

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id 725036-303004 Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

Recommendation

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. There is no indication of any contamination in the oil.

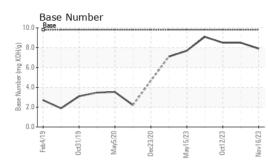
Fluid Condition

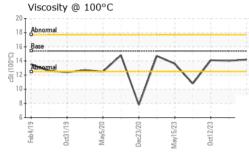
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI		method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0098662	GFL0098595	GFL0093704
Sample Date		Client Info		16 Nov 2023	02 Nov 2023	12 Oct 2023
Machine Age	hrs	Client Info		15658	15580	15467
Oil Age	hrs	Client Info		0	0	0
Oil Changed	1113	Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
-						
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	41	33	27
Chromium	ppm	ASTM D5185m	>5	2	1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	25	24	22
Lead	ppm	ASTM D5185m	>30	<1	<1	<1
Copper	ppm	ASTM D5185m	>150	2	2	2
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	nnm	ASTM D5185m		4	0	<1
Caumum	ppm	ASTIVI DOTODITI		<1	0	< 1
ADDITIVES	ррп	method	limit/base	<1 current	0 history1	<1 history2
	ppm		limit/base			
ADDITIVES		method	0	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 2	history1 8	history2 <1
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 2 0	history1 8 0	history2 <1 10
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 2 0 62	history1 8 0 63	history2 <1 10 62
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 2 0 62 <1	history1 8 0 63 <1	history2 <1 10 62 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 2 0 62 <1 940	history1 8 0 63 <1 1044	history2 <1 10 62 <1 927
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 2 0 62 <1 940 1089	history1 8 0 63 <1 1044 1154	history2 <1 10 62 <1 927 1040
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	current 2 0 62 <1 940 1089 920	history1 8 0 63 <1 1044 1154 1104	history2 <1 10 62 <1 927 1040 1063
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 2 0 62 <1 940 1089 920 1249	history1 8 0 63 <1 1044 1154 1104 1363	history2 <1 10 62 <1 927 1040 1063 1219
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	Current 2 0 62 <1 940 1089 920 1249 3285	history1 8 0 63 <1 1044 1154 1104 1363 3158	<1 10 62 <1 927 1040 1063 1219 2927
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 2 0 62 <1 940 1089 920 1249 3285 current	history1 8 0 63 <1 1044 1154 1104 1363 3158 history1	<1 10 62 <1 927 1040 1063 1219 2927 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >20	current 2 0 62 <1 940 1089 920 1249 3285 current 7	history1 8 0 63 <1 1044 1154 1104 1363 3158 history1 7	<1 10 62 <1 927 1040 1063 1219 2927 history2 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >20	current 2 0 62 <1 940 1089 920 1249 3285 current 7 6	history1 8 0 63 <1 1044 1154 1104 1363 3158 history1 7 6	<1 10 62 <1 927 1040 1063 1219 2927 history2 4 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >20	current 2 0 62 <1 940 1089 920 1249 3285 current 7 6 50	history1 8 0 63 <1 1044 1154 1104 1363 3158 history1 7 6 44	<1 10 62 <1 927 1040 1063 1219 2927 history2 4 4 4 47
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >20 Sumt/base	current 2 0 62 <1 940 1089 920 1249 3285 current 7 6 50 current 1.3	history1 8 0 63 <1 1044 1154 1104 1363 3158 history1 7 6 44 history1 1	<1 10 62 <1 927 1040 1063 1219 2927 history2 4 4 47 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >20 20 limit/base	current 2 0 62 <1 940 1089 920 1249 3285 current 7 6 50 current	history1 8 0 63 <1 1044 1154 1104 1363 3158 history1 7 6 44 history1	<1 10 62 <1 927 1040 1063 1219 2927 history2 4 47 history2 0.8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sidium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >20 <i>limit/base</i> >20	current 2 0 62 <1 940 1089 920 1249 3285 current 7 6 50 current 1.3 10.9	history1 8 0 63 <1 1044 1154 1104 1363 3158 history1 7 6 44 history1 1 9.9	<1 10 62 <1 927 1040 1063 1219 2927 history2 4 47 history2 0.8 9.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRA	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	method ASTM D5185m ASTM D7185M *ASTM D7844 *ASTM D7415 method	0 0 0 1010 1070 1150 1270 2060 2060 2060 200 200 200 200 200 200	current 2 0 62 <1 940 1089 920 1249 3285 current 7 6 50 current 1.3 10.9 23.1	history1 8 0 63 <1 1044 1154 1104 1363 3158 history1 7 6 44 history1 1 9.9 21.6 history1	<1 10 62 <1 927 1040 1063 1219 2927 history2 4 47 0.8 9.3 20.8 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >20 imit/base >3 >20 >30	current 2 0 62 <1 940 1089 920 1249 3285 current 7 6 50 current 1.3 10.9 23.1	history1 8 0 63 <1 1044 1154 1104 1363 3158 history1 7 6 44 history1 1 9.9 21.6	<1 10 62 <1 927 1040 1063 1219 2927 history2 4 47 history2 0.8 9.3 20.8

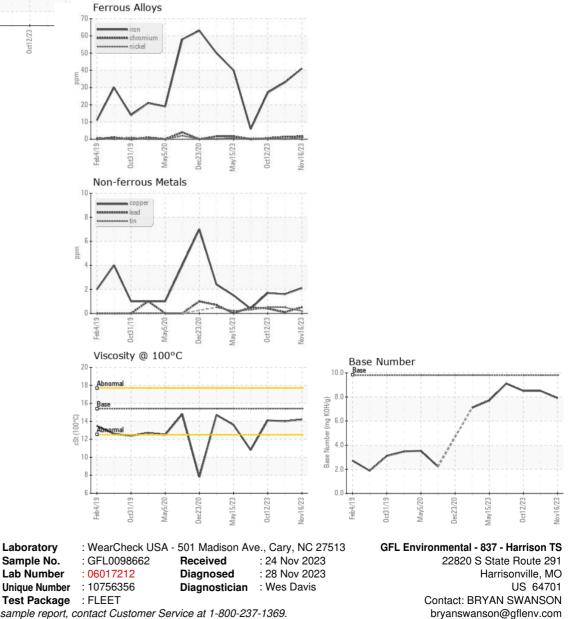


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	14.0	14.1
GRAPHS						





Certificate 12367 **Test Package** : FLEET 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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