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Company:	SHUN YUAN TRADING AND CONSTRUCTION Pte. Ltd ("**SYT**")
Address:	23 Defu Lane 6
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Date: 15-04-2023

SUBJECT: **SYT PILOT PROJECT SUMMARY**

REPORT:

For the execution of the Project QK Innovation Ltd delivered its blending technology Machine **QKE250** which produces patented results when blending liquid to liquid as well as its patented additive **NanoQuantum 100.**

The main purpose of the test is to compare the performance of QK White Diesel Emulsion ("**WDE**") with Diesel fuel on different engines and to test the stability of WDE fuel under rigorous conditions.

A. LORRY TRUCK

The testing commenced on December 31, 2022, and concluded on February 8, 2023. Throughout this period, the Lorry Truck remained non-operational for a total of 7 days, excluding non-fuel-related factors.

From February 9th to March 26th, the Lorry was taken to an authorized mechanical service and remained there for maintenance. Following the service, the Lorry Truck resumed operation from March 27th to April 10th, 2023. During this period, the Lorry truck covered an additional distance of 650 km using QK E15 Fuel.

B. GENERATOR

Generator data running on diesel fuel was taken for comparison of different types of QK WDE on December 30th and December 31st, 2022.

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Data from the generator with WDE was collected daily from December 31st, 2022 to February 3rd, 2023. In the period between January 8 and January 26, the generator was not operational due to an alternator failure.

During the entire period, the WDE was stored in the generator reservoir under external influences and without any interventions, such as manual mixing.

With interruptions in the operation of the generator, WDE fuel was exposed to rigorous test conditions as well as non-operating conditions, confirming the stability of QK's WDE.

During testing, **120 operational hours** were performed, with the start of WDE usage recorded at 4,686 operating hours on the 31st of December 2022 and the end of official testing at 4,806 operating hours on February 3, 2023.

From February 3rd, 2023 to April 10th, 2023, the generator was in use between 5 and 10 minutes a day.

For both the generator and the Lorry, the fuel was subjected to rigorous testing conditions that included multiple stops for extended periods and non-regular operation. Despite these demanding conditions, WDE performed according to the expected parameters.

EQUIPMENT:

1. **Cummins Generator**
   Model: QSB7-G3 NR3
   Output: 150 kW
   Year: 2007

2. **Mitsubishi Canter** FEA01BR1SDEB (CBU)
   Engine Capacity 2998 cc
   EURO IV
   Year: 2015
   Consumption 5,57 km/l

DURATION: From: 27.12.2022 to 11.04.2023

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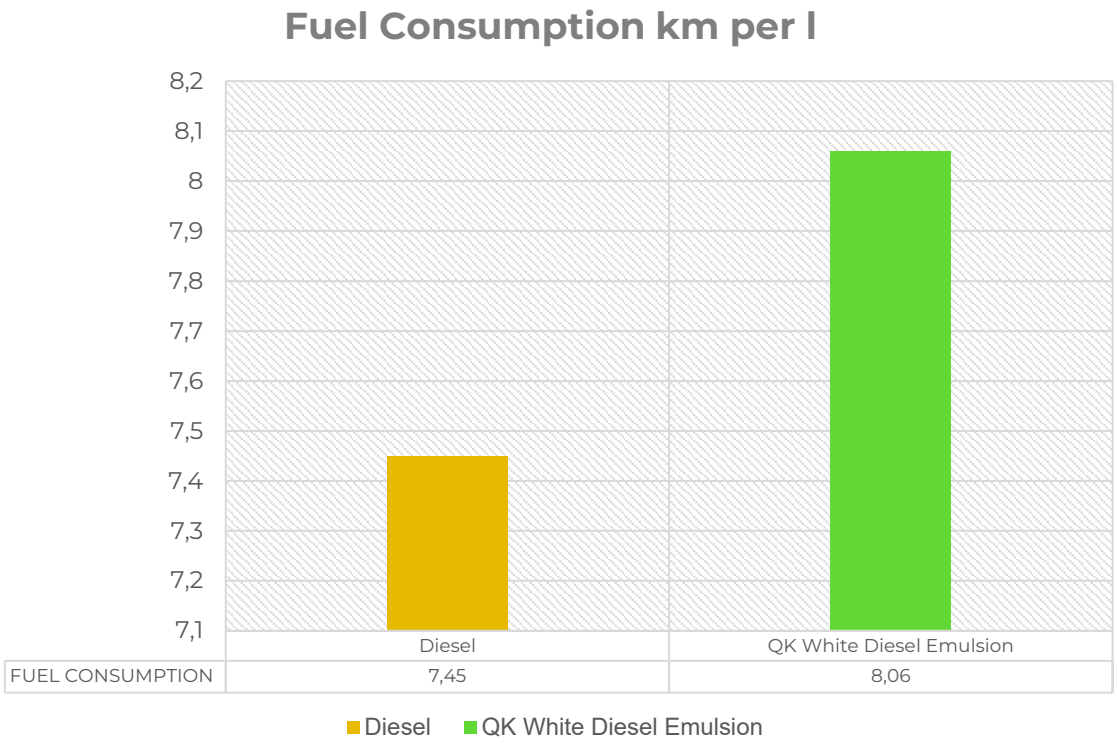
PRODUCED EMULSION:

QK White Diesel E10:	750.00 litre
QK White Diesel E15:	1,500.00 litre
QK White Diesel E18:	750.00 litre

PERFORMANCE AND CONSUMPTION COMPARISON (Diesel vs QK WDE):

A. LORRY TRUCK:

During the period from December 31, 2022, to January 13, 2023, the fuel consumption of the Lorry truck using QK WDE was compared between the earlier obtained consumption data of the 10 ppm Diesel Fuel and QK White Diesel Emulsion (WDI). The recorded data showed that the calculated consumption of **10 ppm Diesel Fuel was 7.45 km per liter**, while the computed **consumption for QK WDE was 8.06 km per liter.** This indicates that the QK WDI demonstrated a slightly higher fuel efficiency compared to the 10 ppm Diesel Fuel during the observed timeframe.



In total, the Lorry truck traveled from the 30th of December till the 8th of February 2023: 911.40 km on WDE E10 and 1,061.00 km on WDE E15.

From the 27th of March till the 10th of April, the Lorry truck traveled an additional 650 km of WDE E15.

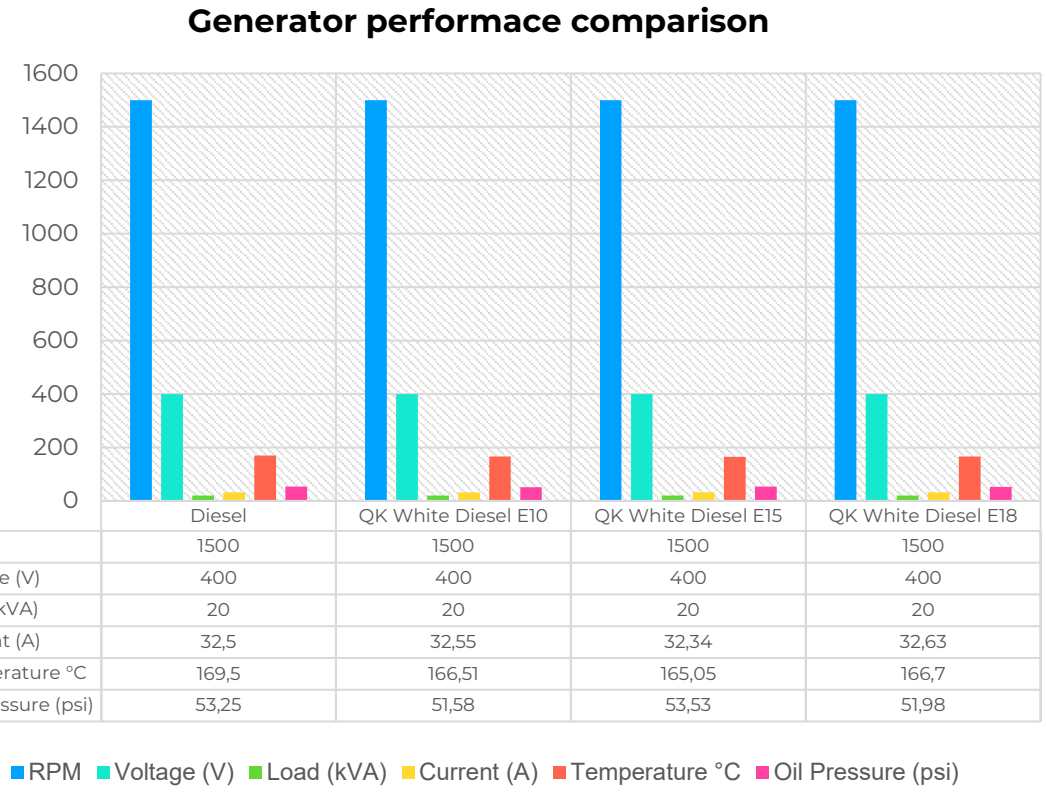
In total, the Lorry Truck traveled **2,622.40 km** with WDE.

During this testing period, the operators of the Lorry truck **did not notice any difference in performance or any loss of power compared to Diesel Fuel.**

B. GENERATOR:

The producer's standard consumption at the same load is approximately 10 L per hour. QK's **computed consumption for WDE was recorded at 9,85 L per hour.**

During the testing phase, the Cummins Generator model QSB7-G3 NR3, equipped with a 6-cylinder diesel engine, was subjected to rigorous assessments. The generator was connected to a load bank AC415-200kW to simulate real-world operating conditions. Specifically, the generator was operated at a constant load of 20kVA throughout the testing period.



	Diesel	QK White Diesel E10	QK White Diesel E15	QK White Diesel E18
RPM	1500	1500	1500	1500
Voltage (V)	400	400	400	400
Load (kVA)	20	20	20	20
Current (A)	32,5	32,55	32,34	32,63
Temperature °C	169,5	166,51	165,05	166,7
Oil Pressure (psi)	53,25	51,58	53,53	51,98

The purpose of this testing was to evaluate the performance, reliability, and efficiency of the Cummins Generator under a specific load profile while comparing the readings between 10 ppm Diesel Fuel and QK WDE. By subjecting the generator to a consistent load, we aimed to gather accurate data and assess its ability to deliver stable power output.

During the testing process, various parameters were closely monitored, including voltage stability, frequency response, fuel consumption, temperature levels, and any abnormal operating conditions.

Overall, the testing of the Cummins Generator model QSB7-G3 NR3 with the load bank AC415-200kW at a constant load of 20kVA aimed to validate its performance capabilities and ensure its reliability in real-world applications. The results obtained from this testing of the comparison between Diesel Fuel and QK WDE revealed that both fuels exhibited the same level of operational efficiency.

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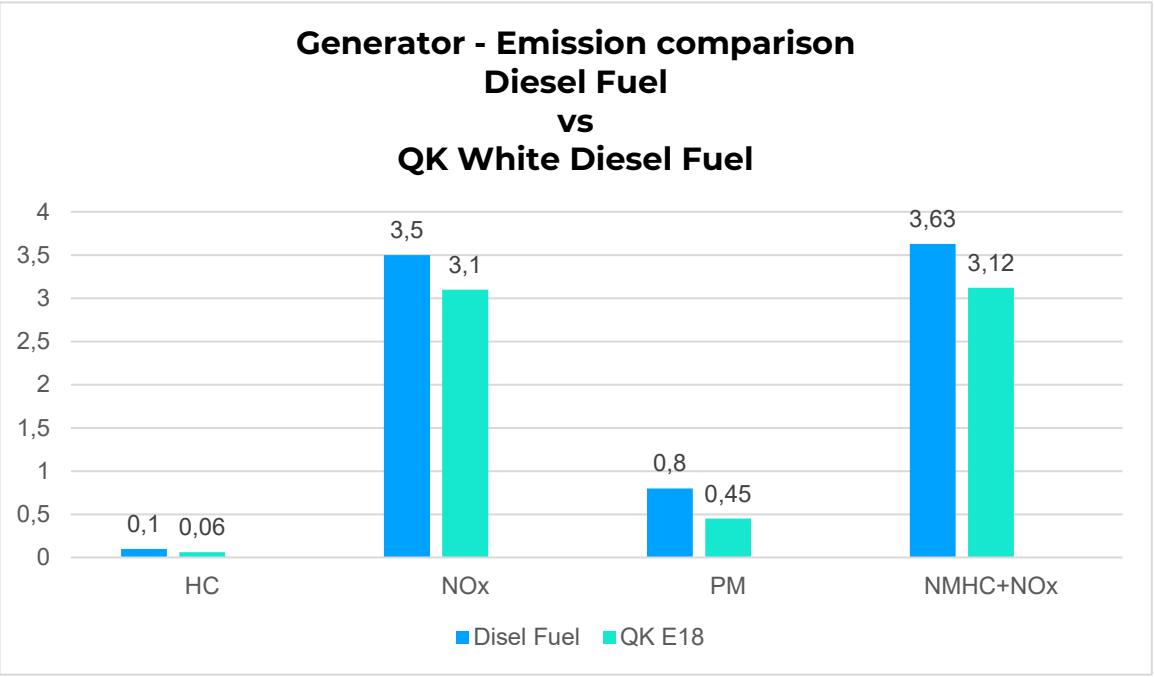
EMISSION COMPARISON:

In the period from the 31st of December 2022 to the 11th of April 2023, using WDE SYT contributed to an overall CO2 reduction of 769.06 kg of CO2.

For comparison in the same period, SYT would consume 2,116.00 L of Diesel Fuel which would result in 5,586.24 kg of CO2 emissions. By using QK's WDE, the reduction of 291.31 L of Diesel Fuel resulted in 769.06 kg of CO2 emissions.

	PRODUCED QK-WDE	USED DIESEL	DIFFERENCE	Emissions of CO2 in KG per L of Diesel	Total CO2 Reduction in KG
E10	750,00	672,24	77,76	2,64	205,29
E15	616,00	528,82	87,18	2,64	230,16
E18	750,00	623,63	126,37	2,64	333,62
TOTAL	**2.116,00**	**1.824,69**	**291,31**		**769,06**

REDUCTION = -13,77 %



The data presented in the graphs was collected by Element Testing Services Pte. Ltd, Singapore. The test report number is 01555-0223-00321-CMEE for the Diesel Fuel test conducted on December 30, 2022 (ref.: D22-018A), and for the QK White Diesel Emulsion Fuel test conducted on April 11, 2023 (ref: D22-018B).

HC	NOx	PM	NMHC+NOx
-40,00 %	-11,93%	-42,30%	-14,00%

Very important to mention is the result obtained with a low Test Load (14%), where the Diesel engine is operating not at the optimum fuel consumption point (maximum torque). In this condition, we expect the engine not to run at the best-optimized point in terms of Combustion and Volumetric efficiency.

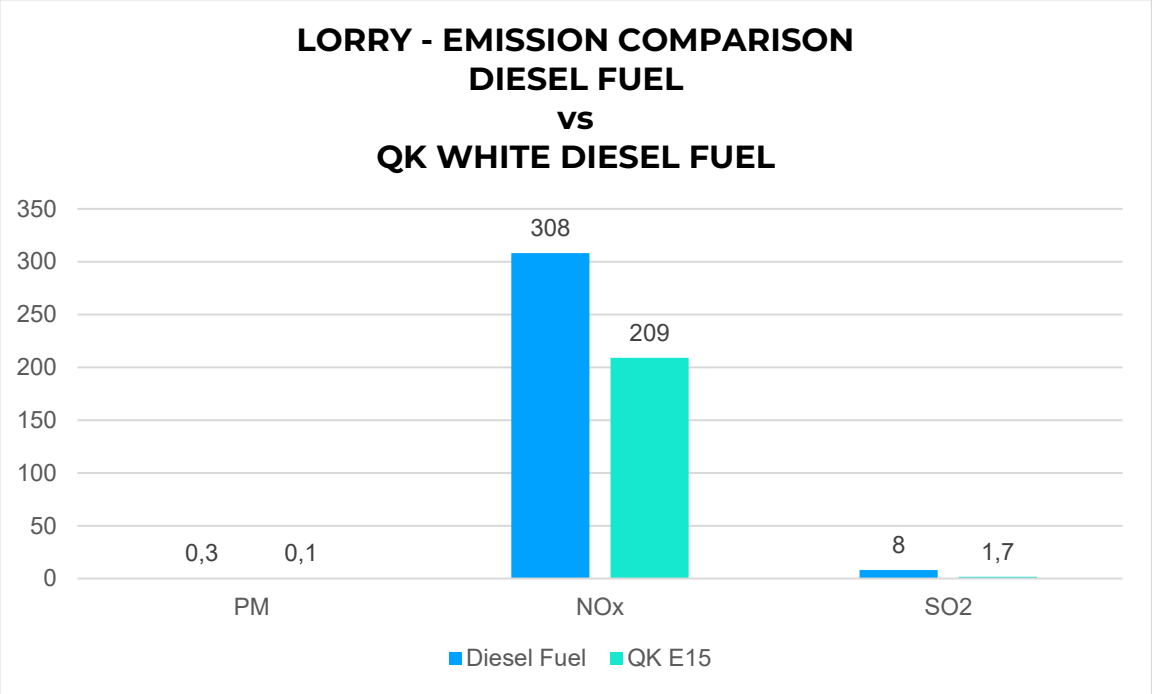
To obtain more accurate emission readings, it is recommended to test the engine under various load conditions ranging from 0 to 100%. Typically, 8 to 12 different loads are tested, allowing for a comprehensive assessment of the engine's performance. The test procedure follows the guidelines outlined in ISO 8178-4, with each test cycle consisting of 12 test points to cover all operational conditions.

The **HC content** exhibited a significant decrease of **40%**, indicating improved combustion efficiency and a reduced percentage of incomplete combustion phases.

The **NOx content** also showed a notable decrease of **11.43%,** which can be attributed to the emulsion fuel. The lower combustion temperature peaks resulted in a reduction in the oxidation process of nitrogen (N2).

Furthermore, there was a considerable reduction of **42.30% in PM** (particulate matter) emissions. This decrease can be attributed to the emulsion content and the lower carbon content of the fuel.

Overall, these findings suggest that the emulsion fuel has positively impacted the combustion process, leading to lower HC, NOx, and PM emissions.



The data presented in the graphs was collected by Element Testing Services Pte. Ltd, Singapore. The test report numbers are 01555-0223-00321-CMEE for the Diesel Fuel test conducted on December 30, 2022 (ref.: E22-580A), and for the QK White Diesel Emulsion Fuel test conducted on April 11, 2023 (ref: E22-580B).

PM	NOx	SO2
-66,70 %	-32,00%	-87,50%*

The **PM content** exhibited a significant decrease of 66,70%, indicating improved combustion efficiency and a reduced percentage of incomplete combustion phases.

The **NOx content** decrease is a direct effect of the emulsion since lower combustion temperature peaks reduce the percentage/process of N2 oxidation. The variation with emulsion is equal to **-32%.**

Regarding **SO2,** a noticeable -**87.5%** reduction was obtained, confirming the higher purity of the emulsion in terms of Sulphur content.

* *Despite the notable measurement results indicating reduced SO2 emissions, we approach these findings with caution. We believe that the recorded reading may not be accurate due to the nature of our emulsion fuel. It is important to note that our emulsion fuel does not directly reduce SOx emissions; instead, it dilutes the sulfur (S) content in the diesel fuel due to the percentage of water added to the emulsion.*

Overall, these findings suggest that the WDE has positively impacted the combustion process, leading to lower PM, NOx, and SO2 emissions.

CONCLUSION:

In conclusion, the technical report presents findings regarding the performance, fuel consumption, and emission readings of QK WDE. The recorded results demonstrate notable improvements in various aspects.

Firstly, the performance and consumption tests have indicated satisfactory outcomes, highlighting the suitability and effectiveness of WDE for the tested applications.

Furthermore, the emission readings have revealed significant reductions in HC, NOx, SO2, and PM emissions. These findings strongly suggest that the utilization of WDE has positively influenced the combustion process, resulting in lower emissions across the board.

The observed improvements in emission levels indicate more efficient combustion, with decreased percentages of uncompleted combustion phases, lower combustion temperature peaks, and reduced carbon content in the fuel. These factors collectively contribute to the environmental benefits associated with WDE.

Additionally, it is worth noting that the WDE exhibited excellent stability and quality throughout the testing period. The fact that the fuel was stored in the machinery storage tank for several consecutive days without usage is indicative of its stability. QK's WDE is renowned for its ability to maintain stability over extended periods, even in the absence of active utilization.

This further reinforces the reliability and durability of WDE, making it a favorable choice for applications that require consistent performance and long-term storage capabilities. The stability of the WDE ensures that its quality and effectiveness remain unaffected, even during prolonged periods of inactivity.

Based on the overall findings, it can be concluded that WDE offers notable advantages in terms of performance, fuel consumption, and emissions. The positive impact on the combustion process and the subsequent reduction in emissions make it a promising alternative fuel option for various applications.

QK INNOVATION Ltd.

Ing. Gregor Vardjan

SHUN YUAN TRADING AND CONSTRUCTION PTE LTD

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Name & Last name / Signature / Stamp