

# Stack - 2023 (Yearly)

University of British Columbia  
Permit: 1047 / Due Date: March 31, 2023

03 - IC Engine					
Nitrogen Oxides					
<b>Test Dates:</b>	Dec 01, 2021	Dec 01, 2021	Dec 01, 2021		
<b>Test Results:</b>	175.0000 mg/m3	143.0000 mg/m3	143.0000 mg/m3		
<b>Average of Test Results:</b>	153.667 mg/m3				
<b>Contaminant Permit Limit:</b>	115.0000 mg/m3				
<b>Out of Compliance Explanation:</b>	Nitrogen Oxide concentrations are consistent with manufacturer specification for this engine when running on natural gas				
<b>Plan of Action to Obtain Compliance:</b>	UBC has decommissioned this model of IC engine (Jenbacher J620) and is currently installing the J612 model whose NOx amount is <95mg/Nm3 (15% O2). It has a much lower NOx production which meets UBC's BRDF current permit requirements and will also have an upgraded control system to improve NOx emissions. Once installed in 2023 May, a stack test will be performed to validate the manufacturer's data.				
<b>Test Result Comments:</b>					
<b>Flow Results:</b>	169.000 m3/min	175.000 m3/min	177.000 m3/min		
<b>Average of Flow Results:</b>	173.667 m3/min				
<b>Permitted Flow Limit:</b>	188.00 m3/min				
<b>Flow Result Comments:</b>					
Particulate Matter					
<b>Test Dates:</b>	Dec 01, 2021	Dec 01, 2021	Dec 01, 2021		
<b>Test Results:</b>	1.9000 mg/m3	1.9000 mg/m3	0.6000 mg/m3		
<b>Average of Test Results:</b>	1.467 mg/m3				
<b>Contaminant Permit Limit:</b>	7.0000 mg/m3				
<b>Test Result Comments:</b>	UBC has decommissioned this model of IC engine (Jenbacher J620) and is currently installing the J612 model whose NOx amount is <95mg/Nm3 (15% O2). It has a much lower NOx production which meets UBC's BRDF current permit requirements and will also have an upgraded control system to improve NOx emissions. Once installed in 2023 May, a stack test will be performed to validate the manufacturer's data.				
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