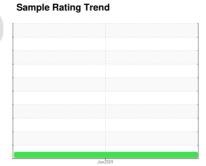


OIL ANALYSIS REPORT



[W02008368] VOLVO L70H 622567

DIESEL ENGINE OIL SAE 40 (5 GAL)





Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: W02008368)

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

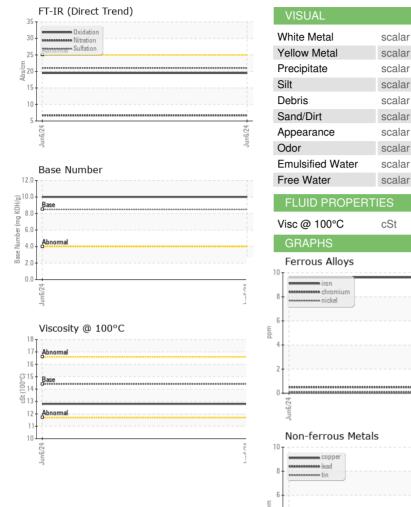
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Client Info	AE 40 (5 GAL)				Jun 2024		
Client Info	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age	Sample Number		Client Info		ML0002510		
Oil Age	Sample Date		Client Info		06 Jun 2024		
Client Info Changed Client Info NORMAL CONTAMINATION method Imit/base current history1 history2 Contamination Contamin	Machine Age	hrs	Client Info		9973		
CONTAMINATION	Oil Age	hrs	Client Info		300		
CONTAMINATION method limit/base current history1 history2	Oil Changed		Client Info		Changed		
Water	Sample Status				NORMAL		
Water WC Method >0.1 NEG Glycol WC Method Imitibase current history1 history2 WEAR METALS method limitibase current history1 history2 Iron ppm ASTM D5185m >10 <1 Chromium ppm ASTM D5185m >10 <1 Nickel ppm ASTM D5185m >10 <1 Silver ppm ASTM D5185m >10 5 Silver ppm ASTM D5185m >10 5 Aluminum ppm ASTM D5185m >10 5 Lead ppm ASTM D5185m >10 <1 Copper ppm ASTM D5185m >10 <1 Tin ppm ASTM D5185m >0 67	CONTAMINATION		method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>6.0	<1.0		
WEAR METALS	Water		WC Method	>0.1	NEG		
ASTM D5185m STM D5185m ST	Glycol		WC Method		NEG		
ASTM D5185m >10	WEAR METALS		method	limit/base	current	history1	history2
ASTM D5185m >10	ron	ppm	ASTM D5185m	>100	10		
Silver	Chromium	ppm	ASTM D5185m	>10	<1		
Silver	Nickel	ppm	ASTM D5185m	>10	<1		
Aluminum	Titanium	ppm	ASTM D5185m		<1		
Lead	Silver	ppm	ASTM D5185m	>2	0		
Copper	Aluminum	ppm	ASTM D5185m	>10	5		
STIN DST DST	_ead	ppm	ASTM D5185m	>20	0		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 250 67 Barium ppm ASTM D5185m 10 1 Molybdenum ppm ASTM D5185m 100 45 Manganese ppm ASTM D5185m 100 45 Magnesium ppm ASTM D5185m 450 511 Magnesium ppm ASTM D5185m 3000 1675 Phosphorus ppm ASTM D5185m 3000 1675 Zinc ppm ASTM D5185m 1350 944 Contaction ppm ASTM D5185m >20 10	Copper	ppm	ASTM D5185m	>15	2		
ADDITIVES	Tin	ppm	ASTM D5185m	>10	<1		
ADDITIVES	Vanadium	ppm	ASTM D5185m		0		
Boron	Cadmium	ppm	ASTM D5185m		<1		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 100 45 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m	250	67		
Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 450 511 Calcium ppm ASTM D5185m 3000 1675 Phosphorus ppm ASTM D5185m 1150 826 Zinc ppm ASTM D5185m 1350 944 Sulfur ppm ASTM D5185m 4250 2706 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 10 Sodium ppm ASTM D5185m >20 1 Potassium ppm ASTM D5185m >20 2 Potassium ppm ASTM D5185m >20 2 Soot % % *ASTM D7844 >3	Barium	ppm	ASTM D5185m	10	-		
Magnesium ppm ASTM D5185m 450 511 Calcium ppm ASTM D5185m 3000 1675 Phosphorus ppm ASTM D5185m 1150 826 Zinc ppm ASTM D5185m 1350 944 Sulfur ppm ASTM D5185m 4250 2706 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 10 Sodium ppm ASTM D5185m >20 2 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 6.7 Sulfation Abs/.1mm *ASTM D7414 <td>•</td> <td>ppm</td> <td>ASTM D5185m</td> <td>100</td> <td>45</td> <td></td> <td></td>	•	ppm	ASTM D5185m	100	45		
Calcium ppm ASTM D5185m 3000 1675 Phosphorus ppm ASTM D5185m 1150 826 Zinc ppm ASTM D5185m 1350 944 Sulfur ppm ASTM D5185m 4250 2706 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 10 Sodium ppm ASTM D5185m >216 1 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION *ASTM D7414 <t< td=""><td>-</td><td>ppm</td><td>ASTM D5185m</td><td></td><td><1</td><td></td><td></td></t<>	-	ppm	ASTM D5185m		<1		
Phosphorus ppm ASTM D5185m 1150 826 Zinc ppm ASTM D5185m 1350 944 Sulfur ppm ASTM D5185m 4250 2706 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 10 Sodium ppm ASTM D5185m >216 1 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 Sulfation Abs/:nm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/:nm *ASTM D7		ppm	ASTM D5185m		511		
Zinc ppm ASTM D5185m 1350 944 Sulfur ppm ASTM D5185m 4250 2706		ppm					
Sulfur ppm ASTM D5185m 4250 2706 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 10 Sodium ppm ASTM D5185m >216 1 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 Sulfation Abs/.1mm *ASTM D7624 >20 6.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.5		ppm					
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 10 Sodium ppm ASTM D5185m >216 1 Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 Sulfration Abs/.1mm *ASTM D7624 >20 6.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.5					-		
Solition ppm ASTM D5185m >20 10			ASTM D5185m	4250	2706		
Sodium		S	method		current	history1	history2
Potassium ppm ASTM D5185m >20 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 Nitration Abs/cm *ASTM D7624 >20 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.5		ppm					
INFRA-RED		ppm					
Soot % % *ASTM D7844 >3 0.3 Nitration Abs/cm *ASTM D7624 >20 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.5	Potassium	ppm	ASTM D5185m	>20	2		
Nitration Abs/cm *ASTM D7624 >20 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.5	INFRA-RED			limit/base		history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.5				>3			
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.5		Abs/cm	*ASTM D7624	>20			
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.0		
	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOHg ASTM D2896 8.5 10.0	Oxidation	Abs/.1mm	*ASTM D7414	>25	19.5		
	Base Number (BN)	mg KOH/g	ASTM D2896	8.5	10.0		



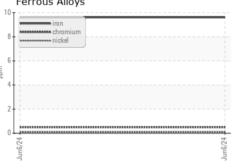
OIL ANALYSIS REPORT



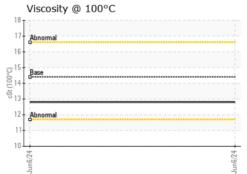
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual	>0.1	NEG		
Free Water	scalar	*Visual		NEG		
FLUID PROPERT	TIES	method	limit/base	current	history1	history2

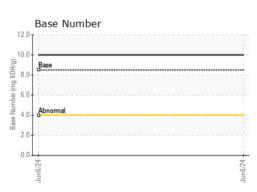
12.8

ASTM D445 14.4













Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Lab Number : 06204132

: ML0002510 Unique Number : 11071593

Received **Tested** Diagnosed

: 10 Jun 2024 : 11 Jun 2024

: 12 Jun 2024 - Sean Felton

CHANTILLY, VA US 20153 Contact: SERVICE MANAGER jimmy_elswick@wahazel.com T: (703)378-8300

Test Package : CONST (Additional Tests: TBN) Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) **WILLIAM HAZEL**

PO BOX 600