

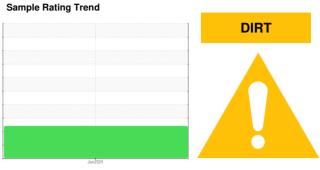
OIL ANALYSIS REPORT



VOLVO 2227062 (S/N 4V4NC9EH8RN631468)

Diesel Engine

{not provided} (42 QTS)



DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Metal levels are typical for a new component breaking in.

Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. 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.

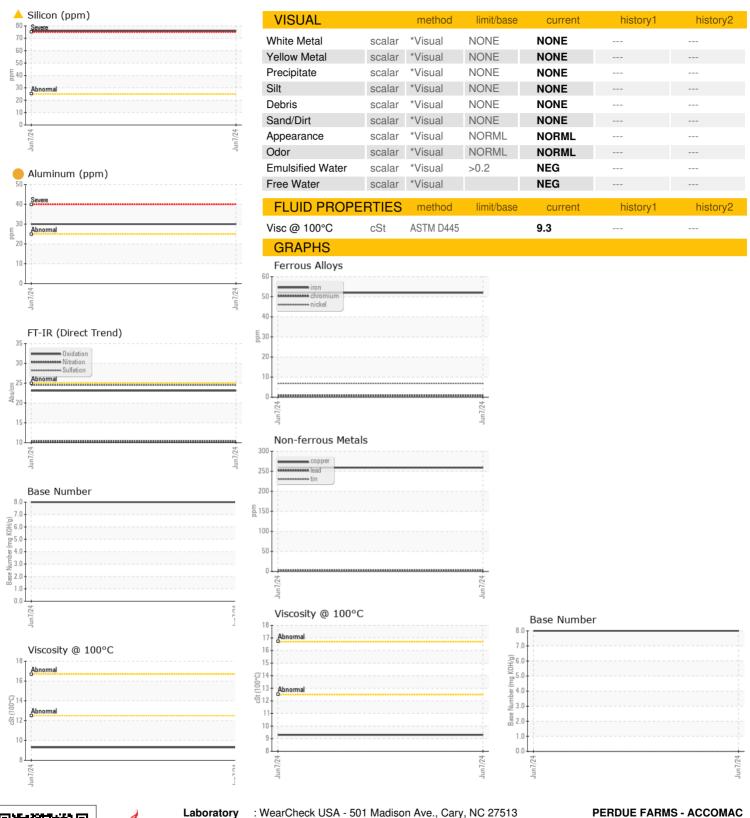
Fluid Condition

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

				Jun2024		
0.4451.5.145054						
SAMPLE INFORM	IA HON	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0124520		
Sample Date		Client Info		07 Jun 2024		
Machine Age	mls	Client Info		20107		
Oil Age	mls	Client Info		20107		
Oil Changed		Client Info		Changed		
Sample Status				ABNORMAL		
CONTAMINATION	NC	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS	6	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	52		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>2	7		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>2	18		
Aluminum	ppm	ASTM D5185m	>25	<u> </u>		
Lead	ppm	ASTM D5185m	>40	3		
Copper	ppm	ASTM D5185m	>330	259		
Tin	ppm	ASTM D5185m	>15	3		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	nnm	ASTM D5185m		203		
DOIOII	ppm	/ TO THE DO TOOM				
	ppm	ASTM D5185m		<1		
Barium						
Barium Molybdenum	ppm	ASTM D5185m		<1		
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m		<1 120		
Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		<1 120 5		
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 120 5 701		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 120 5 701 1556		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 120 5 701 1556 692		
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	<1 120 5 701 1556 692 786		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25	<1 120 5 701 1556 692 786 2551		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 120 5 701 1556 692 786 2551 current	 history1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m		<1 120 5 701 1556 692 786 2551 current 76	 history1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25	<1 120 5 701 1556 692 786 2551 current 76 7	 history1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25 >20	<1 120 5 701 1556 692 786 2551 current ▲ 76 7 90	 history1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25 >20 >6.0	<1 120 5 701 1556 692 786 2551 current 76 7 90 <1.0	history1	history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	>25 >20 >6.0 limit/base	<1 120 5 701 1556 692 786 2551	history1	history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	ASTM D5185m ASTM D7844	>25 >20 >6.0 limit/base >3	<1 120 5 701 1556 692 786 2551 current ▲ 76 7 90 <1.0 current	history1 history1	history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D7824	>25 >20 >6.0 limit/base >3 >20	<1 120 5 701 1556 692 786 2551 current ▲ 76 7 90 <1.0 current 0.2 10.3	history1 history1	history2 history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7824 method *ASTM D7624 *ASTM D7624 *ASTM D7615 method	>25 >20 >6.0 limit/base >3 >20 >30 limit/base	<1 120 5 701 1556 692 786 2551 current ▲ 76 7 90 <1.0 current 0.2 10.3 24.5 current	history1 history1	history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm	ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7624 *ASTM D7614	>25 >20 >6.0 Imit/base >3 >20 >30	<1 120 5 701 1556 692 786 2551	history1 history1	history2 history2 history2 history2



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

Lab Number : 06215556 Unique Number : 11088420

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0124520

Received **Tested** Diagnosed

: 20 Jun 2024 : 21 Jun 2024 : 21 Jun 2024 - Sean Felton

Test Package : FLEET (Additional Tests: FuelDilution) 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.

US 23301 Contact: PEGGY KIMES peggy.kimes@perdue.com T: (757)787-5304

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Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) Report Id: PERACCPCA [WUSCAR] 06215556 (Generated: 06/21/2024 15:59:38) Rev: 1

Submitted By: RANDY PARKER