

OIL ANALYSIS REPORT

Sample Rating Trend





VOLVO A35F 10333

Component Bogie/Center Axle Fluid

Fluid SAE 75W90 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

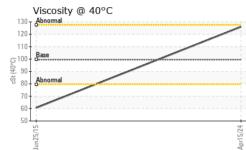
Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		ML0001431	VCP186772	
Sample Date		Client Info		15 Apr 2024	25 Jun 2015	
Machine Age	hrs	Client Info		19165	4104	
Oil Age	hrs	Client Info		1000	0	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	ABNORMAL	
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>900	15	186	
Chromium	ppm	ASTM D5185m	>20	0	3	
Nickel	ppm	ASTM D5185m	>10	0	<1	
Titanium	ppm	ASTM D5185m		0	18	
Silver	ppm	ASTM D5185m		<1	0	
Aluminum	ppm	ASTM D5185m	>30	2	5	
Lead	ppm	ASTM D5185m	>50	0	0	
Copper	ppm	ASTM D5185m	>150	0	3	
Tin	ppm	ASTM D5185m	>20	0	<1	
Antimony	ppm	ASTM D5185m	>5		0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		<1	0	
ADDITIVES		method	limit/base	current	history1	history2
-						
Boron	ppm	ASTM D5185m		169	186	
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m			186 0	
Barium	ppm			169 0 6		
Barium Molybdenum	ppm ppm	ASTM D5185m		0	0	
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m		0 6	0 14	
Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 6 1	0 14 22	
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 6 1 15	0 14 22 0	
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 6 1 15 128	0 14 22 0 41	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 6 1 15 128 965	0 14 22 0 41 1571	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 6 1 15 128 965 75	0 14 22 0 41 1571 16 17095	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 6 1 15 128 965 75 22308 current	0 14 22 0 41 1571 16 17095 history1	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 6 1 15 128 965 75 22308 current 2	0 14 22 0 41 1571 16 17095 history1 19	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	>50	0 6 1 15 128 965 75 22308 current 2 2 <1	0 14 22 0 41 1571 16 17095 history1 19 3	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>50 >20	0 6 1 15 128 965 75 22308 current 2 2 <1 4	0 14 22 0 41 1571 16 17095 history1 19 3 3 3	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>50 >20 limit/base	0 6 1 15 128 965 75 22308 current 2 <1 4 current	0 14 22 0 41 1571 16 17095 history1 19 3 3 3 3	 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>50 >20 limit/base NONE	0 6 1 15 128 965 75 22308 current 2 <1 4 current NONE	0 14 22 0 41 1571 16 17095 history1 19 3 3 3 } history1 ▲ HEAVY	 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m XM D5185m	>50 >20 limit/base NONE NONE	0 6 1 15 128 965 75 22308 current 2 <1 4 current NONE NONE	0 14 22 0 41 1571 16 17095 history1 19 3 3 3 history1 ▲ HEAVY NONE	 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>50 >20 limit/base NONE NONE NONE	0 6 1 15 128 965 75 22308 <u>current</u> 2 <1 4 <u>current</u> NONE NONE NONE	0 14 22 0 41 1571 16 17095 history1 19 3 3 3 history1 ▲ HEAVY NONE NONE NONE	 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual	>50 >20 limit/base NONE NONE NONE NONE	0 6 1 15 128 965 75 22308 <u>current</u> 2 <1 4 <u>current</u> NONE NONE NONE NONE NONE	0 14 22 0 41 1571 16 17095 history1 19 3 3 3 history1 ▲ HEAVY NONE NONE NONE NONE	 history2 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Precipitate Silt Debris	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m Yuisual *Visual *Visual *Visual *Visual	>50 >20 limit/base NONE NONE NONE NONE NONE	0 6 1 15 128 965 75 22308 <u>current</u> 2 <1 4 <u>current</u> NONE NONE NONE NONE NONE NONE	0 14 22 0 41 1571 16 17095 history1 19 3 3 3 history1 ▲ HEAVY NONE NONE NONE NONE NONE	 history2 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m Yisual *Visual *Visual *Visual *Visual *Visual	>50 >20 limit/base NONE NONE NONE NONE NONE NONE	0 6 1 1 5 128 965 75 22308 current 2 <1 4 current 4 NONE NONE NONE NONE NONE NONE NONE N	0 14 22 0 41 1571 16 17095 history1 19 3 3 3 history1 ▲ HEAVY NONE NONE NONE NONE NONE NONE NONE	 history2 history2 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>50 >20 limit/base NONE NONE NONE NONE NONE NONE NONE	0 6 1 1 15 128 965 75 22308 Current 2 <1 4 Current 4 NONE NONE NONE NONE NONE NONE NONE NO	0 14 22 0 41 1571 16 17095 history1 19 3 3 3 history1 ▲ HEAVY NONE NONE NONE NONE NONE NONE NONE NONE NONE	 history2 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>50 >20 Imit/base NONE NONE NONE NONE NONE NONE NONE NORML NORML	0 6 1 15 128 965 75 22308 <u>current</u> 2 <1 4 <u>current</u> 8 NONE NONE NONE NONE NONE NONE NONE NO	0 14 22 0 41 1571 16 17095 history1 19 3 3 3 history1 ▲ HEAVY NONE	 history2 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>50 >20 limit/base NONE NONE NONE NONE NONE NONE NONE	0 6 1 1 15 128 965 75 22308 Current 2 <1 4 Current 4 NONE NONE NONE NONE NONE NONE NONE NO	0 14 22 0 41 1571 16 17095 history1 19 3 3 HEAVY NONE NORE NEG	 history2 history2



OIL ANALYSIS REPORT



FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	99.5	126	60.68	
SAMPLE IMA	GES	method	limit/base	current	history1	history2
Color				no image	no image	no image
Bottom				no image	no image	no image
GRAPHS						
Ferrous Alloys						
180 - iron 160 - iron chromium						
140						
120 톱 100						
80 -						
60						
20						
Jun25/15			Apr15/24 -			
	atala		Apr			
Non-ferrous M	etais					
9 - copper						
7						
<u>۾</u> 5-						
4						
2-						
Jun25/15			Apr15/24			
J Viscosity @ 40	°C		4			
130 - Abnormal			/			
120		/				
100 Base						
00 + +000	/					
80 Guildina			-			
70						
50						
Jun25/15			Apr15/24 -			
٦ ^L			Ä			
: WearCheck USA - : ML0001431	501 Madisc Rece			MCCLUN	IG-LOGAN EQUIPME	
: 06154962	Teste	ed : 22	Apr 2024 Apr 2024			UNTAIN RO/ EN ALLEN, ^v
: 10990385	Diagr	nosed : 24	Apr 2024 - Jona	than Hester	Operator 12	US 230



 Certificate 12367
 Test Package
 : CONST
 Construction

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 KRATLIFFE@N

 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 KRATLIFFE@N

 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

1345 MOUNTAIN ROAD GLEN ALLEN, VA or US 23060 Contact: KYLE RATLIFFE KRATLIFFE@MCCLUNG-LOGAN.COM T: CGM 106:2012) F: (804)266-1611

Submitted By: Service - Alex Anderson