

OIL ANALYSIS REPORT

Sample Rating Trend

FUEL

PUTNAM COUNTY TINKER HILL TOWER C140650165

Component

Diesel Engine

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil.

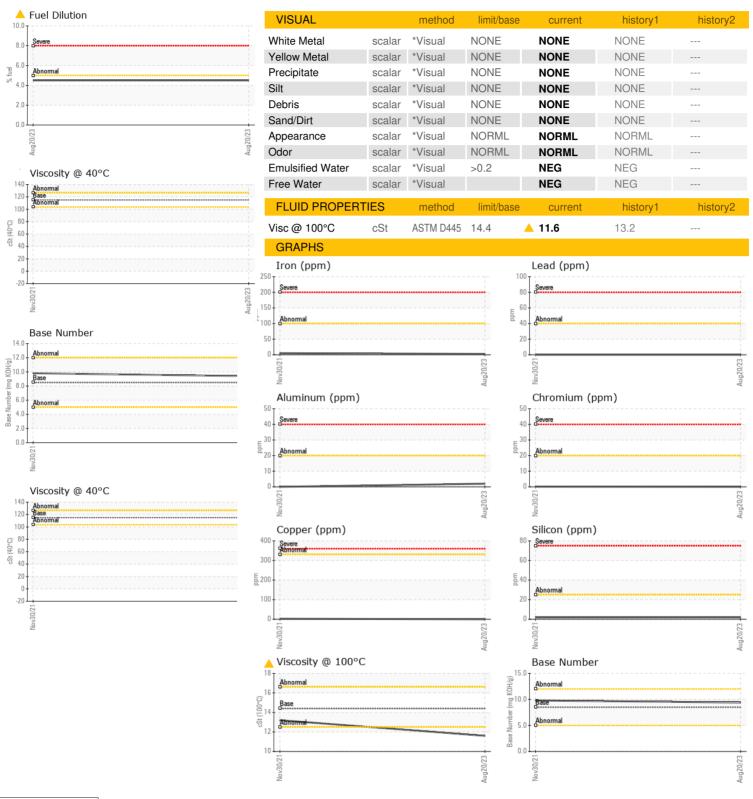
▲ Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

			Nov2021	Aug2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0748884	WC0612503	
Sample Date		Client Info		20 Aug 2023	30 Nov 2021	
Machine Age	hrs	Client Info		0	417	
Oil Age	hrs	Client Info		0	0	
Oil Changed	1113	Client Info		N/A	N/A	
Sample Status		Ollerit IIIIO		ABNORMAL	NORMAL	
	N	and the section	1111/1	-		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	3	5	
Chromium	ppm	ASTM D5185m	>20	0	<1	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	2	0	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m	>330	0	2	
Tin	ppm	ASTM D5185m	>15	0	<1	
Antimony	ppm	ASTM D5185m			0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 22	history1	history2
	ppm		250			
Boron		ASTM D5185m	250	22	11	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	22 0	11	
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	22 0 67	11 0 53	
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	22 0 67 0	11 0 53 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	22 0 67 0 924	11 0 53 <1 872	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	22 0 67 0 924 1366	11 0 53 <1 872 1062	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	22 0 67 0 924 1366 1109	11 0 53 <1 872 1062 1001	
Boron 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 ASTM D5185m	250 10 100 450 3000 1150 1350	22 0 67 0 924 1366 1109	11 0 53 <1 872 1062 1001 1068	
Boron 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	250 10 100 450 3000 1150 1350 4250	22 0 67 0 924 1366 1109 1427 4894	11 0 53 <1 872 1062 1001 1068 2548	
Boron 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	22 0 67 0 924 1366 1109 1427 4894	11 0 53 <1 872 1062 1001 1068 2548	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	22 0 67 0 924 1366 1109 1427 4894 current	11 0 53 <1 872 1062 1001 1068 2548 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	22 0 67 0 924 1366 1109 1427 4894 current 2 0	11 0 53 <1 872 1062 1001 1068 2548 history1 2 2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	22 0 67 0 924 1366 1109 1427 4894 current 2 0	11 0 53 <1 872 1062 1001 1068 2548 history1 2 2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5	22 0 67 0 924 1366 1109 1427 4894 current 2 0 0	11 0 53 <1 872 1062 1001 1068 2548 history1 2 2 2 <1.0	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3	22 0 67 0 924 1366 1109 1427 4894 current 2 0 0 ▲ 4.5 current	11 0 53 <1 872 1062 1001 1068 2548 history1 2 2 2 <1.0 history1 0.1	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3 >20	22 0 67 0 924 1366 1109 1427 4894 current 2 0 0 4.5	11 0 53 <1 872 1062 1001 1068 2548 history1 2 2 <1.0 history1	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3 >20	22 0 67 0 924 1366 1109 1427 4894 current 2 0 0 ▲ 4.5 current 0.1 4.8	11 0 53 <1 872 1062 1001 1068 2548 history1 2 2 2 <1.0 history1 0.1 5.3	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm	ASTM D5185m ASTM D78185m ASTM D78144 *ASTM D7844 *ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3 >20 >30 limit/base	22 0 67 0 924 1366 1109 1427 4894 current 2 0 0 ▲ 4.5 current 0.1 4.8 17.4 current	111 0 53 <1 872 1062 1001 1068 2548 history1 2 2 2 <1.0 history1 0.1 5.3 18 history1	history2 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3 >20 >30 limit/base >25	22 0 67 0 924 1366 1109 1427 4894 current 2 0 0 ▲ 4.5 current 0.1 4.8 17.4	11 0 53 <1 872 1062 1001 1068 2548 history1 2 2 <1.0 history1 0.1 5.3 18	history2 history2



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Certificate L2367

Laboratory Sample No. Lab Number

Unique Number

: WC0748884 : 05929327 : 10609274

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 21 Aug 2023 Diagnosed

: 23 Aug 2023 Diagnostician : Jonathan Hester

Test Package : MOB 1 (Additional Tests: FuelDilution, KV40, PercentFuel, TBN)

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)

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