

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **3774L** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

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. Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition

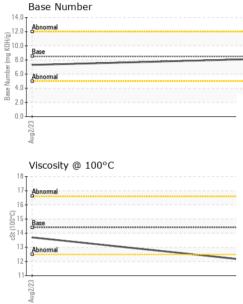
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

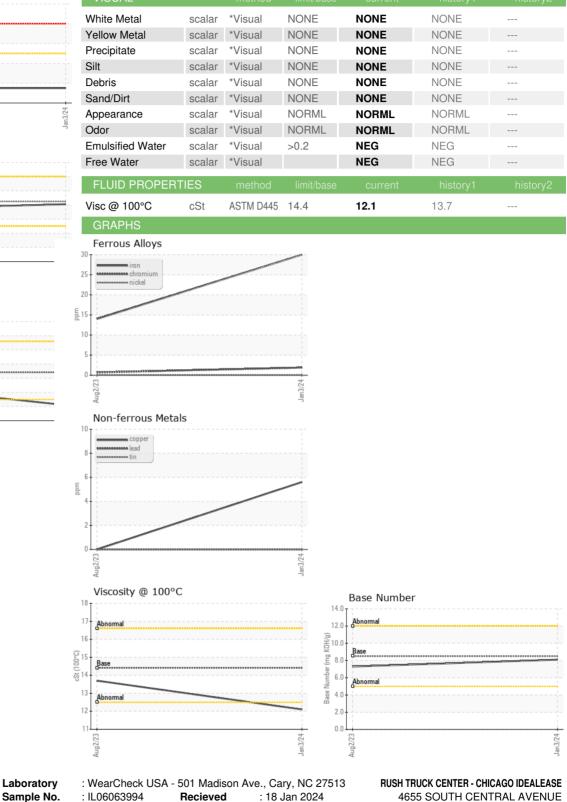
		L	Aug2023	Jan 2024		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		IL06063994	IL0023663	
Sample Date		Client Info		03 Jan 2024	02 Aug 2023	
Machine Age	mls	Client Info		0	02 Aug 2020	
Oil Age	mls	Client Info		0	0	
Oil Changed	11113	Client Info		N/A	Changed	
Sample Status				NORMAL	NORMAL	
	N		line it /le e e e		-	
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	30	14	
Chromium	ppm	ASTM D5185m	>20	2	<1	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m		0	71	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	6	8	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m	>330	6	0	
Tin	ppm	ASTM D5185m	>15	0	0	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current <1	history1 81	history2
	ppm ppm					
Boron Barium		ASTM D5185m	250	<1	81	
Boron	ppm	ASTM D5185m ASTM D5185m	250 10	<1 3	81 0	
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	<1 3 59	81 0 13	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	<1 3 59 0	81 0 13 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	<1 3 59 0 982	81 0 13 <1 525	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	<1 3 59 0 982 1054	81 0 13 <1 525 1734	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	<1 3 59 0 982 1054 984	81 0 13 <1 525 1734 1016	
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	250 10 100 450 3000 1150 1350	<1 3 59 0 982 1054 984 1225	81 0 13 <1 525 1734 1016 1272	
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 limit/base	<1 3 59 0 982 1054 984 1225 3439	81 0 13 <1 525 1734 1016 1272 4458	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	250 10 100 450 3000 1150 1350 4250 limit/base >25	<1 3 59 0 982 1054 984 1225 3439 current	81 0 13 <1 525 1734 1016 1272 4458 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	<1 3 59 0 982 1054 984 1225 3439 current 6	81 0 13 <1 525 1734 1016 1272 4458 history1 5	 history2
Boron 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 ASTM D5185m method ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	<1 3 59 0 982 1054 984 1225 3439 current 6 0	81 0 13 <1 525 1734 1016 1272 4458 history1 5 1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	<1 3 59 0 982 1054 984 1225 3439 current 6 0 13	81 0 13 <1 525 1734 1016 1272 4458 history1 5 1 1 6	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5	<1 3 59 0 982 1054 984 1225 3439 current 6 0 13 1.5	81 0 13 <1 525 1734 1016 1272 4458 history1 5 1 16 <1.0	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158 >20 >5 imit/base	<1 3 59 0 982 1054 984 1225 3439 current 6 0 13 1.5 current 0.6	81 0 13 <1 525 1734 1016 1272 4458 history1 5 1 16 <1.0 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3 >20	<1 3 59 0 982 1054 984 1225 3439 current 6 0 13 1.5	81 0 13 <1 525 1734 1016 1272 4458 history1 5 1 16 <1.0 history1 0.2	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3 >20	<1 3 59 0 982 1054 984 1225 3439 current 6 0 13 1.5 current 0.6 8.2	81 0 13 <1 525 1734 1016 1272 4458 history1 5 1 16 <1.0 history1 0.2 9.7	history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158 >20 >5 imit/base >3 >20 >3	<1 3 59 0 982 1054 984 1225 3439 current 6 0 13 1.5 current 0.6 8.2 21.9	81 0 13 <1 525 1734 1016 1272 4458 history1 5 1 16 <1.0 history1 0.2 9.7 20.8	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3 >20 >3 30 limit/base	<1 3 59 0 982 1054 984 1225 3439 current 6 0 13 1.5 current 0.6 8.2 21.9 current	81 0 13 <1 525 1734 1016 1272 4458 history1 5 1 16 <1.0 history1 0.2 9.7 20.8 history1	 history2 history2 history2 history2



OIL ANALYSIS REPORT







Lab Number Diagnosed : 06063994 : 23 Jan 2024 Unique Number : 10835376 Diagnostician : Wes Davis Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel) Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. linleym@rushtruckcenters.com * - 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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