



LUBRICATING OIL CONDITION MONITORING REPORT

Report No.: 03102025

Equipment Details

Site/Project :	Dubai	Type of Oil :	Fresh Engine Oil
Unit ID :	Not Stated	Oil Brand-Grade :	Black Bulls - SAE 5W40 SN Ultra Racing
Unit / Machinery :	Engine	Sampled By :	Client

Remarks

Comparative results of fresh engine oil versus used engine oils at varying operating kilometres. Silicon content is high in the 11,000 km sample. Possible ingress of dirt or dust to the oil. Check the source of dust ingress to the system and rectify. Improve the filter efficiency, if possible.

Sample Details		Fresh Oil Sample	6,000 km Oil in Use	11,000 km Oil in Use	Limit
Sample No.		28195051730	Sample A		
Date Sampled		08 Nov 2024	19 Feb 2025	23 July 2025	
Physical Tests	Method				
KV @ 40°C, cSt	ASTM D445	90.03	80.10	81.07	
KV @ 100°C, cSt	ASTM D445	14.85	13.38	13.27	12.50–16.4
Viscosity Index	ASTM D2270 **	173	170	166	
Water Content, % (V/V)	ASTM D6304	<0.01	0.03	0.12	<0.2
TBN, mg KOH/g	ASTM D2896	10.2	8.95	7.16	>6.1
Flash Point, °C	ASTM D92	>200	>200	>200	>200
Oxidation, Abs/cm	FTIR	<1	14	—	
Nitration, Abs/cm	FTIR	<1	8	—	
Insolubles, % (m/m)	ASTM D4898 **	<0.01	<0.1	<0.1	<1.3
Wear Metals	Method				
Iron, ppm	ASTM D5185	<1	18	19	<70
Copper, ppm	ASTM D5185	<1	3	3	<25
Lead, ppm	ASTM D5185	<1	12	<1	<25
Aluminum, ppm	ASTM D5185	<1	<1	<1	<15
Tin, ppm	ASTM D5185	<1	<1	<1	<15
Chromium, ppm	ASTM D5185	<1	<1	<1	<10
Nickel, ppm	ASTM D5185	<1	<1	<1	
Titanium, ppm	ASTM D5185	<1	<1	<1	
Vanadium, ppm	ASTM D5185	<1	<1	<1	
Silver, ppm	ASTM D5185	<1	<1	<1	
Manganese, ppm	ASTM D5185	<1	<1	<1	
Calcium, ppm	ASTM D5185	3,087	3,394	2,963	
Magnesium, ppm	ASTM D5185	<1	106	<1	
Phosphorus, ppm	ASTM D5185	983	842	861	
Zinc, ppm	ASTM D5185	1,083	1,039	1,050	

Sample Details		Fresh Oil Sample	6,000 km Oil in Use	11,000 km Oil in Use	Limit
Molybdenum, ppm	ASTM D5185	39	63	57	
Boron, ppm	ASTM D5185	<1	<1	<1	
Barium, ppm	ASTM D5185	<1	<1	<1	
Contamination	Method				
Silicon, ppm	ASTM D5185	<1	7	13	<10
Sodium, ppm	ASTM D5185	<1	<1	<1	<15
Potassium, ppm	ASTM D5185	<1	<1	<1	

Note: Product properties and physical characteristics provided for fresh oil are typical figures of current production and shown as guidance only and do not constitute any form of guarantee.

*** Test method(s) not accredited*

National Industries Park, Plot: TP010501A, P. O. Box 262499, Dubai, U.A.E. Phone +971 4 880 6580 Fax: +971 4 880 6224 Email: info@blackbulls.com

• www.blackbulls.com