a GAC filter online
- ◆ Lower energy costs relative to other activated carbon products
- ◆ Extend the lifetime of valuable boiler systems and turbine assets by preventing silica scales from forming, especially in high pressure boiler systems, or in cases where pH or temperature spikes occur

Our sales, technical service and customer service teams are prepared to serve customers around the world.

Contact us at [cabotcorp.com/activatedcarboncontact](http://cabotcorp.com/activatedcarboncontact)



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