

OIL ANALYSIS REPORT



Machine Id

64 Component Diesel Engine Fluid PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

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. No other contaminants were detected in the oil.

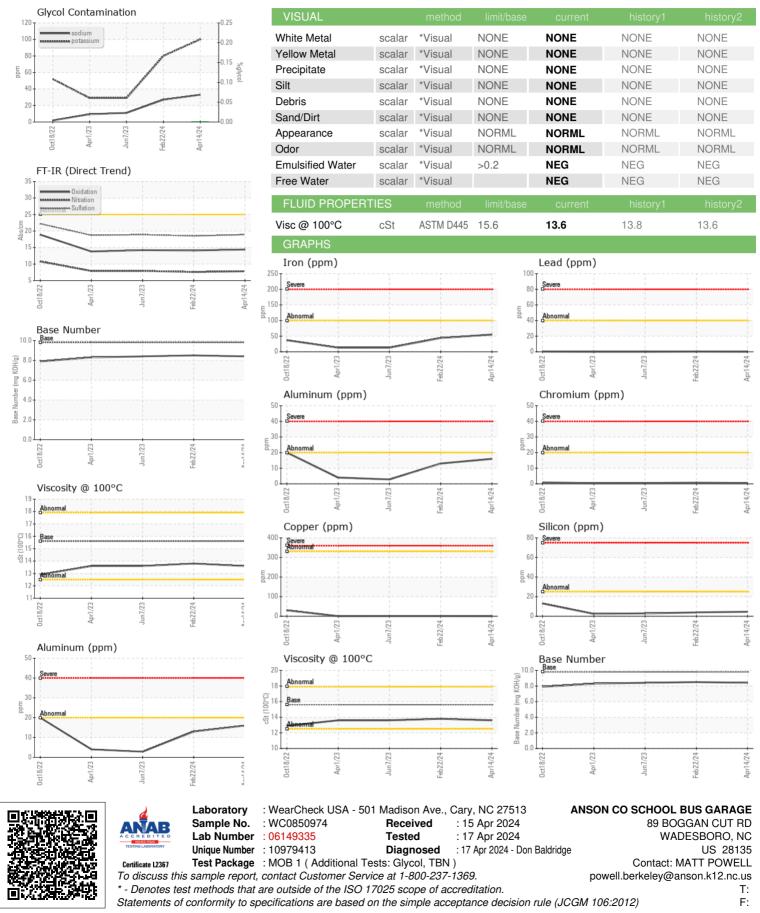
Fluid Condition

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

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0850974	WC0867952	WC0740600
Sample Date		Client Info		14 Apr 2024	22 Feb 2024	07 Jun 2023
Machine Age	mls	Client Info		0	0	39976
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	J	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	55	44	13
Chromium	ppm		>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m	- T	0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m		16	13	3
Lead		ASTM D5185m	>40	0	<1	0
	ppm	ASTM D5185m		۰ <1	<1	<1
Copper Tin	ppm			<1 <1		<1
Vanadium	ppm	ASTM D5185m	>15		0 <1	<1
	ppm	ASTM D5185m		0		0
Cadmium	ppm	ASTM D5185m			0	-
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		36	23	40
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		89	78	82
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	nnm			· · -		
0.1.1	ppm	ASTM D5185m		617	560	425
Calcium	ppm	ASTM D5185m ASTM D5185m		617 1724	560 1703	425 1901
Calcium Phosphorus				-		
	ppm	ASTM D5185m		1724	1703	1901
Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m		1724 1201	1703 1030	1901 1067
Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	1724 1201 1368	1703 1030 1246	1901 1067 1301
Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		1724 1201 1368 4273	1703 1030 1246 3441	1901 1067 1301 4275
Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method		1724 1201 1368 4273 current	1703 1030 1246 3441 history1	1901 1067 1301 4275 history2
Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	>25	1724 1201 1368 4273 current 5	1703 1030 1246 3441 history1 4	1901 1067 1301 4275 history2 3
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25	1724 1201 1368 4273 current 5 33	1703 1030 1246 3441 history1 4 27	1901 1067 1301 4275 history2 3 11
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25	1724 1201 1368 4273 <u>current</u> 5 33 100	1703 1030 1246 3441 history1 4 27 80	1901 1067 1301 4275 history2 3 11 29
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D2982	>25 >20	1724 1201 1368 4273 current 5 33 100 0.0	1703 1030 1246 3441 history1 4 27 80 NEG	1901 1067 1301 4275 history2 3 11 29 NEG
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982	>25 >20 limit/base	1724 1201 1368 4273 current 5 33 100 0.0 current	1703 1030 1246 3441 history1 4 27 80 NEG history1	1901 1067 1301 4275 history2 3 11 29 NEG history2
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method *ASTM D7844	>25 >20 limit/base >3	1724 1201 1368 4273 current 5 33 100 0.0 current 0.4	1703 1030 1246 3441 history1 4 27 80 NEG history1 0.4	1901 1067 1301 4275 history2 3 111 29 NEG history2 0.4
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D2982 method *ASTM D7844 *ASTM D7844	>25 >20 limit/base >3 >20	1724 1201 1368 4273 current 5 33 100 0.0 current 0.4 7.8	1703 1030 1246 3441 history1 4 27 80 NEG history1 0.4 7.6	1901 1067 1301 4275 history2 3 11 29 NEG history2 0.4 7.9
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 *ASTM D2982 *ASTM D7844 *ASTM D7844 *ASTM D7844	>25 >20 limit/base >3 >20 >30	1724 1201 1368 4273 current 5 33 100 0.0 current 0.4 7.8 18.9	1703 1030 1246 3441 history1 4 27 80 NEG history1 0.4 7.6 18.5	1901 1067 1301 4275 history2 3 111 29 NEG history2 0.4 7.9 18.9



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Report Id: ANSWAD [WUSCAR] 06149335 (Generated: 04/17/2024 19:06:13) Rev: 1

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