WEAR CONTAMINATION FLUID CONDITION

NORMAL NORMAL

Area

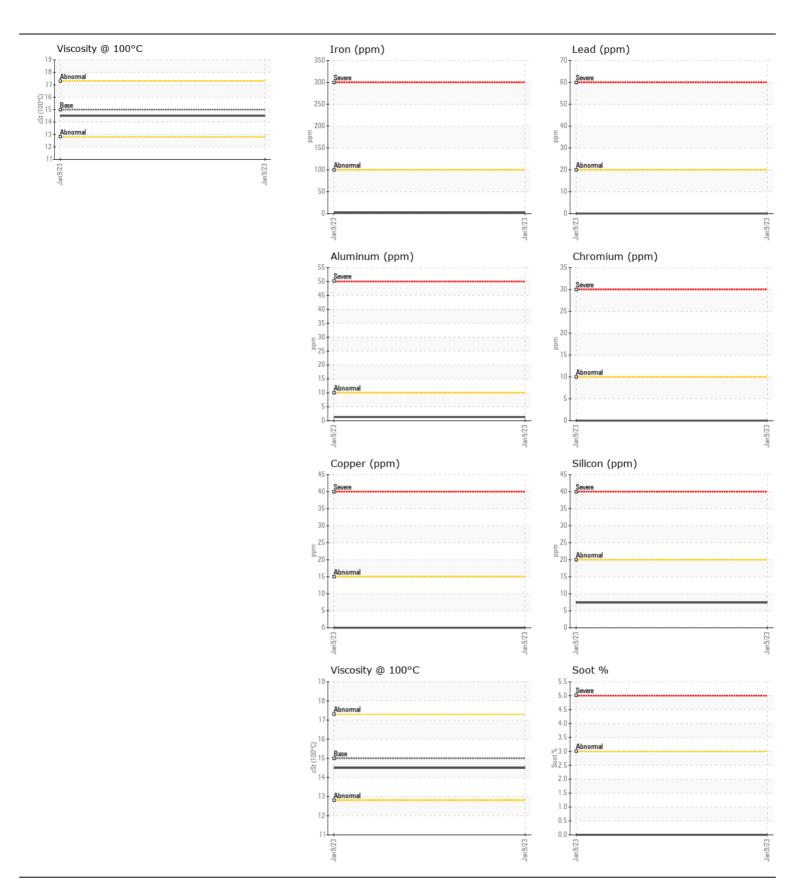
[W33786]

VOLVO G970 525425

Component Diesel Engine

VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- GAL)

Test	VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (GAL)								
Rosample at the next service interval to monitor. Sample Number Sample Client Info 0 0 0 0 0 0 0 0 0	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2	
Machine Age hrs Client Info 0 Client Info N/A Filter Changed Client Info N/A Filter Changed Client Info N/A Client Info N/A N/A Client Info N/A N/A N/A N/A N/A Client Info N/A N/A N/A N/A N/A N/A N/A N/A Client Info N/A		Sample Number		Client Info					
Machine Age Install Collect Info Collect In	Resample at the next service interval to monitor.	Sample Date				09 Jan 2023			
Filter Age hrs Client Info N/A N		·	hrs	Client Info		0			
		Oil Age	hrs	Client Info		0			
Filter Changed Sample Status		Filter Age	hrs	Client Info		0			
No. No.		Oil Changed		Client Info		N/A			
Iron		Filter Changed		Client Info		N/A			
Chromium Ppm ASTR DS156 m >10 0 Titanium ppm ASTR DS156 m >10 0 Titanium ppm ASTR DS156 m >2 0 All uninum ppm ASTR DS156 m >20 0 All uninum ppm ASTR DS156 m >10 0 All uninum ppm ASTR DS156 m >10 0 All uninum ppm ASTR DS156 m >20 0 All uninum ppm ASTR DS156 m >10 0 All uninum ppm ASTR DS156 m >20 0 All uninum ppm ASTR		Sample Status				NORMAL			
Chromium Ppm ASTR DS156 m >10 0 Titanium ppm ASTR DS156 m >10 0 Titanium ppm ASTR DS156 m >2 0 All uninum ppm ASTR DS156 m >20 0 All uninum ppm ASTR DS156 m >10 0 All uninum ppm ASTR DS156 m >10 0 All uninum ppm ASTR DS156 m >20 0 All uninum ppm ASTR DS156 m >10 0 All uninum ppm ASTR DS156 m >20 0 All uninum ppm ASTR	WEAD	luan		ACTM DE10E(**)	100				
Nickel ppm ASTM 05185m 10 0	WEAR			. ,					
Titanium ppm ASTM 0585m <1 Silver ppm ASTM 0585m >2 0 Copper ppm ASTM 0585m >15 0 Tin ppm ASTM 0585m >15 0 Vanadium ppm ASTM 0585m >10 0 Vanadium ppm ASTM 0585m 0 0 Visual* NONE NONE Visual* NONE NONE There is no indication of any contamination in the oil. Silicon ppm ASTM 0585m >20 7 Potassium ppm ASTM 0585m >20 0 Fuel WC Method >5 <1.0 Water WC Method >5 <1.0 Water WC Method >5 <1.0 Water WC Method >5 <1.0 Wittation Abs/rm ASTM 07844 >3 0 Silitation Abs/rm ASTM 07845 >20 6.2 Silitation Abs/rm ASTM 07845 >20 6.2 Silitation Abs/rm ASTM 07845 >30 18.2 Silitation Abs/rm ASTM 07856 m 25 60 Silitation Astm 07845 >3 18.2 Silitation Astm 07845 >3	All component wear rates are normal.			, ,					
Silver ppm ASTILD(585m) >2				. ,	>10				
Aluminum ppm ASTN DSISS(m) >10 1				, ,	. 2				
Lead				. ,					
Copper				,					
Tin ppm ASTM DS185 m >10 0 White Metal scalar Visual* NONE NONE Yellow Metal scalar Visual* NONE NONE Yellow Metal scalar Visual* NONE NONE There is no indication of any contamination in the oil. Silicon ppm ASTM DS185 m >20 7 Fuel WC Method >5 <1.0 Glycol WC Method >5 <1.0 Glycol WC Method >0.1 NEG Glycol WC Method >0.1 NEG Glycol WC Method Soot % ASTM D784* >3 0 Sulfation Abscim Abscim ASSTM D784* >3 0 Sulfation Abscim ASSTM D784* >3 0 Sulfation Abscim ASSTM D784* >30 18.2 FLUID CONDITION Sodium Ppm ASSTM D585m 0.0 0 Fluid Condition of the oil is acceptable for the time in service. Boron Ppm ASSTM D585m 0.0 0 Manganese Ppm ASSTM D585m 0.0 0 Manganese Ppm ASSTM D585m 2057 1273 Phosphorus Ppm ASSTM D585m 2057 1273 Phosphorus Ppm ASSTM D585m 2057 1273 Sulfur Ppm ASSTM D585m 1223 973 Sulfur Ppm ASSTM D5				. ,					
Vanadium ppm ASTM D5185m NONE NONE NONE VISUAL* NONE N									
White Metal Yellow Metal Scalar Visual* NONE NONE NONE NONE NONE NONE NONE NON				. ,	710				
Vellow Metal Scalar Visual* NONE N					NONE				
Silicon ppm ASTMD5185(m) > 20 7									
Potassium ppm ASTM D5185(m) >20 0 Fuel WC Method >5 <1.0 Water WC Method >0.1 NEG Glycol WC Method NEG Soot % % ASTM D7844' >3 0 Nitration Abs/cm ASTM D7844' >0 6.2 Sulfation Abs/cm ASTM D7844' >0 6.2 Silt scalar Visual* NONE NONE NONE NONE Debris scalar Visual* NONE NONE NONE NONE Debris scalar Visual* NONE NONE NONE Appearance scalar Visual* NORML NORM									
Fuel WC Method >5 <1.0	CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>20	7			
Value	There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185(m)	>20	0			
Glycol									
Soot %					>0.1				
Nitration Abs/cm ASTM D7624* >20 6.2 Sulfation Abs/cm ASTM D7615* >30 18.2 Silt scalar Visual* NONE NONE NONE Sand/Dirt scalar Visual* NONE VIITE Appearance scalar Visual* NORML NORM		-							
Sulfation									
Silt scalar Visual* NONE NONE NONE NONE Sand/Dirt scalar Visual* NONE									
Debris Scalar Visual* NONE NONE Sand/Dirt Scalar Visual* NONE VLITE NORE Appearance Scalar Visual* NORML N									
Sand/Dirt Scalar Visual* NONE VIITE Appearance Scalar Visual* NORML NORML NORML NORML Odor Scalar Visual* NORML NORM									
Appearance Scalar Visual* NORML NORML NORML Emulsified Water Scalar Visual* NORML NORML Emulsified Water Scalar Visual* NORML NORML NORML NORML Emulsified Water Scalar Visual* NORML NO						_			
Codor Scalar Visual* NORML N									
Emulsified Water scalar Visual* >0.1 NEG									
Sodium ppm ASTM D5185(m) C.5 60 C C									
Boron ppm ASTM D5185(m) 2.5 60 Barium ppm ASTM D5185(m) 0.0 0 Molybdenum ppm ASTM D5185(m) 0.7 43 Manganese ppm ASTM D5185(m) 0.0 <1 Magnesium ppm ASTM D5185(m) 0.0 <1 Calcium ppm ASTM D5185(m) 256 745 Calcium ppm ASTM D5185(m) 2057 1273 Phosphorus ppm ASTM D5185(m) 935 882 Zinc ppm ASTM D5185(m) 1223 973 Sulfur ppm ASTM D5185(m) 4079 2572 Oxidation Abs/.1mm ASTM D71414* >25 15.1	<u></u>	Emuisined water	Scalai	VISUAI	>0.1	NEG			
Boron ppm ASTM D5185(m) 2.5 60 Barium ppm ASTM D5185(m) 0.0 0 Molybdenum ppm ASTM D5185(m) 0.7 43 Manganese ppm ASTM D5185(m) 0.0 <1 Magnesium ppm ASTM D5185(m) 0.0 <1 Calcium ppm ASTM D5185(m) 256 745 Calcium ppm ASTM D5185(m) 2057 1273 Phosphorus ppm ASTM D5185(m) 935 882 Zinc ppm ASTM D5185(m) 1223 973 Sulfur ppm ASTM D5185(m) 4079 2572 Oxidation Abs/.1mm ASTM D71414* >25 15.1	FLUID CONDITION	Sodium	ppm	ASTM D5185(m)		6			
Molybdenum ppm ASTM D5185(m) 0.0 0.7 43		Boron	ppm	ASTM D5185(m)	2.5	60			
Manganese ppm ASTM D5185(m) 0.0 <1		Barium	ppm	ASTM D5185(m)	0.0	0			
Magnesium ppm ASTM D5185(m) 256 745 Calcium ppm ASTM D5185(m) 2057 1273 Phosphorus ppm ASTM D5185(m) 935 882 Zinc ppm ASTM D5185(m) 1223 973 Sulfur ppm ASTM D5185(m) 4079 2572 Oxidation Abs/.1mm ASTM D7414* >25 15.1		Molybdenum	ppm	ASTM D5185(m)	0.7	43			
Calcium ppm ASTM D5185(m) 2057 1273 Phosphorus ppm ASTM D5185(m) 935 882 Zinc ppm ASTM D5185(m) 1223 973 Sulfur ppm ASTM D5185(m) 4079 2572 Oxidation Abs/.1mm ASTM D7414* >25 15.1		Manganese	ppm		0.0				
Phosphorus ppm ASTM D5185(m) 935 882 Zinc ppm ASTM D5185(m) 1223 973 Sulfur ppm ASTM D5185(m) 4079 2572 Oxidation Abs/.1mm ASTM D7414* >25 15.1			ppm	ASTM D5185(m)	256	745			
Zinc ppm ASTM D5185(m) 1223 973 Sulfur ppm ASTM D5185(m) 4079 2572 Oxidation Abs/.1mm ASTM D7414* >25 15.1		Calcium	ppm	ASTM D5185(m)	2057				
Sulfur ppm ASTM D5185(m) 4079 2572 Oxidation Abs/.1mm ASTM D7414* >25 15.1			ppm		935				
Oxidation			ppm	. ,					
Visc @ 100°C cSt ASTM D7279(m) 15.0 14.5									
		Visc @ 100°C	cSt	ASTM D7279(m)	15.0	14.5			





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 WESTCON EQUIPMENT & RENTALS LTD

: VCP Lab Number : 02532164 Unique Number : 5513163

Received **Tested** Test Package : MOB 1 (Additional Tests: Visual)

: 10 Jan 2023 : 10 Jan 2023 Diagnosed

: 10 Jan 2023 - Wes Davis

WINNIPEG, MB CA R2X 2R9 Contact: Josh Gill jgill@westconequip.ca T: (204)633-5800

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

F: (204)633-5805

380 KEEWATIN STREET