

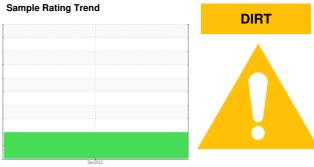
OIL ANALYSIS REPORT

Machine Id **8310456**

Component

Diesel Engine

VALVOLINE 15W40 (--- GAL)



DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of seal material. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components.

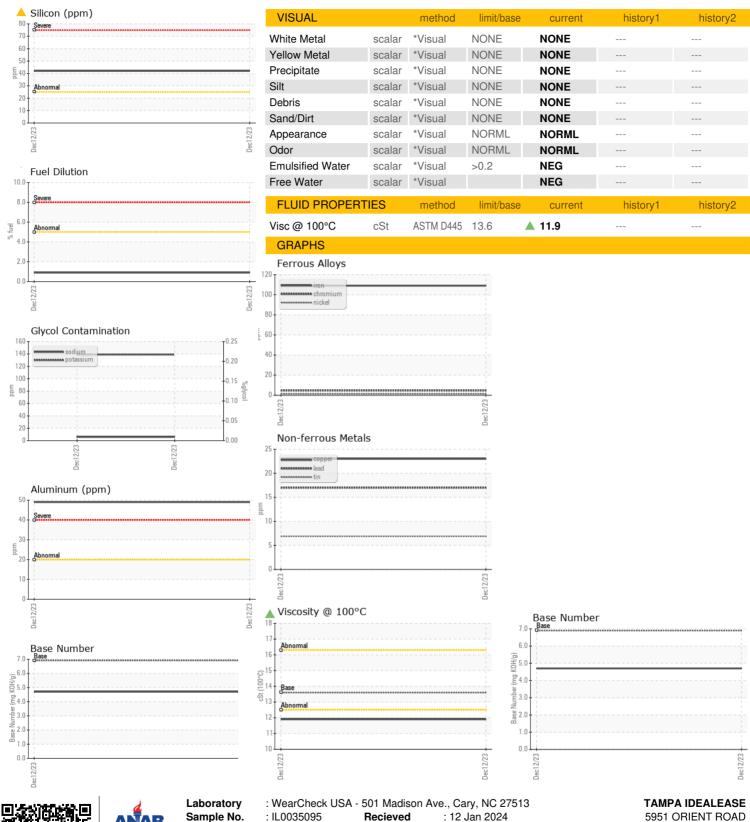
▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Oil Age mls Client Info 0 Oil Changed Client Info Changed Sample Status Method Imition Current history1 history2 Water WC Method >0.2 NEG Gloycol WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 109 Obscieved ppm ASTM D5185m >20 5 Silver ppm ASTM D5185m >20 4 2 Aluminum ppm ASTM D5185m >20 49 Copper ppm ASTM D5185m >330 23 Vanadium ppm ASTM D5185m >15 7 V					Dec2023		
Client Info	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Client Info	Sample Number		Client Info		IL0035095		
Machine Age mls			Client Info		12 Dec 2023		
Oil Changed	Machine Age	mls					
Client Info Changed Client Info ABNORMAL Company Compa		mls	Client Info		0		
ABNORMAL	-		Client Info		Changed		
Water WC Method >0.2 NEG Glycol WC Method NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 109 Chromium ppm ASTM D5185m >20 5 Nickel ppm ASTM D5185m >4 2 Silver ppm ASTM D5185m >4 2 Aluminum ppm ASTM D5185m >40 17 Aluminum ppm ASTM D5185m >40 17 Copper ppm ASTM D5185m >15 7 Copper ppm ASTM D5185m >15 7 Vanadium ppm ASTM D5185m >1 3 </td <td>Sample Status</td> <td></td> <td></td> <td></td> <td>ABNORMAL</td> <td></td> <td></td>	Sample Status				ABNORMAL		
Glycol WC Method NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 109 Chromium ppm ASTM D5185m >20 5 Nickel ppm ASTM D5185m >4 2 Silver ppm ASTM D5185m >3 0 Aluminum ppm ASTM D5185m >30 0 Aluminum ppm ASTM D5185m >40 17 Lead ppm ASTM D5185m >40 17 Copper ppm ASTM D5185m >15 7 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 39 14	CONTAMINATIO	N	method	limit/base	current	history1	history2
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	Glycol		WC Method		NEG		
Chromium ppm ASTM D5185m >20 5 Nickel ppm ASTM D5185m >4 2 Titianium ppm ASTM D5185m >3 0 Siliver ppm ASTM D5185m >3 0 Aluminum ppm ASTM D5185m >40 17 Lead ppm ASTM D5185m >40 17 Copper ppm ASTM D5185m >40 17 Copper ppm ASTM D5185m >15 7 Vanadium ppm ASTM D5185m 15 7 Cadmium ppm ASTM D5185m 0 ADDTIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 13 3 <td< td=""><td>WEAR METALS</td><td></td><td>method</td><td>limit/base</td><td>current</td><td>history1</td><td>history2</td></td<>	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	109		
Titanium	Chromium	ppm	ASTM D5185m	>20	5		
Silver	Nickel	ppm	ASTM D5185m	>4	2		
Aluminum ppm ASTM D5185m >20 49	Titanium	ppm	ASTM D5185m		0		
Lead ppm ASTM D5185m >40 17 Copper ppm ASTM D5185m >330 23 Tin ppm ASTM D5185m >15 7 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 39 14 Barium ppm ASTM D5185m 1 3 Molybdenum ppm ASTM D5185m 49 73 Magnesium ppm ASTM D5185m 1554 2037 Zinc ppm ASTM D5185m 1659 1464 Zinc ppm ASTM D5185m 2624 3051	Silver	ppm	ASTM D5185m	>3	0		
Copper	Aluminum	ppm	ASTM D5185m	>20	49		
Tin	Lead	ppm	ASTM D5185m	>40	17		
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Zinc ppm ASTM D5185m 1069 1464 Sulfur ppm ASTM D5185m 2624 3051 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 42 Sodium ppm ASTM D5185m 6 Potassium ppm ASTM D5185m >20 139 Fuel % ASTM D3524 >5 0.9 Fuel % ASTM D3524 >5 0.9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/.1mm *ASTM D7415 >30 25.7 FLUID DEGRADATION method limit/base current	Calcium	ppm	ASTM D5185m	1554	2037		
Sulfur ppm ASTM D5185m 2624 3051 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 42 Sodium ppm ASTM D5185m 6 Potassium ppm ASTM D5185m >20 139 Fuel % ASTM D3524 >5 0.9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 25.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 <td< td=""><td>Phosphorus</td><td>ppm</td><td>ASTM D5185m</td><td>899</td><td>1045</td><td></td><td></td></td<>	Phosphorus	ppm	ASTM D5185m	899	1045		
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Sodium	CONTAMINANTS	;	method	limit/base	current	history1	history2
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Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 25.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.0		ppm			139		
Sulfation Abs/.1mm *ASTM D7415 >30 25.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.0	Fuel	ppm	ASTM D3524	>5	139 0.9		
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 26.0	Fuel INFRA-RED	ppm %	ASTM D3524 method	>5 limit/base	139 0.9 current	 history1	history2
Oxidation	Fuel	ppm %	ASTM D3524 method *ASTM D7844	>5 limit/base >3	139 0.9 current 0.6	history1	history2
	Fuel INFRA-RED Soot % Nitration	ppm % % Abs/cm	method *ASTM D7844 *ASTM D7624	>5 limit/base >3 >20	139 0.9 current 0.6 11.1	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 6.9 4.7	Fuel INFRA-RED Soot % Nitration Sulfation	ppm % % Abs/cm Abs/.1mm	method *ASTM D7844 *ASTM D7624 *ASTM D7415	>5 limit/base >3 >20 >30	139 0.9 current 0.6 11.1 25.7	history1	history2
	Fuel INFRA-RED Soot % Nitration Sulfation	% Abs/.1mm ATION	method *ASTM D7844 *ASTM D7624 *ASTM D7415 method	>5 limit/base >3 >20 >30 limit/base	139 0.9 current 0.6 11.1 25.7 current	history1 history1	history2 history2



OIL ANALYSIS REPORT





Certificate L2367

Sample No. Lab Number **Unique Number**

: IL0035095 : 06058966 : 10830348

Recieved Diagnosed

: 16 Jan 2024 Diagnostician : Don Baldridge

Test Package: FLEET (Additional Tests: FuelDilution, PercentFuel) 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) 5951 ORIENT ROAD TAMPA, FL

US 33610-9565 Contact: Russ Cook russcook@idealease.com

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