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DEVICE**

N.Y.R. Limited Partnership
BSL-3 Cleanroom Laboratory
Report No. NY 0909-495

DUPLICATE

Statement of
Qualification

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Customer:	N.Y.R Limited Partnership 159/21 Charansanitwong Rd., Bangbunru Bangplad, Bangkok 10700 Thailand
Component tested:	BSL-3 Cleanroom Laboratory at the Center of Emerging and Re-Emerging Infectious Diseases in Animals Faculty of Veterinary Science, Chulalongkorn University, Bangkok Thailand
Tests performed:	<ul style="list-style-type: none">• Measurement of particle emission and air flow velocity at representative points (according to ISO 14644-1)• Measurement of air pressure difference between laboratory compartments and outside world• Air flow assessment via air flow visualization
Test parameters:	BSL-3 Cleanroom Laboratory in operation
Test results / classification:	BSL-3 Cleanroom Laboratory at the Center of Emerging and Re-Emerging Infectious Diseases in Animals Faculty of Veterinary Science, Chulalongkorn University, Bangkok Thailand, was tested with the following results: <ul style="list-style-type: none">• The above mentioned cleanroom laboratory is fulfilling the specifications of Air Cleanliness Class 7 according to ISO 14644-1.• Pressure difference between the main laboratory compartment and outside world: -30 Pa. measured inside laboratory• Air flow visualization shows an overall even distribution of airflow in the cleanroom.
Optimization potentials:	Based on the above mentioned test results the following improvements have to be considered: <ul style="list-style-type: none">• The cleanroom doors seem to be tightly sealed in closed position. In open position however, the doors of Lock Room 1 and Lock Room 2 show an outflow of air at the lower part of the doors, in spite of the under pressure in the rooms. This means that contaminated air can be released into the external environment by door opening.• The particle measurement of the exhaust shows that it fulfills the criteria of Air Cleanliness Class 4 according to ISO 14644-1. As a general rule the exhaust air of negative pressure cleanrooms must contain zero particles. Therefore, we strongly recommend that the exhaust at the laboratory should be cleared of particles before operating in the cleanroom.

Standards / guidelines used for the qualification: ISO 14644-1

Test parameters of the cleanroom environment: The measuring equipment used for the qualification is regularly calibrated and is based on national and international standards. In the case where no national standards exist, the measuring procedure used corresponds with technical regulations and norms valid at the time of the measurement. The documents drawn up for this procedure are available for viewing.

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