

# CLEAN RESOURCES

## ADVANCED HYDROCARBONS

CLEANER HYDROCARBON PRODUCTION – RECOVERY TECHNOLOGIES

### FUNDING DETAILS

## Qualification of Artificial Lift Equipment for High GVF SAGD Applications – Joint Industry Project

The use of Non-Condensable Gas (NCG) injection into Steam Assisted Gravity Drainage (SAGD) reservoirs has been shown to be very beneficial in reducing Steam to Oil Ratio (SOR) and Greenhouse Gas (GHG) emissions. One issue hindering adoption of NCG injection is the negative effect on the Artificial Lift (AL) systems.

This project will enable a Joint Industry Project of oil sands operators to perform independent tests to evaluate downhole gas handler and separator technologies with representative fluids and NCGs. The results will help the operators implement new/enhanced technologies and operational practices to improve the performance and reliability of AL systems and allow them to realize potential efficiency and GHG performance gains.

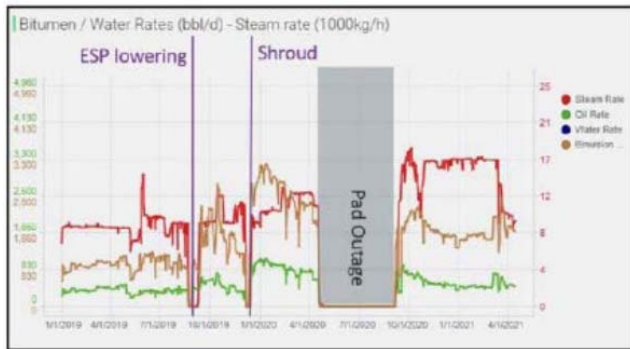


Figure 16—Well C Shroud Install Short Range Production Chart



#### RECIPIENT:

**ConocoPhillips  
Canada Resources  
Corp.**



#### TOTAL BUDGET:

**\$ 2,500,000**



#### PROJECT DATES:

**MAR 2022 –  
FEB 2024**



#### PARTNERS:

**CNOOC Petroleum North America  
ULC, Imperial Oil Resources  
Limited, Suncor Energy Inc.,  
Canadian Natural Resources  
Limited (CNRL)**



#### AI FUNDING:

**\$1,000,000**



#### PROJECT TRL:

**Start: 6  
End: 8**

## APPLICATION

The two main applications are: 1) SAGD operators to characterize the performance of Gas Mitigation technologies under representative fluid conditions to enable the use of NCG injection to reduce/replace steam injection, 2) Enabling Gas Mitigation technology providers to optimize their designs and/or create new designs to enhance Electric Submersible Pump (ESP) systems performance. The five JIP participants represent the close to 70% of the installed ESP base in the Alberta Oils Sands.